A Framework for Inter-Firm Sustainability Collaboration: Evidence From the Global Apparel and Footwear Sector*

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*A jointly authored peer-reviewed article under consideration.

EXECUTIVE SUMMARY

Corporate sustainability has matured, evolved, and expanded in scope, however social and environmental issues continue to persist globally. Many firms now recognize that inter-firm collaboration is a cost-effective way to address systemic issues that are bigger than any one firm, and unlock the shared value that comes with systemic change. There are many examples where firms have worked together in collaborative relationships, only to fall short of their goals due to competitive self-interest, a shortage of trust, and the absence of a fully shared purpose. These successes and failures beg the question as to why some collaborative groups are more effective and create more value than others.

To examine this question more deeply, we looked at collaboration in the global apparel and footwear sector. The sector's widespread impacts are associated with rapidly changing market forces, including downward pressure on production costs, geographically dispersed production, high pricing volatility, low market predictability, and typically low profit margins. The highly integrated, complex, and competitive industry results in a downward spiral of quality, labor standards, and environmental pollution. Despite significant action and investment by firms, non-governmental organizations and the non-profit community, the sector still has a long way to go toward achieving social and environmental sustainability. The apparel industry has had over 25 collaborative groups come together since 1989 to promote shared labor standards, factory or product certifications, operational best practices, and shared tools for measurement, providing a rich history for insight on the topic.

In an industry that employs over 60 million people worldwide and will be valued at over $2.1 trillion by 2025, the potential for positive impact is enormous. The industry is considered an important driver for economic development, employing 80% women, many of which are unskilled workers in developing nations with few other employment prospects. To provide economic opportunities that elevate the standard of living in manufacturing nations, industry stakeholders must work together to create the system conditions for sustainable success. Stakeholders at all tiers (raw materials, intermediate goods, production, export and marketing) must work together to move in the same direction and ensure the right incentives and measurement systems are in place.

An industry that has traditionally been known for driving a race to the bottom is now undergoing a massive shift by creating a self-imposed race to the top. Shared data systems underpin this massive industry change, and collaborative efforts by a few brave brands. What started as a means to mitigate risk, has now evolved into an industry embracing its systemic challenges, and a collective impact approach to creating shared value.

To date, there exists a gap in prior research examining inter-firm collaboration for sustainability within the apparel and footwear sector and for sustainability challenges. This paper expands the literature on inter-firm collaboration for sustainability, with a close look at the contextual, organizational and personal

factors that contribute to success with collaborations in the apparel and footwear sector. Specifically, we sought to understand: 1) The drivers for inter-firm sustainability collaboration in the apparel sector; 2) Why certain collaborative efforts have been more successful than others; 3) If a new framework can be developed that identifies the elements that lead to collaborative capacity within an industry.

To answer the three central research questions, we attended industry conferences for observation, conducted web-based evaluations of 25 multi-stakeholder initiatives in the apparel and footwear sector dating back to 1989, reviewed prior literature on collaboration, including articles specific to sustainability, and as well as broader frameworks and best practices for analysis and insights, conducted IRB-approved interviews with industry professionals, and conducted a web-based survey of sustainability professionals within the industry to understand why they are collaborating, what they are collaborating about, and they receive from their collaborative efforts.

Our research shows that firms within the industry engage in collaborative action to foster market transformation, because it aligns with company vision and values, and serves to increase reputation and brand building. Firms are collaborating on environmental issues, social issues, and the sharing of data. The Sustainable Apparel Coalition (SAC), a group in which 2/3 of our survey participants are active, was reported to be a collaborative initiative that provides the most value. We took a closer look at the SAC through the lens of organizational literature on collaboration, and with stakeholder interviews to understand its success. Our research shows that it has been more successful due to the industry's readiness for such solution, its organizational values and tools, and the individual relationships, skills and processes. The interaction between these three has created the collaborative capacity required for success.

The literature on collaboration for sustainability does not provide a sufficiently wide lens through which to understand these successes. To build on the general literature on collaboration, and bridge the gap between the more nascent literature on collaboration for sustainability, we present a framework for creating/evaluating collaborative capacity. The framework differs from previous models in the sustainability literature by addressing contextual/industry conditions in addition to organizational and output-specific conditions, and interpersonal conditions.

Further research is required to apply the framework to other industries to test its utility outside of the apparel/footwear industry. Additionally, another research opportunity exists to examine how firms quantify the value gained from collaborative action. Results from our survey indicate that a number of firms have identified a clear internal business case for collaboration, created monitoring frameworks to track progress, developed their own metrics, and report internally on value. Understanding the processes and tools for this work can provide further insight on how collaborative groups can create additional value.

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1. INTRODUCTION

In 2010, a small group of leaders from the global apparel sector gathered in New York City to discuss the idea of collaborating to design a standardized measurement system to address environmental sustainability imperatives that had long been impacting the sector. By 2015, that vision has manifested itself into arguably one of the more productive inter-firm collaborations on sustainability, the Sustainable Apparel Coalition, which now includes a membership of over 150 retail, brand and manufacturing partners representing almost 40% all the apparel and footwear sold around the globe [1].

In a sector that has had over 25 collaborative initiatives since 1989 (both NGO-led, and brand-led), it provides an interesting opportunity look at why some initiatives have been more effective than others. To date, there exists a gap in prior research examining inter-firm collaboration for sustainability within the apparel and footwear sector and for sustainability challenges. This paper contributes to corporate sustainability literature by examining the success of inter-firm collaboration in the apparel and footwear industry.

This work builds upon prior efforts including the substantial body of literature on inter-firm collaboration, the relatively smaller literature on inter-firm collaboration for sustainability, and only a few efforts to examine collaboration for sustainability within the apparel industry. Sharfman [2] provided a model of collaboration in the apparel industry, examining both the driving and restraining forces that create the context for collaboration. Marques [3] provided a history of collaborative efforts in the apparel industry over the past three decades, and examined the initiatives through the lens of legitimacy. Most recently, UC Berkeley wrote a case study [4] of the Sustainable Apparel Coalition, in which we examined the organizational conditions with which a strong industry-wide sustainability index was built.

This paper expands insights into inter-firm collaboration for sustainability, with a close look at the contextual, organizational and personal factors that contribute to success with collaborations. Specifically, we sought to understand:
1. What are the drivers for inter-firm sustainability collaboration in the apparel sector?
2. Why have some collaborative efforts been more successful than others?
3. Can a new framework be developed that identifies the elements that build collaborative capacity?

Based on the findings of the first two questions, we present a conceptual framework for capacity building in inter-organizational environments to address the third. Although the framework is drawn specifically from a case study of the Sustainable Apparel Coalition, it provides broader application to other sectors in regards to barriers and opportunities that lead to shared level of trust and adoption of sector-wide metrics, evaluation criteria and adoption of models and tools.

In addition to observations at meetings, evaluations of over 25 multi-stakeholder industry initiatives and reviews of prior organizational and management literature, we conducted an industry-wide web-based survey of professionals within the global apparel and footwear industry, supplemented by interviews to identify firm perceptions of a variety of consortia efforts. This information was incorporated into the design of a framework necessary for effective sustainability driven inter-firm collaboration.

1.1 Apparel Industry Overview

The apparel sector was one of first industries to usher in the industrial revolution. Today, it continues to thrive and evolve to meet the changing demands of an ever-expanding global marketplace including the drive to reduce costs, which has resulted in the diversification of the manufacturing base to lower waged countries [5]. Up until the 1980s, clothing and footwear did not change much from season to season, and products were assembled close to the markets they served in European countries and the United States of America [5]. In the 1990s, the fashion world changed as a result of distinct brand development, the growth in number of styles, and the move toward lower production costs overseas [5].

In 2012, the sector employed over 60 million persons and was valued at over $1.1 trillion USD with an expected growth to $2.1 trillion USD by 2025 [6]. The industry is shaped by global production and rapid market-driven changes, and characterized by high pricing volatility, low market predictability and typically low profit margins [5]. The sector employs a predominantly unskilled workforce in developing nations, of which more than 80% are women [7]. Many workers are internal migrants on short term contracts with low levels of trade union representation [8]. The industry is still characterized as one of the most labor-intensive, despite technological advances and workplace practices [8]. Competition is high at all levels of the industry [5], which results in a downward spiral of quality, labor standards, and environmental pollution.

External forces have been highly successful in bringing forth extensive media attention to the industry regarding both environmental and social sustainability imperatives [9]. In 2013, the tragic collapse of the Rana Plaza factory in Dhaka, Bangladesh claimed over 1100 lives and was a stark reminder that the industry still has a long way to go in ensuring that the health and safety of the sector's employees are upheld. On the environmental side, Greenpeace has led a targeted campaign on the use of toxic chemicals by the apparel industry, which has been successful in obtaining formal reduction commitments form 18 of the largest firms including Nike, Adidas, Puma, Levis and H&M [10]. Non-profit organizations such as People for the Ethical Treatment of Animals also continue to pressure apparel/footwear brands on animal welfare practices in down and wool sourcing.

It was, in part, as a result of multiple actions against individual firms that companies such as Walmart, Patagonia, Nike and Gap Inc. came together to explore how an inter-firm collaborative effort could increase the environmental performance of both the participating firms as well as the industry as a whole.

This included examining the economic benefits to the participating firms of pooling both financial and operational resources rather than tackling each of the sustainability drivers independently.

1.2 Inter-Firm Collaboration

Interdependencies between firms and other stakeholders have created an environment of mutual reliance, where collaboration is now understood as a necessary route to progress [11-13]. Corporate sustainability as a movement has matured, and companies are recognizing that no one group can be solely responsible for social and environmental problems [14], or accountable for generating solutions at scale. The tiers of the highly complex apparel manufacturing supply chain (as shown in Figure 1) require that all actors move in the same direction with the right incentives in place.
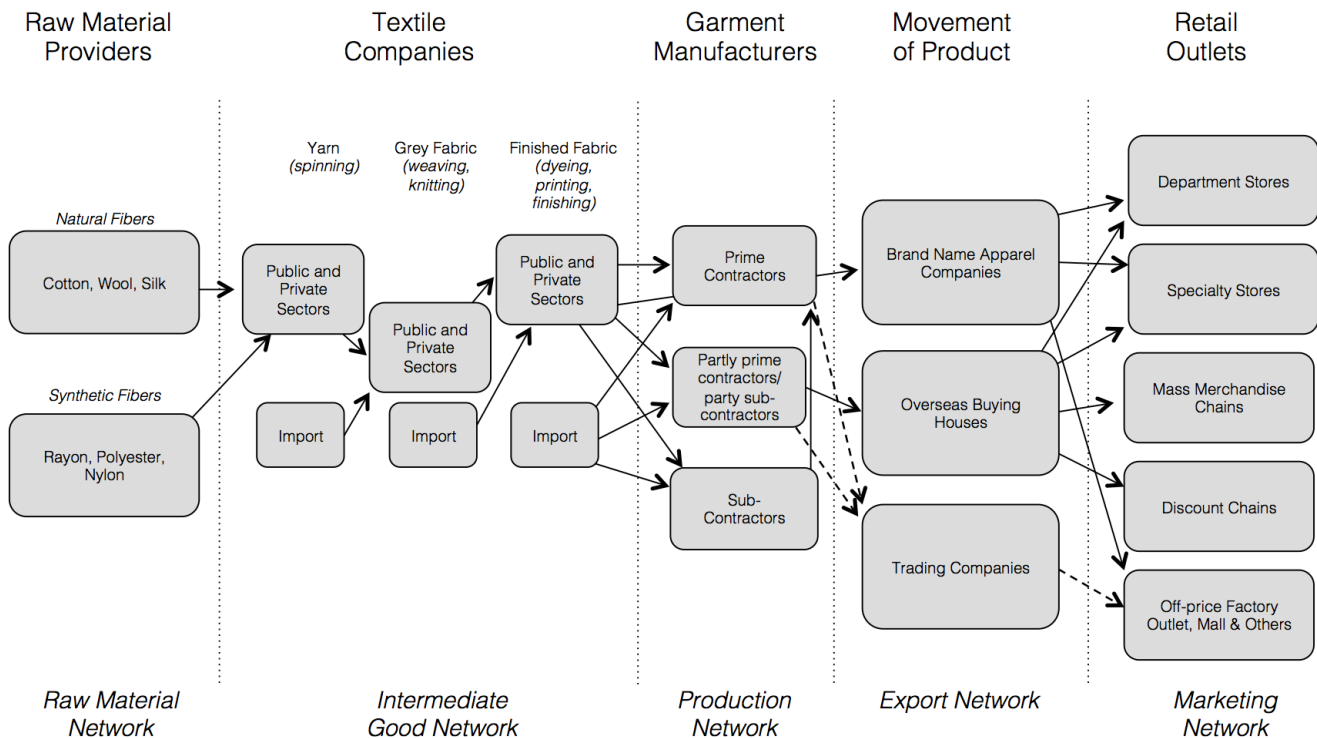
Figure 1. The apparel and footwear supply chain [15]

Today, firms across industries recognize that collaboration is a cost-effective way to deal with systemic issues, and to unlock the potential that comes with systemic change. To this effect, new models are emerging that create value for the firm and drive systemic change [13]. Harvard Business Review [16] identified pre-competitive collaboration as one of the top ten most important sustainable business stories of 2014 in which rivals working together on issues that don't diminish their ability to compete [16]. No longer just considered a fringe idea left for the NGO and activist communities, it's been widely

recognized that a firm's competitiveness and the health of the communities in which it operates are closely intertwined, and leading companies have embraced an agenda based on creating shared value [12]. These firms recognize the relationship between societal, environmental and economic progress has the power to unlock the next frontier of value creation, and untapped potential [12,13].

Indeed, strategic partnerships support the strategic and transformational needs of many actors, and address issues in which many groups have a stake [11]. These collaborative initiatives are "data driven, clearly linked to defined outcomes, well connected to the goals of all stakeholders, and tracked with clear metrics" [12]. The goals of these collaborations include developing shared standards and operating practices, information sharing, creating powerful alliances to influence, and share investments to save costs and reduce risks [17], influencing standard-setting authorities, acquiring access to resources, and developing new markets [11].

While the literature currently lacks extensive data on the effectiveness of inter-firm collaborations for sustainability there are some baselines. A recent MIT/Boston Consulting Group survey [11] found that 47% of global businesses are engaging in some form of a sustainability-related partnership. A majority (61%) of those assessed their collaborative efforts as "quite" or "very" successful. 40% of respondents reported increasing the number of collaborations they were engaging in, and that 37% are already active in 10 of more collaborative partnerships.

While the number of inter-firm collaborations is on the rise [11], it's important to examine if, how and when these collaborative initiatives are effective at reaching their goals. There are many examples where companies have worked together in collaborative relationships, only to fall short because of competitive self-interest, a shortage of trust, and the absence of a fully shared purpose [13]. Naming the groups that have not succeeded is difficult and subjective since many "failed" attempts still exist today, and may be reluctant to admit that they have not achieved the desired results. Although there are a number of less-than-successful initiatives, there are a handful of initiatives that are thriving, specifically in the apparel industry, driving research on the question as to why some collaborations are more effective and create more value than others. This research is intended to help understand what the developments in the apparel industry can tell us about best practices for inter-firm collaboration for sustainability.

2. FOUNDATIONS FOR INTER-FIRM COLLABORATION

The term 'collaboration' implies cooperative, inter-organizational relationships where individuals or groups are "working across organizational boundaries toward some positive end" [18], or "a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to "a definition of mutual relationships and goals; a jointly developed structure and shared responsibility; mutual authority and accountability for success; and sharing of resources and rewards" [19].

2.1 General Overview of Inter-Firm Collaboration

The concept of inter-firm collaboration is as old as business itself. Companies and business people have been working across organizational lines since the dawn of capitalism to achieve mutual goals, and there is a comprehensive body of literature on the topic [14,19-33]. Early stage literature on collaboration for business is founded in theories of organizational relations, and inter-organizational relationships [19-21,34]. This literature examined the context of collaborative relations, including the process of establishing an inter-organizational relationship, maintaining it, dissolving it, and producing outcomes [35]. In the early 2000s, the academic community shifted focus toward researching collaborative capacity [22] and governance structures [23-27]. The most recent work in the field focuses on the architecture of collaboration [14,24,25,27-29,32,36,37], and guides for practitioners [30,38] [39]. Table 1, below, details conditions for success in collaborative environments, as cited in some of the literature's most widely cited models.

Collective Impact [14]	
1. A common agenda 2. Shared measurement systems 3. Mutually reinforcing activities	4. Continuous communication 5. Backbone support organization

Building Collaborative Capacity [22]	

1. Within their members
  - Ability to work collaboratively with others
  - Ability to create and build effective programs
  - Ability to build an effective coalition infrastructure
  - Holds positive attitudes about collaboration
  - Committed to target issues or target program
  - Holds positive attitudes about self
  - Coalition supports member involvement
  - Coalition builds member capacity
2. Within their relationships
  - Develops a positive working climate
  - Develops a shared vision
	(2 ct'd)
	  - Promotes power sharing
	  - Values diversity
	  - Develops positive external relationships
	3. Within their organizational structure
	  - Effective leadership
	  - Formalized procedures
	  - Effective communication
	  - Sufficient resources
	  - Continuous improvement orientation
	4. Within the programs they sponsor
	  - Realistic goals
	  - Unique and innovative
	  - Program culturally competent in design

Mattessich [19]	

1. Environment:
  a. History of collaboration or cooperation in the community
  b. Collaborative group seen as leader in the community
  c. Political/social climate favorable
2. Membership
  a. Mutual respect, understanding and trust
  b. Appropriate cross-section of members
  c. Members __ collaboration as in their self interest
  d. Ability to compromise
3. Process/Structure
  a. Members share a stake in both process and outcome
  b. Multiple layers of decision-making
  c. Flexibility
  d. Development of clear roles and policy guidelines
  e. Adaptability
	4. Communications
	  a. Open and frequent communication
	  b. Established informal and formal communication links
	5. Purpose
	  a. Concrete, attainable goals and objectives
	  b. Shared vision
	  c. Unique purpose
	6. Resources
	  a. Sufficient funds
	  b. Skilled convener

Thomson [25]
Five variable dimensions: 1. Governance: decision making, rules to govern behavior and relationships, structures for reaching agreement on collaborative activities and goals through shared power arrangements. 2. Administration: administrative structure must exist to move from governance to action. 3. Organizational autonomy: a defining dimension of collaboration that captures the potential dynamism and frustration that is implicit when firms have distinct identities and organizational authority separate from (though simultaneously with) the collaborative identity. 4. Mutuality: with roots in interdependence, mutuality includes information sharing and mutual benefits (the latter of which is critical to success) 5. Norms: In collaboration, individual partners often demonstrate a willingness to interact collaboratively only if other partners demonstrate the same willingness. Reciprocity must be a norm.

Table 1. Frameworks for successful inter-firm collaboration (topic/issue-agnostic)

2.2 Inter-Firm Collaboration (for Sustainability)

Early literature on collaboration for sustainability largely focused on private/public partnerships [40-43]. The corporate sustainability movement began with companies looking internally for cost savings, energy efficiency or waste-reduction opportunities ("cost cutting under a different name" [11]), however as the movement grew and external issues were highlighted in the news (deforestation in Indonesia, for example), firms recognized the need and opportunity for partnerships with the non-profit community, and vice versa. Early movers such as WWF and Greenpeace embraced the collaborative imperative, demonstrating success through unlikely partnerships [44]. Private/public partnerships were seen as a way to legitimize and strengthen efforts, while protecting against accusations of green washing, however, many collaborations were labeled as public relations or simply strategic philanthropy [45,46]. Today, NGO/private partnerships are widely recognized as a genuine means to tackle both operational issues, and the external impacts of corporate activity [45].

As the firms' external issues and impacts became larger and more prevalent as business risks, companies began to realize that inter-firm collective action was required to "protect the interests of the company and society" [11]. In many cases, environmental and social issues are global, systemic and have become increasingly complex, often referred to as 'wicked problems'; these systemic issues have boundaries that are not clearly defined, no clear start/stop, and require a number of actors to address various levers for action within the system [3,31,47]. The literature evolved to address collaboration to tackle supply chain systemic issues [37,48-52].

Across the literature, a key theme emerges: bringing together various actors enables the sharing of knowledge, organizational learning, and resources to come together and address challenges and build sustainable business advantage for all parties over time [53]. Although working alone on some of these issues is possible, it is likely ineffective and cost-intensive, and companies will be less successful attempting on their own [12]. Collaborations are perceived to offer strength and advantages in producing shared outputs, as shown in Table 2, below.

TYPE/OUTPUT	BENEFIT	APPAREL EXAMPLE
Product and factory certifications	Legitimize corporate claims, and have been important tool for ensuring consistency and credibility in company efforts	Worldwide Responsible Accredited Production (WRAP)
Shared social/labor standards	Help reduce audit burnout and systemize standards and improvements	Business Social Compliance Initiative (BSCI)

Standardized measurement and reporting	Create a foundation for data collection and evaluation across a number of companies	Global Reporting Initiative (GRI)
Data/information clearinghouse	Supports other outputs with data systems	Fair Factories Clearinghouse
Operational best practices	Establish and maintain new ways to operate	Better Work Programme

Table 2. Outputs of collaborative initiatives

Starting in the early 1990s, industry-specific collaborations for sustainability began to form and evolve [33,54,55] to address issues that are bigger than any one firm [11,13,32,34,56], outlined in Table 3, below. Inter-firm collaborations are now the leading type of collaboration firms are engaging with for sustainability imperatives. In the MIT/Boston Consulting Group survey [11], nearly 60% of firms report that they collaborate with other businesses, either through industry associations, across industries or within the same industry, while fewer partner with academia (47%), NGOs (47%) and government (39%).

SECTOR	COLLABORATIVE GROUP	CONVENOR	YEAR	TYPE	OUTPUT
Multiple	Business for Social Responsibility	Josh Mailman, Mal Warwick, and Judy Wicks; + 51 member companies including Ben & Jerry's, the Body Shop, and Stonyfield Farms	1991	Multi-stakeholder initiative	Consulting services, Collaborative initiatives, Partnership development
Forestry	Forest Stewardship Council	Timber users, traders, env. NGOs, human rights organizations	1993	Public/private partnership	Product certification
Diamonds	The Kimberly Process	South African diamond producing states, The World Diamond Council, Partnership-Africa Canada	2000	Multi-stakeholder initiative	Product certification
Electronics	Electronic Industry Citizenship Coalition	Business for Social Responsibility	2004	Business-led initiative	Shared code of conduct
Multiple	Global Reporting Initiative	Business for Social Responsibility	2004	Multi stakeholder initiative	Standardized reporting
Agriculture	Sustainable Food Laboratory	Oxfam, Unilever, and the Kellogg Foundation	2004	Multi stakeholder initiative	Product certification
Palm	Roundtable on Sustainable Palm Oil	Aarhus United UK Ltd, WWF, Golden Hope Plantations Berhad, Migros, Malaysian Palm Oil Association, Sainsbury's, Unilever	2004	Multi-stakeholder initiative	Certification
Dairy industry	Dairy Management Inc.	Dairy farmers	2007	Trade association	Operational best practices
Outdoor apparel and equipment	Outdoor Industry Association, Sustainability Working Group	Adventure 16, Backwoods Brookwood Companies, DuPont, Eastern Mountain Sports, Elephant's Perch, JanSport, Patagonia, Rainier Mountaineering, Inc., Recreational Equipment Inc., Sierra Designs, Summit Sports (Al Gunter), The North Face, Wild Country	2007	Trade association	Standardized measurement tool
Multiple	The Sustainability Consortium	Walmart, Arizona State Univ and Univ. Arkansas	2009	Multi stakeholder initiative	Product sustainability toolkits
Chocolate	Sustainable Cocoa Initiative	Mars	2009	Multi-stakeholder initiative	Product certification
Multiple	Consumer Goods Forum	CIES, GCI and the Global CEO Forum	2009	Trade association	Operational best practices
Waste reclamation	Action to Accelerate Recycling	Alcoa, Alcoa Foundation and Keep America Beautiful Launch	2012	Multi-stakeholder initiative	Operational best practices
Mining	The KIN Catalyst	Robert C. Wolcott, Mohan Sawhney	2012	Multi stakeholder initiative	Development partner framework

Table 3. Examples of inter-firm collaborations across industries

There is a growing body of literature on collaboration for sustainability, however it is still in early days since most articles have been published after 2010, and there are a limited number of models and frameworks (a selection of which are shown in Table 4, below). Frameworks for collaboration for sustainability are highly simplified in comparison to the broader knowledge literature on the topic. There is an opportunity to marry the traditional literature on collaboration, with the relatively newer movement toward systemic sustainability, and further examine the conditions for creating collaborative capacity.

MIT Sloan, Boston Consulting Group, United Nations Global Compact [11]

- Success with Internal collaborations
- Have a shared language
- Secure board engagement
- Timely engagement (not all players have to be involved all the time)

- People matter
- Due diligence
- Right entrance/exit strategies
- Experience: The more collaboration in which a firm engages, the more successful they are reported to be

Network for Business Sustainability [38]

- Adopt a problem-centric rather than a firm-centric model of stakeholders
- Frame the partnership as a learning process
- Construct fair processes and manage conflicts
- Don't expect to come up with a quick solution
- Ensure voice for all participants
- Set evaluation criteria

- Allow time for representatives' constituencies to review and ratify agreements
- Develop leaders competent in partnership skills
- Evaluate whether you've selected the correct partner
- Consult a wide array of stakeholders
- Involve reputable stakeholders early

Forum for the Future six steps model [30]

- Identify the right type of collaboration
- Secure permission to play
- Use great process, but make it flexible
- Allow time
- Reset the pre-competitive dial

1. Experience the need for change
2. Diagnose the system
3. Create pioneering practices
4. Enable the tipping
5. Sustain the traction
6. Set the rules of the new mainstream

The Collaboration Imperative [13]

- Nurture culture of trust (appreciative inquiry, focusing on strengths) (creating deep meaning through group bonding)
- Start with small committed representative group
- Link self-interest to shared interest
- Monetize the system value
- Create a clear path with quick wins

- Acquire independent PM expertise
- Build in structured competition (large scale collaborations must be structured to drive healthy competition among players)
- Transparency is central to success
- Right incentives must be in place

Kellogg Innovation Network [17] [11]

- Keep groups small – not exceeding 40 people
- Attract the right people from various stakeholders
- Create a trusted environment
- Secure visionary leadership from a CEO within an industry
- Build thoughtful approach to conversations/step-by-step process guide

Table 4. Frameworks for successful inter-firm collaboration (sustainability-specific)

2.3. Inter-Firm Collaboration for Sustainability: The Apparel Industry

In response to high profile social/labor issues in the apparel industry during the 1990s, a number of NGO-led groups, independent certifications, and trade associations were formed toward the end of the decade and in the early 2000's to improve the social and environmental conditions of the industry. Although well intentioned, and with pockets of success, the results of these efforts have lead to a current-day patchwork of company standards, independent Code of Ethics, factory and product certifications.
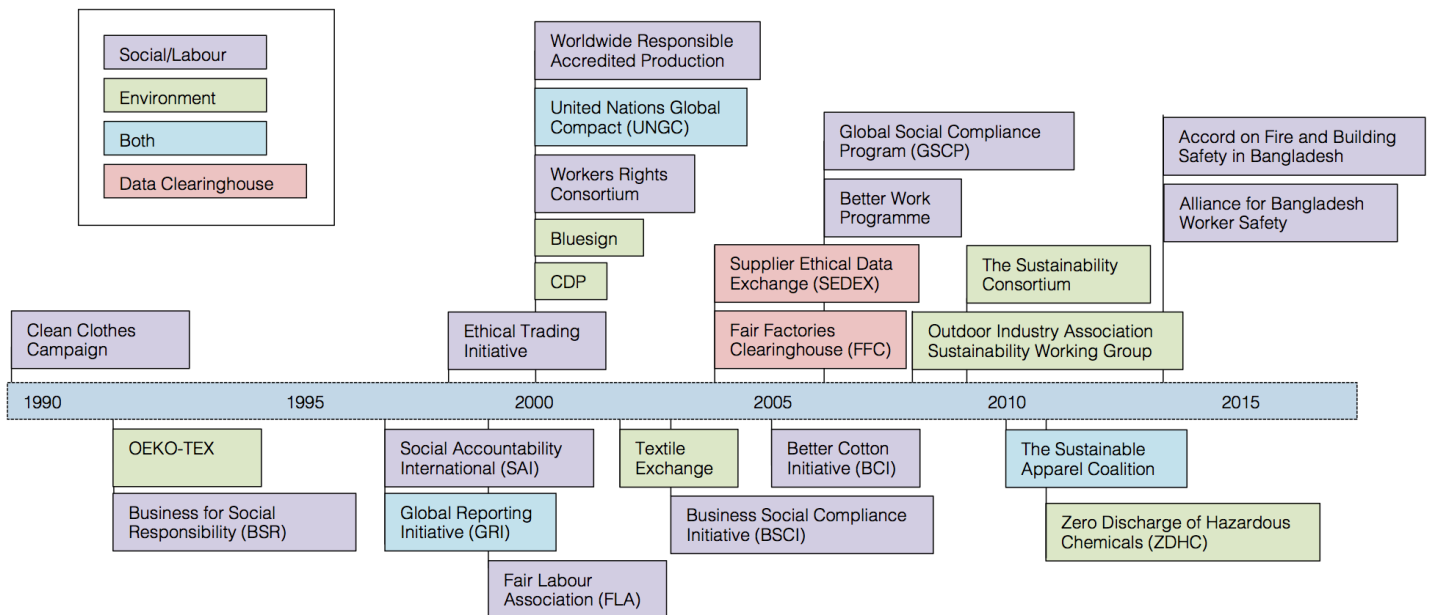

Figure 2. A history of collaborative efforts in the apparel industry

There is no data that allows us to measure industry-wide social and environmental impacts; therefore, it is difficult to gauge the aggregate success of these efforts. Evidence shows that on the social side, despite the increasing number of private compliance initiatives, such as an independent Code of Conduct, these initiatives have not resulted in better or safer working conditions [5]. The Better Work Programme found excessive overtime in all clothing factories assessed in 2014. The average wage in the apparel/footwear industry globally is 35% lower than the manufacturing industry average wages [5]; low wages are often associated with other issues such as paid leave, benefits such as social security, and inaccurate pay with and insufficient wage information [5].

The apparel and footwear industry has a huge impact on the environment [57],[58], with a lot of room for improvement. The impacts span the tiers of the supply chain and can be difficult to assess for individual garments since they are subject to raw material choice, dyes, chemicals, trims, laundering, packaging, transport, point of sale, consumer use and end of life [58]. To achieve sustainable levels of production, the industry must reduce water consumption by an estimated 50%, energy use by 40%, and

chemicals by up to 20% [15]. Creating a sustainable industry with high levels of productivity and competitiveness, and equally high levels of social and environmental performance, is possible. To get there, the industry needs "an ambitious, systemic approach to achieve industry transformation" [15].

3. DRIVERS & VALUE OF INTER-FIRM COLLABORATION

To better understand the landscape of collaboration within the apparel/footwear industry, and the factors that contribute to the success of some multi-stakeholder initiatives in the apparel/footwear industry, we conducted an online survey of the industry's sustainability practitioners, reviewed relevant literature, and conducted interviews with individuals who have extensive experience in both collaboration and apparel/footwear. An on-line survey that included 25 questions was undertaken in February, 2015, with Institutional Review Board approval, to understand the internal and external pressures that motivate companies within the apparel and footwear sectors to engage in collaboration, the scope of that collaboration, and which inter-firm initiatives provide the highest level of value.

3.1 Survey Results

The survey was distributed to 167 sustainability practitioners and was active for a 30-day period. We received 60 responses with a distribution of: apparel/footwear brands (36%), retailers (17%), manufacturing partners (including cut & sew, mills, raw material suppliers) (12%), consultants (12%), NGO (7%), auditing partner (3%), and industry associations. The majority of respondents were manager level (45%), director level (15%), specialist (8%) and vice president (7%). Responds represented global companies of which 54% have operations across three or more regions.

Survey results indicate the majority of responding companies agree strongly (62%) that effectively addressing both firm and product sustainability issues cannot be done alone, and requires external collaboration. Only 9% disagreed somewhat, and 4% neither agreed nor disagreed with this statement. A full 87% of respondents report that collaboration for sustainability is an explicit part of their current sustainability or business strategy.

3.1.1 Drivers of Collaboration

As presented in Figure 3, below, when asked "What are the relevant reasons that your organization engages in inter-firm collaboration for sustainability?" the primary responses included 1) to foster market transformation toward sustainability, 2) increase reputation and brand building, 3) manage risks, and 4) alignment with company vision and values.
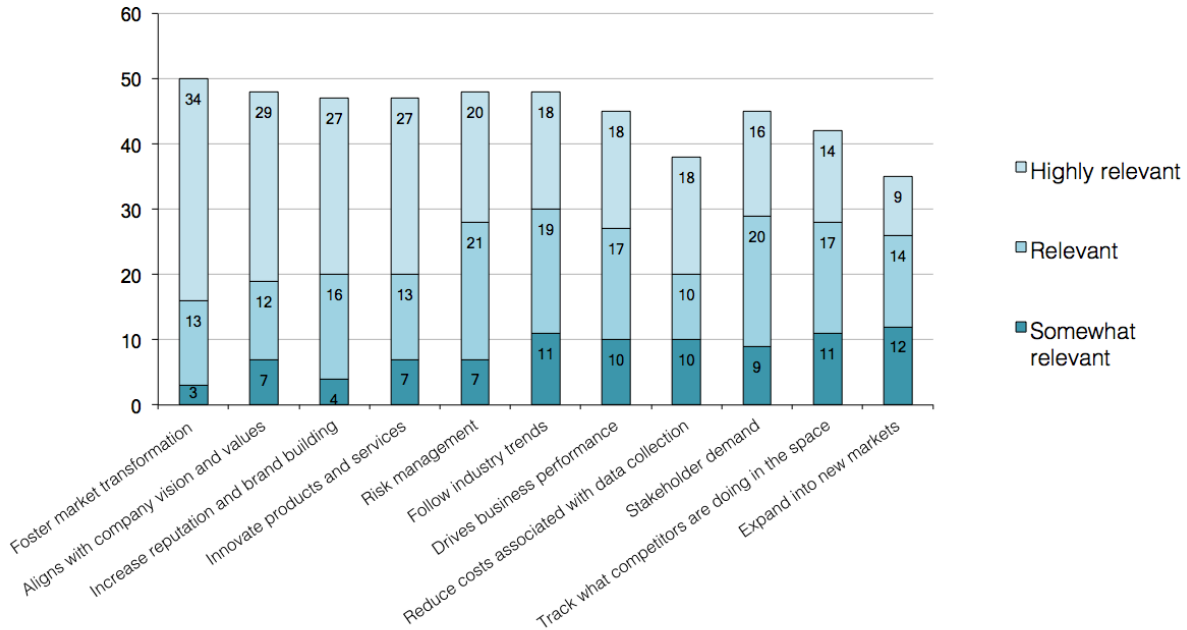
Figure 3. Reasons for collaboration on sustainability (internal drivers)

We also examined what types of pressures create an environment where collaboration is necessary and/or in the best interests of the company. The findings followed what would be expected in a traditional environmental or social trade organization. The primary drivers were threat of existing and emerging regulations (15%), NGO pressures (14%), customer demand in business-to-consumer environments (12%), media inquiries/exposure (11%), leadership pressure (10%), and client demand in business-to-business environments (8%).
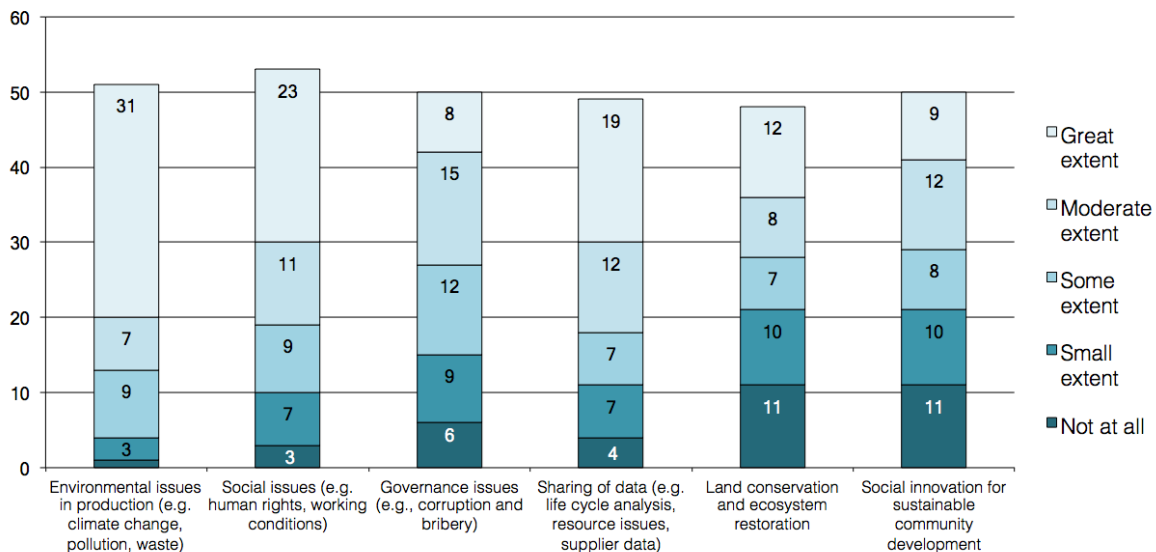
Figure 4. Reasons for collaboration on sustainability (internal drivers)

Most companies in the survey are collaborating on environmental issues in production (e.g. climate change, pollution, waste), social issues (e.g. human rights, working conditions), and sharing of data) (e.g. life cycle analysis, resource issues, supplier data), as shown in Figure 4, above.

For deeper insight into the issues addressed in collaborative efforts, and the needs that are served through collaboration, we asked about legacy programs for environmental, social and product related programs, shown in Table 5, below. Results indicate that 63% of respondents are transitioning, adopting or already using shared industry environmental standards. For social sustainability, only 44% of respondents are transitioning, adopting or already using shared industry standards; overwhelmingly (50%), respondents have legacy programs in place, and no plans for change. While half of the companies surveyed have programs in place to address social sustainability issues, only 32% of companies have existing programs or measurement systems in place for "product sustainability", and 42% are transitioning/adopting/using industry standards. Only 26% of brands have their own product sustainability measurement tools and plan to continue using them. In part this consistent in respect to the earlier responses where companies indicated emerging regulatory actions and customer demand are driving inter-firm collaboration. Because firms are now structured with global supply chains and global customers, they are now faced with the emergence of national regulations regarding product sustainability such as a 2013 European Commission Proposal, which explores the potential for establishing a common methodology to assess and label consumer products [59].

Do you have legacy/existing measurement programs that you are replacing with shared industry tools?	No legacy program or shared measurement system in place	Legacy program still in use, and no plans for change	Transitioning from legacy system to a shared industry standard	Adopting new shared industry standard	Already using shared industry standard
Environmental issues (e.g. energy use, water use, waste)	17%	20%	26%	17%	20%
Social issues (e.g. human rights, working conditions)	8%	50%	22%	8%	11%
Product sustainability (design planning, and life cycle analysis)	32%	26%	18%	18%	6%

Table 5. Surveyed firms with existing programs by focus

3.1.2 Value of Collaboration

We sought to better understand how individual respondents perceive the value gained from collaboration. As shown in Figure 5, below, firms responded that collaborative efforts help keep internal teams up to date on industry knowledge and best practices, they help focus the company's sustainability strategy, and drives performance improvement through benchmarking and best practices.
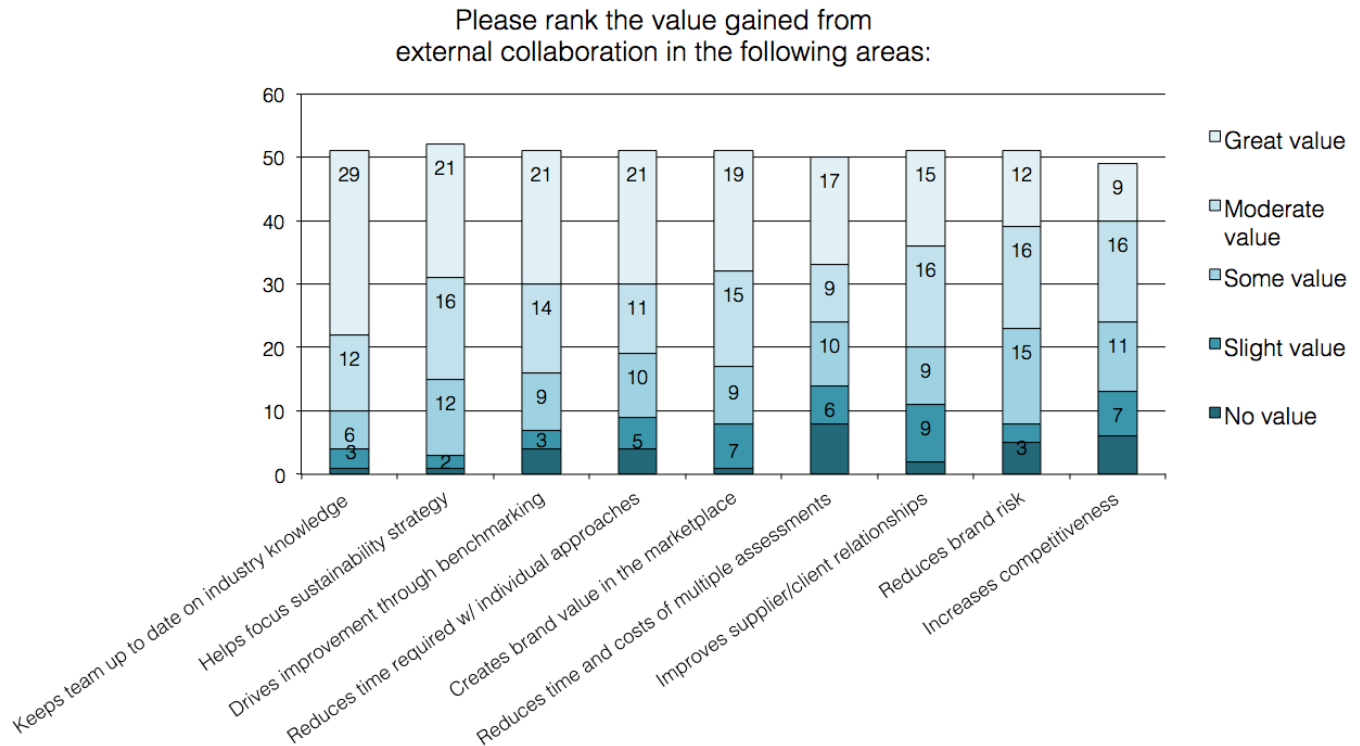
Figure 5. Value gained from external collaboration for sustainability

To better understand how companies quantify the value reported above, we asked the respondents how they quantify and justify their investment to their own management. As examined, 54% of respondents have identified a clear business case for collaboration, 44% report internally on the qualitative value, 37% created a monitoring framework to track the qualitative/quantitative progress and value, and 28% developed their own metrics to quantify the value gained.

To examine the value of specific collaborative efforts within the industry, we polled to see what organizations were perceived as providing the greatest value to firms. As presented in Figure 6, below, forty of the sixty respondents responded that the Sustainable Apparel Coalition provided value with most identifying that it provides either moderate or great value which was the largest positive response for the listed initiatives.
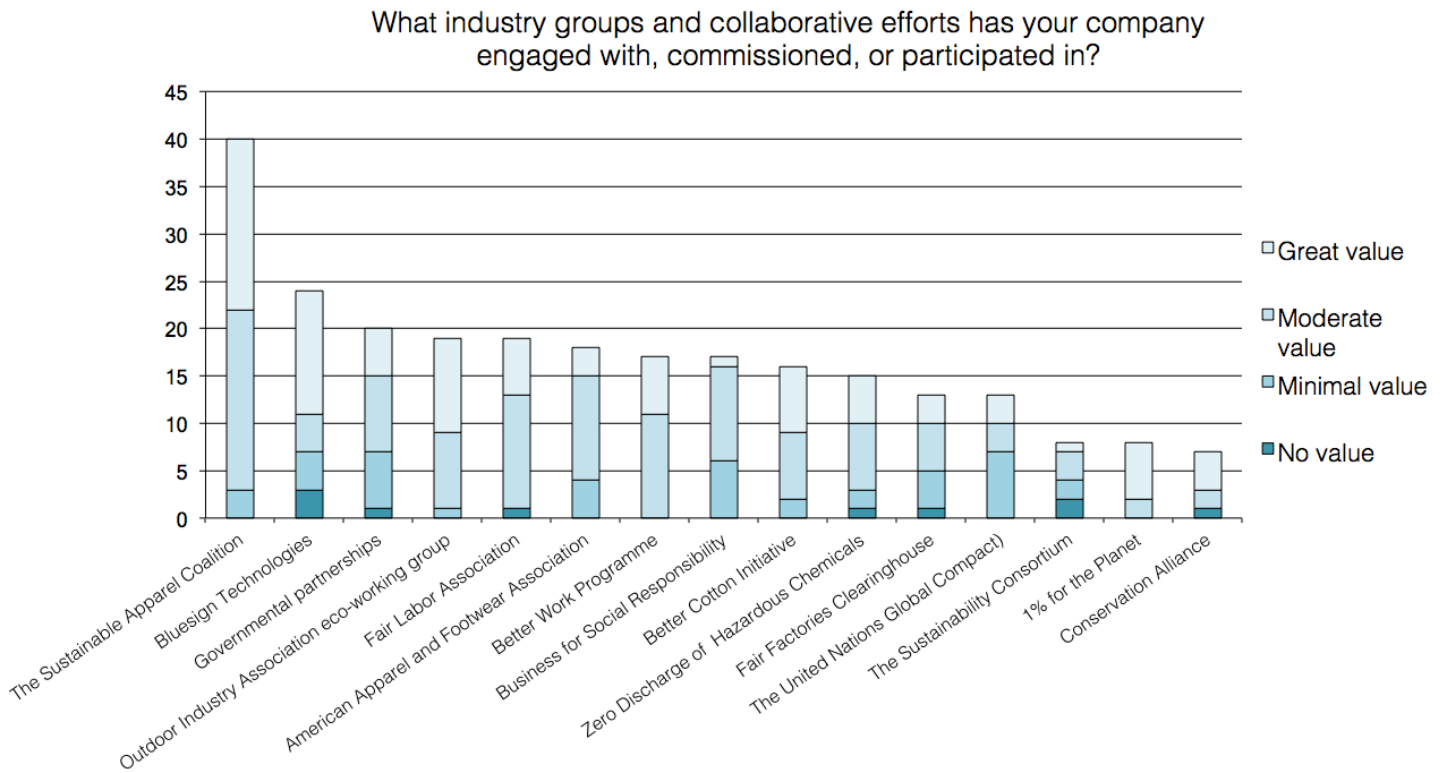
Figure 6. Participation in various initiatives, groups, and associations

4. THE SAC: UNDERSTANDING COLLABORATIVE CAPACITY

One multi-stakeholder initiative, the Sustainable Apparel Coalition (SAC), stands out as a potential successful outlier in the field of collaborative groups, both in terms of value reported by firms, but also in its rapid adoption and growth.

4.1 The Sustainable Apparel Coalition

The SAC began in 2009 with an unlikely partnership between Patagonia and Walmart. Within a year they invited twelve more companies to join and began, in earnest, what would turn into one of the largest industry-specific multi-stakeholder initiatives in the world. Within the span of 5 years, it has attracted a large number of major apparel/footwear brands and manufacturers, creating an evolving and improving framework for impact measurement. Members include retailers, suppliers, and manufacturers, with more

limited representation by government agencies, non-profits, and higher education institutions, as shown in Figure 3, below [1].
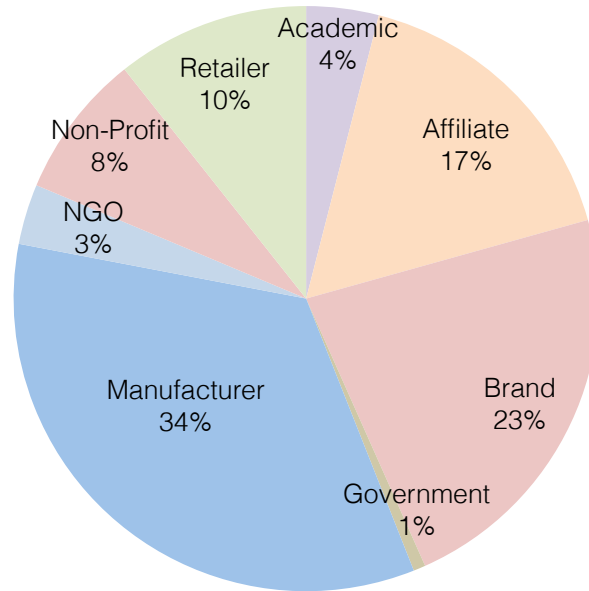

Figure 7. Member representation within the SAC [1]

Based in San Francisco, California, the SAC is a 501(c)(6) organization, led by a professional staff but directed by a board comprising representatives of the apparel and footwear industries drawn and voted upon by their membership. The stated mission of the organization is to address current social and environmental challenges both as a business imperative and an opportunity [60]. To achieve this goal, the SAC is focused on developing a common approach for the industry in measuring and evaluating apparel and footwear product sustainability performance that identifies priorities for action and opportunities for technological innovation [60].

The platform tool for conducting and sharing sustainability performance in the industry is the Higg Index, shown in Figure 8, below, which was created by the members of the SAC, building upon existing measurement tools including Nike's Material Sustainability Index and the Outdoor Industry Association's EcoIndex, accompanied by the Global Social Compliance Program (GSCP) reference tools, and social/labor best practice tools such as Social Accountability International's Social Fingerprint, and Fair Labour Association's Sustainable Compliance Initiative [61].

The SAC has recently launched the Higg Index 2.0, a web-based value chain index "to help organizations standardize how they measure and evaluate environmental performance of apparel products across the supply chain at the product, brand and supply chain facility levels" {Coalition, 2015 #151}. Higg 1.0 was an excel-based measurement system, and the second version saw the tool go online. Developers of the Higg Index believe that working with partners and competitors to develop a value chain index is the only way to unlock the potential of the industry [62].
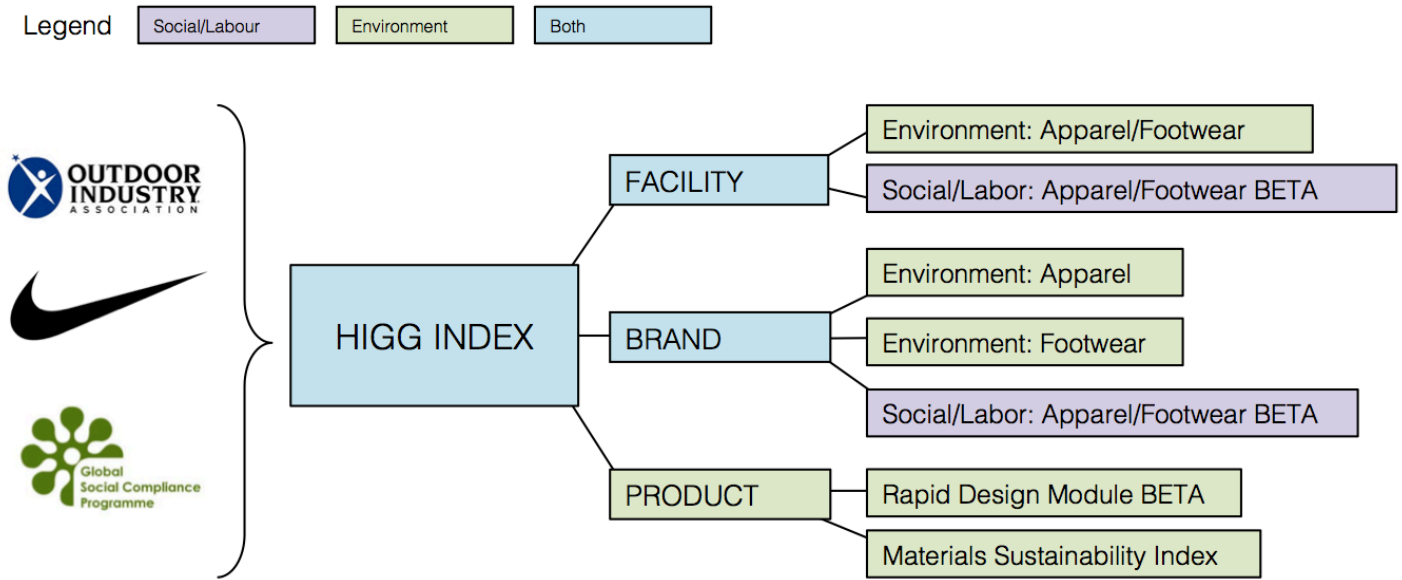
Figure 8. The Higg Index

Unlike broader industry consortia, such as the Sustainability Consortium, which is administered by two American universities and has a very broad and segmented membership from a variety of industrial sectors, the SAC has a narrower and more defined focus in one primary sector and is administered by its own staff. This, as will be presented in the survey and interviews, plays a critical role in the perceived effectiveness and value for inter-firm collaboration.

4.2 Interviews

The SAC has been able to create a race to the top among its membership, in an industry traditionally known for a race to the bottom. Members have developed and agreed on an agenda designed to drive system-wide innovation. The pre-competitive space in which all companies participate provides the foundation for competition, or as one member describes, "the SAC is like a training camp for Olympic athletes. Together we challenge each other to stretch and improve our [sustainability] performance. Then we go out and compete." [13]

To study what has contributed to the success of the Sustainable Apparel Coalition, we conducted interviews with industry practitioners who have experience working in a number of collaborative settings. From these interviews, three key factors emerged to create capacity for inter-firm collaboration for sustainability: 1) context: the industry's readiness for this approach and proposed solution; 2) the SAC's organizational values and tools, and; 3) individual relationships, skills and engagement. Each is reviewed in detail below.

4.2.1 Success Factor 1 – Context: Industry Readiness

Integrated Supply Chain: According to interviewees, there were industry-specific factors that created the conditions for the SAC to succeed. The apparel and footwear industry has a highly inter-dependent supply chain, which both demands and facilities the collaboration between stakeholders [15,53]. It's common that brands do not own or operate the facilities where the garments or products are finished in the cut and sew process, and these facilities typically work with a number of brands. With this dynamic, stakeholders have experienced the inefficiencies associated with multiple measurement standards [5], and the manufacturing community was also highly motivated to come together and co-create an alternative.

Readiness: Interviewees agree, the SAC has grown quickly, because the industry was ready for the environmental impact measurement solution that was brought forward. The Higg Index filled a void (very few brands had their own suite of tools for measuring supply chain environmental impacts. At the time, few brands/manufacturers had an agreed upon environmental standard, and so the Higg Index was quick to gain traction because they had a clearly articulated value proposition for collaboration: cost avoidance, risk mitigation, sharing costs, learning from each other, and reducing audit fatigue and questionnaire burnout from manufacturing partners. In sum, it fit a need and mitigated an industry-wide, increasing risk.

Clear on needs: As presented in Figure 9, below, representatives from the apparel and footwear industries identified that the most important projects on which the industry needs to collaborate, is the development of consistent shared measurement tools and the adoption of said tools. The SAC was able to
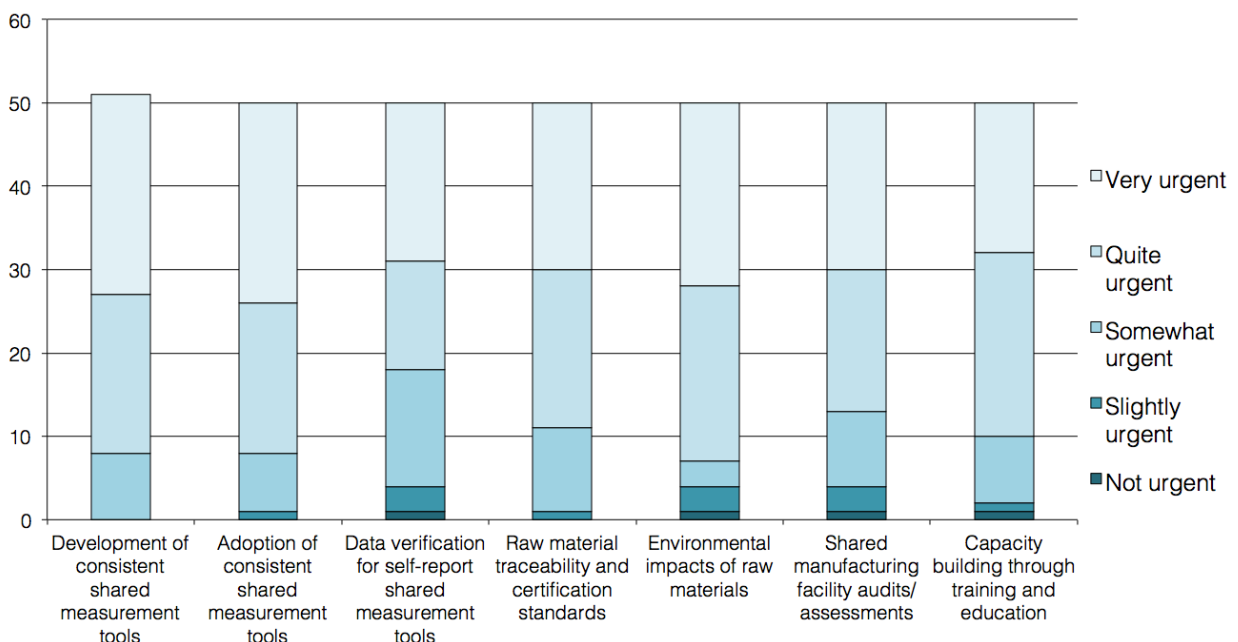

Figure 9. Industry described importance of inter-firm sustainability needs.

quickly and effectively convene a group to address this need for environmental data, and is not leveraging that success to address the outstanding patchwork of certifications and standards on the social side.

Practice with collaboration: Another systemic factor that contribute to the perceived success was that stakeholders within the apparel industry had a significant amount of practice within inter-firm collaborative environments [19]. Given the relatively long history of collaborative efforts within the sector, most brands have seen what has been working and what hasn't, and were motivated to come to the SAC to co-create solutions that would ultimately be successful based on previous experience.

Systemic understanding: Perhaps most importantly, stakeholders from across the value chain came together with a strong understanding of the system, areas within their immediate control/influence, and were aware of what needed to be done in terms of measurement consolidation, and priorities. There were precedents to build from, and examples to learn from.

Comfort with data transparency: And finally, stakeholders within the industry had already achieved a level of comfort with transparency of data. With the Higg Index, the data platforms were designed with data transparency in mind, which is different than other data clearinghouses used in the industry. This level of comfort and transparency within the industry may have allowed sustainability practitioners the freedom to engage in non-competitive collaboration. By the mid 2000s, the sector's leaders had all posted their complete supply chain information online in response to activist and NGO pressure.

4.2.2 Success Factor 2 - Organizational Values and Tools

Given that the systemic conditions were primed for success, as described above, the SAC came to life at the organizational level with a handful of key decisions that proved to be fruitful.

Focus on value not governance: At the outset, the SAC didn't make concerted efforts to see what worked and what hasn't worked in other industries from a governance perspective, although they were aware about what was not working in the apparel industry, and the fate they didn't want the SAC to meet. In its early days, the SAC did not focus on frameworks for collaboration, nor did it spend much time on governance procedures. SAC organizers worked based on a philosophy of value creation and moving quickly, with Bluesky, a consultancy with experience in high impact interaction for project management and facilitation. Rather than focusing on governance described as a 'zero sum' game that takes time and resources away from business value creation, organizers set principles and rules for engagement. The focus in early days was on development of the tool, with ambitious plans to quickly demonstrate business value to members.

Decision making model: Organizers adopted a set of principles and decision-making rules to which all membered adhered to ensure the group moved quickly. Elements of this loosely structured governance

model have been covered in previous literature [4]: openness, efficiency, delivering results to maintain momentum, and an alignment model of decision making (the group moved forward unless a principle and paramount objection was raised, which happened only once or twice). These values were instrumental in creating momentum for the effort.

Rapid prototyping of the Higg Index: The organization made very specific decisions and commitments including to have a prototype of an industry-wide sustainability measurement tool developed within a year. This was important for two reasons: 1) to demonstrate a practical approach that could deliver business value to the membership with a minimum of an investment and, 2) The SAC wanted to build a business friendly, usable tool that could start to change behavior and conversation a year after they started out. Not only was this focus invaluable, the actors who were co-creating the tools were shaping it in ways that met the industry's needs.

Build from what exists: To meet these aggressive goals, a key foundational principle was to build on existing work whenever available, and adopt a commitment to rapid prototyping with a mantra as repeated in interviews of "never letting perfection get in the way of good enough". The value creation for firms was quantified both monetarily as well as in time. From a monetary perspective, an industry-created sustainability tool that would be shared would reduce individual firm costs in contracting for material life cycle assessments and manufacturing facility audits which could be cost prohibitive when exploring new material options. Doing so would result in a savings of time.

Impartial rating: The membership purposely did not pursue certifications and rather tasked themselves to create an environmental impact measurement tool. In part, this was as a result of a collective philosophy that certifications imply an award for a company for its level of performance, introducing subjective values into about what constitutes a level of performance. However, if measurement is agnostic (0 – 100), objective, and quantitative, then it is up to others to apply value to that, including institutional buyers and governments. This values-agnostic approach was considered to be impartial, (therefore agreeable), and did not incorporate the values of any one group.

Room for growth: The SAC's intent was to create a measurement framework that industry stakeholders can hold themselves to, and ensure there is always room for improvement. Even the category leaders were not able to achieve high scores in their first evaluations. The Higg Index design is such that as environmental and social improvements are implemented in the industry via technological and organizational advances, life cycle assessment-inspired criteria used as a platform for the Higg will also be updated to drive continuous improvement. With this approach, the Higg index has avoided a common trap in stakeholder engagement scenarios: a watered down tool serving the lowest common denominator [39].

Equal partnership, based on trust: Although the SAC started as a brand-led initiative, with one manufacturer, one NGO, and one University at the table, it was quickly realized that the effort needed to

have all members across the value chain at the table in equal partnership so that the full value chain was represented and had a stake. SAC organizers realized early on that the manufacturing community needed to be engaged and committed to the development, ownership, and success of the tool. Now manufactures make up a majority at 34% of the membership, and 'equal partnership' is a value that SAC employees uphold at every opportunity, paying close attention to language and engagement to ensure the value is upheld. SAC's orientation as a brand- and manufacturer-led organization has significant implications when compared to a retailer-led organization. Retailer-led consortia for sustainability are challenged by trust; collaborative groups can be seen as a place for extracting information from brands and manufacturers, while brand/manufacturing-led efforts can be seen as a platform for sharing best management practices and technologies. Further, the interactions amongst membership is seen to be more peer-peer while retailer led efforts have the potential to be viewed by brands and retailers as a client to customer interaction which was viewed as a deterrent to collaboration.

Invite-only at first: This is a significant insight and input into formulating a successful framework for inter-firm collaboration. Specifically, interviewees for this research discussed how other sustainability industry consortia in which they were members or recruited to join were focused on increasing membership and revenues. This creates an environment where membership comprises both firms motivated to see industry-wide sustainability initiatives succeed as well as paying members in the consortia focused on the status quo and/or to block sustainability initiatives. To prevent this type of deadlock, the SAC had an invitation only membership approach, which provided an opportunity to create a multi-stakeholder initiative focused on positive advancement and innovation rather than focused on governance and initiative blocking. The downside of such a philosophy is that the SAC has a lower funding base at $25,000/year membership fee than counterparts such as the Sustainability Consortium with open membership and annual fee of $100,000 per year with lower fees for smaller firms.

4.2.3 Success Factor 3: Individual Relationships, Skills and Processes

Individual and corporate leaders: From the outset, the SAC was deliberately focused on creating a core group of companies and individuals that were committed to leadership to drive beyond compliance and into performance improvements. Early organizers from Patagonia and Wal-Mart invited other brands who were leading the sustainability field, or significant players who were excited about the idea about creating leadership standard. This community of leaders facilitated the recruitment of other members focused on advancing sustainability collaboration, and set the tone for the culture and quality of the collaboration moving forward.

Executive Alignment: The SAC also successfully got key executives on board by hosting Coalition meetings at the offices of various member companies, and having the executives speak at the gathering. This actively involved senior leaders, and helped sweep them up in the excitement and possibility of the initiative, which then created the space for teams to take on the work.

Engagement and passion: A differentiator for the SAC appears to be the result of deep member engagement and participation. To build a cohesive group, SAC organizers asked that companies always have a sustainability person come to the meetings to avoid a turnaround of others. This person was philosophically aligned, highly motivated on the topic, and could communicate the value to their organization.

5. FRAMEWORK FOR INTER-FIRM SUSTAINABILITY COLLABORATION

Our framework is based on combined findings based on theory, data, interviews and observation. We are presenting a model for collaborative capacity. Collaborative capacity is defined as "the conditions needed for coalitions to promote effective collaboration and build sustainable community change" [22]. This builds on prior industry literature in the field of sustainability collaboration, and also draws from broader literature on the architecture of collaboration. This framework pulls in specific elements about the industry and context in which the organizational and individual factors come to life.

5.1 Proposed Framework for Collaborative Capacity

Previous frameworks for collaboration on sustainability do not adequately address the contextual, organizational and individual factors that interact to enable a successful multi-stakeholder initiative that is designed to drive system-wide innovation. This framework adds to the literature on sustainability by broadening the lens through which multi-stakeholder initiatives can be viewed. Details on each aspect of collaborative capacity are outlined below.

CONTEXTUAL (INDUSTRY) CONDITIONS	ORGANIZATIONAL & OUTPUT-SPECIFIC CONDITIONS	INDIVIDUAL (INTERPERSONAL) CONDITIONS
- History of collaboration in community - Favorable political/social climate - Motivation to change/ challenge status quo - Clearly articulated technology and systems gap - Key commonalities and cost efficiencies - Well-understood and diagnosed system among stakeholders - Tools to build from	- Common agenda and clear goals - Small, diverse, equal group at start - Early credibility w/ leading members - Convenor, facilitator or backbone organization - Commitment to transparency - Build from what exists - Focus on rapid prototyping, not governance - Input from members for tool/system development - Align on guidelines, not governance	- Norms and values that foster trust - Build relationships through learning journeys - Create opportunities for continuous communication - Articulate a shared purpose - Environment of mutual learning and reinforcing activities - Leveraging passion and enthusiasm

Table 6. Proposed framework for inter-firm collaboration

5.1.1 Contextual/Industry Conditions

- **History of collaboration in community:** The apparel industry has history of collaboration and practice working in inter-firm and NGO-partnership environments; both the industry-wide knowledge gained, and the recognition of what is not working (a patchwork approach) are instrumental into the design of future initiatives. [2,19]
- **Favorable political/social climate:** As we've seen with the SAC, when the industry is still operating within a pre-regulatory environment, it opens up the opportunity for rapid innovation, growth and evolution**.** [2,19,20]
- **Motivation to change/challenge status quo:** Real change requires addressing the root cause of issues, and these are systemic in such a complex industry where supply chains are not always known or traceable
- **Clearly articulated technology or systems gap:** Stakeholders must be motivated to work together to create something that works since initiatives preceding it have not yielded widespread or systemic change. There must be a gap to fill (either technology-based, or relationship-based). Stakeholders must ask, is there really a need? Or are there other solutions that exist?
- **Key commonalities and cost efficiencies:** The industry's highly integrated supply chain demands that all stakeholders need to take action for widespread change to take hold. [2]
- **Well-understood and diagnosed system among stakeholders:** For the foundation of a collaborative initiative, the issues that are being addressed must be widely recognized and well defined, even if the issues themselves are complex. [20,63]
- **Tools to build from:** Some methodologies existed for environmental (heavily dependent on LCA), and social standards; the SAC's job was to harmonize them into an industry-wide standard.

5.2.2 Organizational and Output-Specific Conditions

- **Common agenda and clear goals:** Creating and articulating clear goals for the organization, along with performance indicators for success, is an important source for alignment across stakeholders, especially as membership and stakeholder numbers grow[19,22].
- **Small, diverse, equal group at start:** Convening a key group of representative stakeholders is important in the early days; the group should be representative of the system that is looking to change, and populated with groups who are in leadership positions, or committed to establishing themselves as leaders. All participants should have an equal voice and an equal vote at the table. [19]
- **Early credibility w/ leading members:** With the chosen group and the work that has been aligned upon, it's important to establish credibility early on with key participants, and that the collaborative group is regarded as leaders within the community [19]
- **Convenor, facilitator, or backbone organization:** Organizing stakeholders can be complicated, and difficult or unwelcome to do as a coalition member. Having an impartial party facilitate early work, and carry on project management, facilitation and administration tasks is an important way to continue momentum [14,19].

- **Commitment to transparency:** Organizations committed to a transformational collaborative environment must be committed to transparency; this engenders trust within the organization and allows groups to effectively support each other and leverage each other's experience.
- **Build from what exists:** Build from what exists, where possible; leverage others' wins, and don't recreate work that doesn't need to be revisited.
- **Focus on tool development, not governance:** With the right people at the table, focusing on incremental wins is an important way to keep the momentum rolling within the organization to ensure that it doesn't stall out before meaningful progress is made. Governance is necessary, although it does not create value in the early days of an organization.
- **Input from members for tool/system development:** Ensuring that the end-users of the tool, standard, methodology have a key role in designing it is a crucial piece for buy-in.
- **Align on guidelines, not governance:** Align on rules and guidelines, but don't worry about getting the governance structures right out of the gates. With the right people around the table, it's important to maintain the focus on driving value, and not focusing on non-value-added activities wherever possible.

5.3.3 Individual/Interpersonal Conditions

- **Norms and values that foster trust:** Trust between people is key to interpersonal relations and working together. Creating an environment based on trust, sharing, and relationships is a cornerstone for collaboration. [19,25]
- **Build relationships through learning journeys:** Deepening relationships through shared experiences is an effective way to create group cohesion. [63]
- **Create opportunities for open and frequent communication:** With the short amount of time that collaborative groups have together, enthusiasm and expertise are required to maintain momentum; once back at your regular company, it can be hard to remain a committed champion when daily tasks come up. [19,22]
- **Articulate a shared purpose:** this includes a aligning on a shared vision, purpose, and understanding of the significance of the work. Inspiring individual members is an essential way to carry momentum and motivation back into their organizations. [19,22]:
- **Environment of mutual learning and reinforcing activities:** Members bring different skills to collaborative environments; sharing knowledge generously allows the group to leverage the unique skills and perspectives of members. Trust is key to ensure that sharing is bi-directional, and reinforcing toward the goals of the coalition [14,25]
- **Leverage passion and enthusiasm:** Enthusiasm for the work, and an expertise to make the most of the times together are key to keeping the momentum going.

6. RESULTS AND DISCUSSION

The SAC was able to do for the environmental sustainability movement in the apparel industry, what the social/labor movement has not been able to do over the past 30 years. Through the Higg Index, the SAC has standardized measurement, created a system-wide liberation of data; pushed the industry on the path to transparency for consumers, governments, and other stakeholders; reduced costs for brands and manufacturers; created consistency and shared resources across an industry, thereby increasing efficiencies; and done important legwork to prepare the industry for regulation. The potential of this collaborative work has not yet been realized.

The SAC has experienced tremendous growth, but to continue on this path, brands must be willing to accept a certain level of risk as they move toward adopting a shared code of ethics for the less popular social/labor module. Although the manufacturing community is keen to see consolidated social/labor standards and audit procedures, it will be challenging for the SAC and the Higg Index to implement for a number of reasons: 1) from a brand perspective, there are values attached to a Code of Ethics program (it is unlike an environmental measurement tool that gives scores on a scale of 1-100). 2) For the SAC to achieve its goals of system-wide use and adoption, standards, certifications, and other multi-stakeholder initiatives must come on board as well. This requires stakeholders across the industry pause to reflect on what is working, and what is not; the kind of impact we can have collectively; and the best way to meet those needs. This discussion is steeped in competing self-interests on behalf of organizations, and it may be some time until we see executive buy-in and alignment.

Now that the environmental module within the Higg Index has reached maturity, the focus can/should switch to the cadenced annual collection of data, and its verification. Currently the Higg index is a self-report tool, which needs additional assurance to meet the credibility needs of the industry. The SAC can look to other industry organizations such as Carbon Disclosure Project (CDP) who have overcome the data verification challenges for insights and best practices. With the robust data that will be available through Higg.org, the SAC can identify key industry environmental and social hotspots for collective action and on-the-ground reductions. The quicker the SAC uses the aggregate, industry-wide intelligence to benchmark regional, tier, or facility performance, the quicker the data can flow back to participants and the more value it will create. Schneider Electric, the key-consulting partner who manages the system that runs the Higg Index platform, is already working with a number of brands to harvest their data and explore opportunities to address emerging environmental issues such as water scarcity.

7. CONCLUSIONS

Returning to the three central research questions, we see that the drivers for inter-firm sustainability collaboration in the apparel sector are to drive market transformation, because it aligns with company vision and values, and it serves to increase reputation and brand building.

The Sustainable Apparel Coalition (SAC), a group in which 2/3 of our survey participants are active, was reported to be a collaborative initiative that provides the most value. We took a closer look at the SAC through the lens of organizational literature on collaboration, and with stakeholder interviews to understand its success.

This research shows that the SAC has been more successful due to the industry's readiness for such a solution, The SAC's approach to organizational values and tool development, and the individual relationships, skills and processes of members. The interaction between these three has created the collaborative capacity required for success.

The current literature on sustainability collaborations focuses mainly on organizational and individual processes, along with best practices, and does not paint a complete picture of the environment(s) conducive to collaboration. To add value to the sustainability literature, we've presented a framework for collaborative capacity that addresses some of the contextual or environmental factors that enabled the SAC's success, such industry experience with collaboration, a favorable political/social climate, and a well-understood environment for systemic change.

Further research is required to apply the framework to other industries to test its utility outside of the apparel/footwear industry. Additionally, another research opportunity exists to examine how firms quantify the value gained from collaborative action. Results from our survey indicate that a number of firms have identified a clear internal business case for collaboration, created monitoring frameworks to track progress, developed their own metrics, and report internally on value. Understanding the processes and tools for this work can provide further insight on how collaborative groups can create additional value.

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