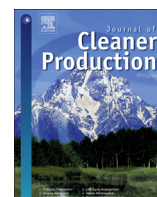




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Corporate sustainability approaches and governance mechanisms in sustainable supply chain management

Marco Formentini ^{a,*}, Paolo Taticchi ^b

^a School of Management, University of Bath, Bath BA2 7AY, UK

^b Imperial College Business School, Tanaka Building, South Kensington Campus, London SW7 2AZ, UK

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ABSTRACT

The role of governance from a sustainable supply chain management perspective is receiving more attention from scholars and practitioners. However, several aspects still remain unclear including how corporate sustainability approaches are implemented and aligned with governance mechanisms at the supply chain level. With the aim of filling this gap in the literature, an empirical investigation is proposed by analysing seven case studies through the lenses of contingency theory, the strategic alignment perspective and the resource-based view of organisations. Findings include the characterisation of three sustainability profiles, namely sustainability leaders, sustainability practitioners and traditionalists; a classification of the governance mechanisms on the basis of their level of collaboration and formalisation; the identification of factors that enable governance mechanisms. The empirical results are useful to practitioners seeking to implement sustainability initiatives at the supply chain level, and to scholars for further theory development and refinement.

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1. Introduction

Many of today's environmental and social issues are rooted in unsustainable patterns of economic and industrial development. Consequently, driven by regulation and market factors, and with the overall goal of building a competitive advantage, companies are developing new diversified corporate sustainability approaches (CSAs) (Hahn and Scheermesser, 2006).

In this research, business sustainability (Hassini et al., 2012) is defined in reference to the triple-bottom-line (TBL) as proposed by Elkington (1997) where the economic, social and environmental dimensions of business are simultaneously taken into account. This calls for completely re-thinking the way business is designed and conducted not only at the company level, but also at the supply chain level, as notably maintained by sustainable supply chain management (SSCM) scholars.

There is evidence from literature that firms embed sustainability in their business models in different ways (Bocken et al., 2013) and approach the TBL differently (Hahn and Scheermesser, 2006), develop short and long term initiatives (Epstein, 2008) and measure

and report their performance in different ways (Taticchi et al., 2013). In order to implement and control sustainability strategies and initiatives, with the ultimate goal of improving sustainability performance, companies establish governance mechanisms and structures to manage relationships with their supply chain actors (Gimenez and Tachizawa, 2012). Given its relevance, research in the field of sustainable supply chain governance (SSCG) (Vermeulen and Seuring, 2009) has started to investigate the role of governance mechanisms in SSCM. Early works published in SSCG literature, have highlighted the role of collaborative approaches (Vurro et al., 2009) and different levels of governance mechanisms formalisation (Alvarez et al., 2010). However, several aspects of SSCG remain still unclear. For instance, Kovács (2008) calls for examining environmental and social responsibility beyond corporate boundaries by stressing the need of understanding upstream and downstream implications; Carter and Easton (2011) posit that a better understanding of how supply chain governance structures are affected by sustainability-based strategies, with particular emphasis on contracting issues, is needed. Although the research has provided several frameworks (e.g. Van Bommel, 2011; Vurro et al., 2009) to investigate the relationship between governance mechanisms, there is limited empirical evidence of how strategies and business models for sustainability are effectively translated into practice and "aligned" with governance mechanisms.

* Corresponding author.

E-mail addresses: M.Formentini@bath.ac.uk (M. Formentini), p.taticchi@imperial.ac.uk (P. Taticchi).

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To address this gap, in this paper we aim to provide empirical evidence and develop theory by drawing on multiple case studies and use contingency theory, the strategic alignment perspective and the resource-based view of organisations. Our contribution includes the characterisation of three sustainability profiles, namely sustainability leaders, sustainability practitioners and traditionalists; a classification of the governance mechanisms on the basis of their level of collaboration and formalisation; the identification of factors that enable governance mechanisms. The use of three different theoretical lenses allows to capture the complexity and the richness of the issues investigated, as well as to facilitate the development of a clear discussion and the identification of practical implications.

The remainder of this paper is organised as follows: in the second section we define SSCM and review the literature on sustainable strategic approaches, governance mechanisms and theoretical lenses that are used in the paper. In the third section the research methodology is introduced. This is followed by the description of the cases in section four. Section five discusses findings of the empirical research, that include the characterisation of three sustainability profiles, namely sustainability leaders, sustainability practitioners and traditionalists; a classification of the governance mechanisms on the basis of their level of collaboration and formalisation; the identification of factors that enable governance mechanisms. Section six concludes the paper and highlights the limitations of this research, practical implications and suggestions for future research.

2. Literature review

2.1. Definition of sustainability

Business sustainability is defined as “the ability to conduct business with a long-term goal of maintaining the well-being of the economy, environment and society” (Hassini et al., 2012). Several definitions of green supply chain management (GSCM) and sustainable supply chain management (SSCM) are available in literature. In their literature review, Ahi and Searcy (2013) argue that SSCM is essentially an extension of GSCM, and that seven characteristics properly describe it: economic focus, environmental focus, social focus, stakeholder focus, volunteer focus, resilience focus and long-term focus. In this paper we adopt their definition to describe SSCM as: “The creation of coordinated supply chains through the voluntary integration of economic, environmental, and social considerations with key inter-organisational business systems designed to efficiently and effectively manage the material, information, and capital flows associated with the procurement, production, and distribution of products or services in order to meet stakeholder requirements and improve the profitability, competitiveness, and resilience of the organisation over the short- and long-term” (Ahi and Searcy, 2013, p. 339).

2.2. Strategic approaches to corporate sustainability

In the literature there is evidence that firms approach business sustainability differently. Shrivastava and Hart (1995) identify companies approaching sustainability with “band-aid” solutions not affecting their mission or strategy (e.g. characterised by isolated actions for waste reduction, pollution prevention and recycling); “more serious” companies establishing a lifecycle approach to products and developing sustainable strategies supported by consistent investments; and companies adopting “deep-change” strategies by completely rethinking business models and operations driven by sustainability. In a more recent work, Hahn and Scheermesser (2006) distinguish between three significantly

distinct types of approaches to corporate sustainability: sustainability leaders, environmentalists and traditionalists. However, this categorisation focuses predominantly on environmental issues, with limited consideration of the social component, and does not address supply chain implications.

Furthermore, in the domain of SSCM a number of studies have investigated strategic issues. Hall (2000) argues that different approaches to SSCM, and the nature of initiatives implemented are dependent on environmental and market pressures, firm resources, knowledge and channel power of the company in the supply chain. Seuring and Müller (2008) add that SSCM is often triggered and characterised by two distinctive and complementary strategies: “supplier management for risk and performance” and “supply chain management for sustainable products”. The first is driven by the fear of company reputation damage if sustainability related problems are raised. Hence, additional environmental and social criteria are added to complement economically based supplier evaluation. The second strategy is driven instead by the definition of life-cycle-based standards at the supply chain level for the environmental and social performance of products. It is evident that SSCM requires rethinking the management of the firms' economic capital by deploying tangible resources such as investments to improve corporate and supply chain processes, and develop intangible resources such as knowledge and organisational culture for sustainability (Dyllick and Hockerts, 2002).

Since the issues surrounding corporate sustainability are complex and far-reaching, Amini and Bienstock (2014) have explored the complexity of different corporate sustainability approaches and provided a useful framework to guide academic research. Among the variables discussed in this framework, they underline the key role played by the ‘scope of organisational focus’, namely the different levels of sophistication in the company's interaction with other supply chain actors toward sustainability. Overall, given the early stage of this body of literature, scholars have claimed the need for empirical research for both driving theory development and refinement, and influencing practice (Ashby et al., 2012; Tonelli et al., 2013).

2.3. Sustainable supply chain governance mechanisms

Monks and Minow (2004) define governance as the structure that ensures that decisions are made to determine long-term, sustainable value for an organisation. Fawcett et al. (2006) maintain that little has been written concerning the commitment levels among supply chain actors and the types of governance structures that should be adopted within a given organisation and along the supply chain. More recently, Pilbeam et al. (2012) underline a clear opportunity for scholars to perform empirical studies to clarify the relationships between supply network contexts, outcomes and governance instruments.

The need for deepening the knowledge on governance mechanisms from a supply chain perspective is especially critical when considering sustainability. According to Vermeulen and Seuring (2009) new schools of research and knowledge have emerged in the field of SSCM and SSCG in support of businesses taking up their active role in their supply chains, for instance by communicating their environmental and social impacts throughout the supply chain and developing strategies to improve them.

Enriching the definition provided by Gimenez and Sierra (2013), we define sustainable supply chain governance mechanisms (SSCGMs) as practices, initiatives and processes used by the focal firm to manage relationships with 1) internal functions and departments and 2) their supply chain members and stakeholders with the aim of successfully implementing their corporate sustainability approach. In this vein, this paper refers to internal

governance mechanisms and external governance mechanisms to distinguish between actions limited at the corporate boundaries and actions extended at the supply chain level.

The literature highlights two relevant factors that characterise governance mechanisms, namely collaboration and formalisation. In reference to the first factor, companies can implement their sustainability strategies by applying their market power in a non-collaborative way, or conversely by adopting a shared, collaborative governance style (Brockhaus et al., 2013). In a non-collaborative setting, the focal firm relies on its contractual power to define governance parameters and impose decisions to supply chain counterparts. While this is a common practice in supply chain management (Hingley, 2005), in the context of SSCM there is evidence that collaborative and shared governance approaches represent a powerful tool for facilitating sustainability initiatives (Vurro et al., 2009; Gimenez and Sierra, 2013). This calls for balancing the traditional power-based approach with new collaborative ways of implementing governance. Among collaborative mechanisms, Cousins and Menguc (2006) clarify the role of socialisation that forms bonds and ties that facilitate the exchange of information and helps to build a culture of mutual commitment.

The second factor suggested by the literature to classify SSCGMs is formalisation. According to Alvarez et al. (2010) and Pilbeam et al. (2012) formalisation is defined as the extent to which decision-making is regulated by explicit rules and procedures. A common typology of governance mechanisms distinguishes between formal and informal mechanisms of coordination. Formal mechanisms include control and reporting systems through which organisations structure their interaction in an explicit way and can include command structures, incentive systems, standard operating procedures and documented dispute resolution procedures. Formal mechanisms are usually adopted in dynamic and unstable circumstances. On the other hand, informal social systems encompass additional coordination mechanisms characterised by relationships rather than by bureaucratic structures and tend to be adopted in contexts where prior relationships exist between actors.

2.4. Theoretical research framing

This paper uses a number of theoretical lenses, introduced in this section, to engage with the analysis of the research gaps previously identified. This is coherent with the indication of several

SSCM scholars. In fact, Amini and Bienstock (2014) call for systemic approaches to corporate sustainability and the need of using several theoretical perspectives to explore and understand its complexity. Similarly, Connelly et al. (2011) argue that building theory for sustainability in business necessitates the use of several theories. In the same vein, Carter and Easton (2011) recommend the use of multiple theories in corporate sustainability research to support in-depth analysis. Based on the above, it is evident that corporate sustainability is a complex problem and the use of different theories is needed to capture this complexity and explore links between different dimensions. Lozano et al. (2014) develop a macro-theory on corporate sustainability, based on a complex framework integrating nine theories, by arguing that single theories on their own are limited in addressing corporate sustainability dimensions.

We select contingency theory, the strategic-alignment perspective and resource-based view of organisations because, all combined, they allow to capture the specific complexity of the linkages between CSAs and SSCGMs. The individual contribution of each theory is highlighted in the theoretical framework presented in Fig. 1.

Contingency theory (CT) is an approach to organisational analysis which emphasises that the nature and structure of organisations can take a number of forms and may be related to several contingencies. Organisations adapt their structures in order to maintain fit with changing contextual factors so as to attain high performance (Donaldson, 2001). Sousa and Voss (2008) reviewed four broad categories of contingency factors: national context and culture, firm size, strategic context, and other organisational context variables. As highlighted in Fig. 1, in this paper contingency theory is used to understand the relationship between the contingency factors and the development of specific CSAs and governance mechanisms. CT has been adopted in several studies investigating SSCM. For instance, Walker and Jones (2012) developed a typology of approaches to SSCM based on internal and external enablers and barriers.

The strategic alignment perspective (SAP) of linking operations to the corporate strategy (Skinner, 1969) has been extended in SCM. For instance, Kim (2006) and Hofmann (2010) underline the necessity of a strategic orientation and efficient linkages between corporate competitive capability and supply chain operational capability to develop coherent and integrated strategies. In this

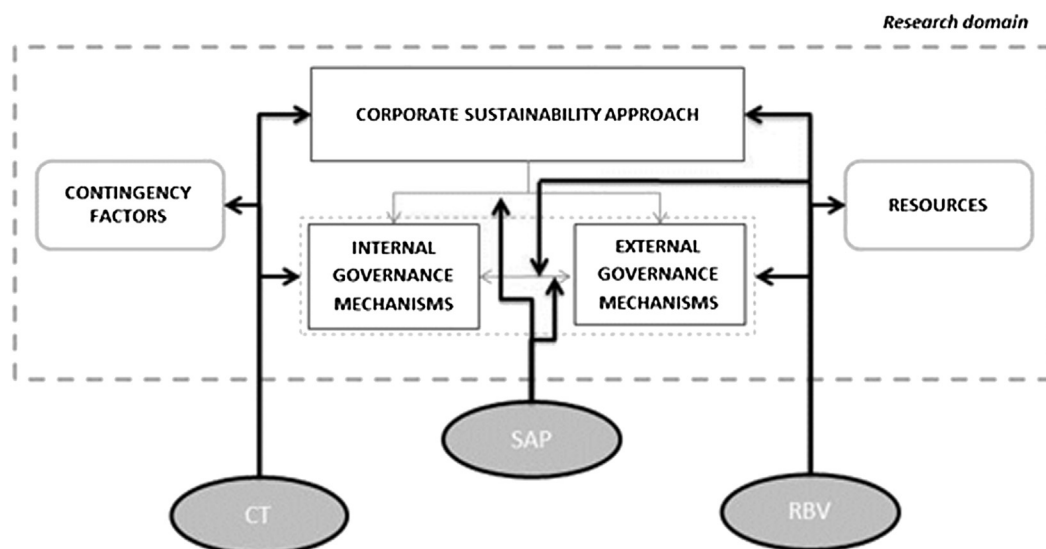


Fig. 1. Theoretical framework used in this research.

Table 1
Sample used for data collection.

Company ^a	Industry	Size ^b	Management structure	B2B/B2C	Sustainability business model archetype ^c	Supply chain extension	
						Upstream (sourcing)	Downstream (distribution)
Coffee	Food	Large enterprise	Family business, private limited company	B2B&B2C	Adopt a stewardship role	International	International
Pasta	Food	Large enterprise	Family business, private limited company	B2B&B2C	Adopt a stewardship role	International	International
Cement	Construction	Large enterprise	Family business, private limited company	B2B	Adopt a stewardship role	Local (country-based)	Local (country-based)
Fashion	Fashion	Large enterprise	Family business, public limited company	B2C	Repurpose for society	International	International
Recycling Tools	Construction	Small enterprise	Private limited company	B2B&B2C	Create value from waste	National	National
	Mechanical tools	Large enterprise	Private limited company	B2B&B2C	Maximise material and energy efficiency	International	International
Components	Mechanical components	Large Enterprise	Family business, private limited company	B2B	Maximise material and energy efficiency	International	International

^a Companies are labelled with fictitious data for anonymising research data.

^b Size is defined based on the European Union definition of SMEs (European Commission, 2003).

^c The Sustainability Business Model Archetype is based on the classification provided by Bocken et al. (2013).

vein, a better understanding of the interactive relationship between these elements is needed especially in the context of SSCM. In this work SAP is used therefore to explore the alignment between functional-level supply chain governance mechanisms and corporate-level mechanisms as reported in Fig. 1. This is coherent with recent research that has already used SAP to analyse a number of SSCM issues (Wu et al., 2014).

The *resource-based view* (RBV) of the firm is a theory formalised in the field of strategic management by Wernerfelt (1984) that finds the drivers of competitive advantage primarily in the application of both valuable tangible or intangible resources at the firm's disposal. In another seminal contribution Barney (1991) analyses the potential of several firm resources for generating sustained competitive advantages. Key resources have been recognised as intangible assets (such as client trust and relationships) and capabilities (such as skills and knowledge) (Clulow et al., 2007). RBV has positively been used in sustainability research (Garriga and Melé, 2004) to explain corporate sustainability strategies (Aragón-Correa and Sharma, 2003) sustainability competitive advantage (Castelo Branco and Lima Rodrigues, 2006) and sustainable supply chain management (Gold et al., 2010). In this research, RBV acts as a lens to analyse tangible and intangible assets and capabilities available in the companies studied and explain their capacity to develop CSAs and governance mechanisms (Fig. 1).

3. Research methodology

This paper adopts an inductive multiple case study approach to investigate how corporate sustainability approaches are implemented and aligned with governance mechanisms at the supply chain level. We consider a focal company as the unit of analysis as well as its supply chain relationships – both upstream and downstream – that are activated to develop the CSA. We adopt the focal firm's perspective, aiming at analysing both internal and external governance mechanisms.

We sampled 7 Italian focal companies, in line with the suggestions provided by Eisenhardt (1989) concerning the number of cases that are necessary to obtain valid evidence. We used as initial convenience sample a set of 30 companies that the Authors have identified in previous research projects focused on sustainability and where a direct link with the company's management was available so as to guarantee access to relevant information. Therefore, on the basis of our direct experience we did not consider

companies not addressing sustainability either from a strategic point of view, or in their operations. Although the traditional approach of convenience sampling is based on selecting cases on the basis of close geographical proximity and economic constraints of the research (Barratt et al., 2011), we decided not be limited on these restrictions. In fact, cases were selected at the national Italian level in different regions and our research was performed in 2012 and 2013 through funding made available by both institutions of the authors. The authors formally approached the initial 30 companies with a letter presenting the goals of the research and requesting their interest in participating.

The final set of 7 companies presented in Table 1 expressed clear interest in the research and therefore was included in the sample. The sample reflects 4 relevant industry clusters in the Italian economy (i.e. food, fashion, construction and manufacturing). The multi-industry nature of the data is seen as a strength of this study because it enriches the information of contingency aspects. A similar multi-industry approach was also taken by Ciliberti et al. (2011) in investigating the agency problem of corporate social responsibility codes implementation along supply chains. The main characteristics of the seven firms are summarised in Table 1. Although we interacted with 6 large companies and 1 small firm, we managed to assure diversity in the wider cluster of large companies both in terms of turnover and number of employees.¹

We collected data in person from multiple respondents in each company² adopting a semi-structured protocol, which we refined during the development of our research, in line with other studies (Pagell, 2004). The interview protocol was designed to gain a broad understanding of the CSA and the related SSCGMs through interviews with top executives, sustainability directors (when available) and managers in different functions (e.g. operations, purchasing, logistics, marketing). Then, the interview protocol was adapted and refined according to the specific requirements of each case study, aiming also at identifying additional details specific for each case study. In the Appendix we provide in Table A1 the details of the positions interviewed at the companies.

¹ We deliberately avoided disclosing the firms' turnover and number of employees as explicitly requested by the companies to remain anonymous. Additional details were disclosed with Referees during the review process.

² Only in the case of *Recycling* we had only one respondent.

We performed interviews on site and a following round of follow-ups phone calls. Generally, interviews lasted from a minimum of 45 min up to a maximum of 2 h, on the basis of interviewees' availability and commitment. It is evident from Table A1 that in the case of large and structured companies it was possible to interact with a larger number of respondents, with the opportunity also to perform plant visits to check specific sustainability initiatives on site. Interviews were taped and transcribed along with field notes collected by the Authors; eventually, we validated the transcripts with the interviewees. As highlighted in Table A1, we also triangulated data with internal documents (e.g. code of ethics, internal presentations, balanced scorecards, samples of contracts, etc.) and publicly available sources (e.g. sustainability reports, quality reports, company websites, etc.).

Coding was conducted iteratively: each case was individually coded, and then the two authors discussed the coding results to assure agreement and consistency in order to identify the nature of activated governance mechanisms in terms of TBL orientation, supply chain extension, collaboration and formalisation. The data were analysed using both within-case and cross-case analyses. We followed Yin's (1994) guidelines to insure construct validity (by using multiple sources of evidence, establishing chain of evidence and having key informants reviewed transcripts and drafts), internal validity (by performing pattern matching and explanation building), external validity (by using replication logic in multiple-case studies) and reliability (by using a case study protocol and developing a case study database).

4. Description of the case studies

4.1. Within-case analysis

In this section, cases are qualitatively presented so as to summarise the relevant information collected through interviews and additional sources and give the necessary background information for the understanding of the following cross-case analysis. Particular attention is given in the case description to the CSAs and the nature of SSCGMs activated by the companies. In describing the case studies, we adopt a common structure where information is presented by capturing elements relevant to the three theoretical lenses framing this research as depicted in Fig. 1. In the description, we limit the details of all SSCGMs activated by the companies, in order to list them in Table 2 and thoroughly discuss them in Section 4.2 and 5 with the support of quotes from the interviews.

4.1.1. Coffee

Coffee is a roasting company that distinguishes itself for the excellence of its product and its triple bottom line commitment as a core element of its corporate vision and business strategy. The coffee industry is a relevant context for investigating SSCM, since the early stages of coffee production take place in developing countries, thus entailing issues such as product safety and traceability, as well as working conditions or environmental protection. The end customers' increasing awareness of these issues encouraged coffee companies and other stakeholder institutions to develop several sustainability certifications.

The company formalised its commitment to sustainability in a sustainability manifesto and a code of ethics, and strengthened the governance mechanisms by establishing a sustainability committee along with a strategic plan. A structured internal monitoring system, composed of the board of directors, an executive committee, a supervisory and monitoring body, and internal audit & risk assessment, highlights the formal approach adopted by the company.

From a supply chain perspective, the most important mechanism is represented by an innovative responsible supply chain certification, developed in close collaboration with an independent certification body, which promotes the development of sustainable sourcing processes, monitoring and traceability, with the goal of constant improvement. The company successfully integrates relational governance mechanisms, such as direct sourcing through vertical integration and contracts, on the basis of long-term, collaborative relationships with growers and exporters. The company promotes knowledge transfer to its suppliers and rewards them with higher price premiums, bearing also all expenses related to the certification and inspections.

4.1.2. Pasta

Pasta is one of the largest food manufacturers, a leader in the international pasta market. The company developed an integrated strategic approach for sustainability, incorporating its three pillars with a long-term perspective. As a family-managed business, sustainability is perceived as a core element of the corporate strategy, and not as an adjunct component. From field to consumption the company encourages open, transparent partnerships with local communities.

A structured organisational model assigns responsibility for the management of strategic sustainability issues to the corporate top management unit, which is in charge of approving and reviewing objectives and strategic projects necessary to achieve such objectives, as well as regularly assessing key indicators of progress. Additionally, the steering committee, coordinated by the sustainability unit, proposes objectives and projects, and also monitors and controls sustainability indicators; and finally, the steering committee coordinates and leads the activities of the groups at the operative level.

The firm identifies its stakeholders in relation to criteria of representativeness and relevance, aiming at establishing transparent communication channels to enhance their suggestions and in turn improve the design of programs and initiatives. The company recognises the crucial role of partnerships with stakeholders to achieve objectives that the company could not achieve by working alone. From a supply chain perspective, these elements are clearly reflected in the adopted governance mechanisms: the company developed several strategic integrated supply chain projects to cover all supply chain phases. Strategic projects involve suppliers with long-term relationships and are based on a balance of formal (e.g. durum wheat supply chain contracts) and informal mechanisms (supplier and rural development).

4.1.3. Cement

The firm is a leading international producer of cement with headquarters in Italy. Environmental impacts are driven mainly by the modification of the landscapes due to mining and quarrying activities, while on the energy consumption side the consistent heating of the high-temperature cement production ovens and the operation of the cement milling represents a typical energy intensive approach.

Since the beginning the family owners and the management have developed best practices in order to reduce these impacts to a minimum, particularly with the adoption of best available technologies for reducing and recovering energy, and innovative solutions for fast-recovery and further re-use of mining and quarrying sites. In the last ten years the company has widened its sustainability approach by engaging more with relevant stakeholders, and for this purpose established regular disclosure of third-part verified sustainability reports, together with the adoption of a code of ethics and the implementation of a software tool for sustainability measurement and reporting.

Table 2
Cross-case analysis presenting the detail of SSCGMs.

	TBL dimensions ^a			Corporate internal environment		Extended supply chain environment			
	Env.	Soc.	Econ.	Formal	Informal	Formal	Informal	Collaborative	Non-collaborative
Coffee									
- Sustainability manifesto	◆	◆	◆	◆					
- Code of ethics		◆		◆					
- Sustainability reporting	◆	◆	◆	◆		◆		◆	
- Adhesion to international initiatives e.g. Global Compact	◆	◆	◆	◆					
- Voluntary agreements with international bodies	◆	◆	◆	◆					
- Responsible supply chain certification	◆	◆	◆	◆		◆		◆	
- Sustainability committee	◆	◆	◆	◆					
- Strategic plan	◆	◆	◆	◆					
- Supplier development program	◆	◆	◆			◆		◆	
- Certifications (ISO9001: ISO14001; EMAS2004)	◆	◆		◆					
- Vertical integration			◆			◆			◆
- Supply chain contracts with quality reward systems		◆	◆			◆		◆	
- Long term relationships with farmers, distributors and exporters		◆					◆	◆	
- Trust and loyalty development initiatives		◆					◆	◆	
- Knowledge transfer, training and education		◆			◆		◆	◆	
- Energy reduction initiatives and use of renewable energies	◆		◆	◆			◆	◆	
- Sharing of family-company values and culture		◆			◆		◆	◆	
Pasta									
- Strategic supply chain projects	◆	◆	◆	◆		◆		◆	
- Product and packaging redesign	◆		◆	◆		◆		◆	
- Knowledge transfer, training and education		◆		◆			◆	◆	
- Consumer education		◆		◆		◆		◆	
- Life Cycle Analysis and Environmental Product Description	◆			◆		◆			◆
- Supply chain contracts with quality and sustainability reward systems	◆	◆	◆	◆		◆		◆	
- Use of decision support tools	◆	◆	◆	◆		◆		◆	
- Energy reduction initiatives and use of renewable energies	◆		◆	◆			◆	◆	
- Safety at work initiatives		◆		◆		◆			
- Adhesion to international initiatives e.g. Global Compact	◆	◆	◆	◆					
- Sustainability reporting	◆	◆	◆	◆		◆			◆
- Sharing of family-company values and culture		◆			◆				
- Certifications (ISO9001: ISO14001)	◆	◆		◆					
Cement									
- Code of ethics		◆		◆					
- Sustainability reporting	◆	◆	◆	◆					
- Certifications (ISO14001)	◆			◆					
- Contracts where both suppliers and customers agree to the Code of Ethics		◆	◆			◆			◆
- Knowledge transfer, training and education		◆			◆		◆	◆	
- Use of decision support tools	◆	◆	◆	◆					
- Vertical integration	◆		◆			◆			◆
- Life Cycle Analysis	◆			◆		◆			◆
- Local community development		◆					◆	◆	
Fashion									
- Supply chain contracts with premium prices		◆	◆			◆		◆	
- Local supply base		◆	◆			◆		◆	
- Supplier development		◆	◆			◆		◆	
- Local community development		◆		◆		◆			
- Safety at work initiatives		◆		◆					
- Product and packaging redesign	◆			◆		◆		◆	
- Sharing of family-company values and culture		◆		◆			◆	◆	
Recycling									
- Sustainability reporting	◆	◆	◆	◆					
- Certifications (ISO14001)	◆			◆					
- Long-term supply chain contracts for price reduction			◆			◆		◆	
- Life Cycle Analysis	◆			◆		◆		◆	
- Product and packaging redesign	◆		◆	◆		◆		◆	
- Strategic partnerships			◆	◆					
Tools									
- Vertical integration			◆			◆			◆
- Local supply base		◆	◆			◆		◆	
- Supplier development		◆	◆			◆		◆	
- Lean manufacturing for waste and energy reduction	◆		◆	◆			◆	◆	
Components									
- Supply chain contracts with quality and sustainability criteria		◆	◆			◆			◆
- Certifications (ISO14001; ISO18001)	◆	◆		◆					
- Supplier quality sustainability audits		◆				◆			◆
- Supplier development		◆	◆			◆		◆	
- Development of international CSR projects		◆		◆					

^a Triple Bottom Line dimensions: Env. = Environmental; Soc. = Social; Econ. = Economic.

The impact of this journey at the supply chain level is noteworthy in terms of governance mechanisms. Initially, the focus on economic and environmental sustainability has pushed supply chain vertical integration of raw material and logistics suppliers and led to cost and carbon emissions reduction. Recently, driven by sustainability goals, the company has introduced new governance mechanisms. Formal ones have focused on contracts, quality systems and product-related analyses. Contracts with both suppliers and clients have been updated so as to include formal agreement to the principles of the code of ethics. ISO14001 has been implemented at various production sites and it is now a preferential criterion in supplier selection. The company has engaged in implementing product life-cycle-assessment (LCA) studies. Instead, informal processes have focused on sustainability training of suppliers and collaboration with industrial associations to define industry sustainability standards. The firm is seeking a stewardship role in an industry where sustainability is very hard to implement. For this reason, the company activated mainly formal and non-collaborative supply chain governance mechanisms to achieve the established goals.

4.1.4. Fashion

The company is an Italian listed fashion house operating in the luxury goods sector specialising in cashmere, menswear, womenswear, and leather goods. The major part of production is outsourced to a network of 330 suppliers. Almost all fabric suppliers are Italian; the 80% of these suppliers are based locally in the region of the firm and are represented by small family businesses. Typically, the firm maintains long-term supply relationships with these suppliers. The 50% of suppliers is dedicated only to this client.

What sets the firm apart from most other manufacturers is that from the outset the founder conceived the business purpose as contributing to society, not merely seeking to maximise profit or growth. The business model targets clients who are willing to pay a premium for exclusive luxury products handcrafted in Italy, and particularly those that value the aspirational factor associated with buying from a socially committed company.

The company's social initiatives have sought to create local skilled employment, and demonstrate a concern for employee and supply chain well-being; for example, employees work in a very attractive work environment and the firm pays its suppliers 20% above the market rate for their garments. The focus on building a profitable business founded on strong social values has translated into a committed and capable workforce and supply base delivering high-quality differentiated products. High quality has in turn translated into profitability.

The company demonstrates a sustainability approach predominantly focused on the social dimension. Supply chain governance mechanisms are limited to long-term collaborative relationships with rewarding prices for suppliers based on quality criteria.

4.1.5. Recycling

The firm is a start-up company originated from a medium-size cement producer. The new company produces inert materials and packaged cement products for the construction industry. The firm uses recycled waste streams from other sectors (predominantly plastics, where landfilling is not possible) as feedstock for the concrete business. As such, they can be considered as a simple form of industrial symbiosis (Chertow, 2000), closing the material cycle loop by re-using materials in new product forms.

The company focuses primarily on economic survival, given the crisis of the construction industry in Italy. Historically, the mother company has also focused strongly on social aspects such as health and safety, and the favouring of local employment. This approach has been maintained in the start-up as well. The environmental

dimension has been taken in particular consideration in this new business with the goal of positioning the products on specific segments of the market. ISO14001 is under implementation together with the preparation of a firm sustainability report, the LCA certification of products and the disclosure of the products' carbon footprint.

At the supply chain level, implementing such a sustainability strategy has triggered different mechanisms. The pursuit of economic and social sustainability, particularly in terms of waste material prices, has led to longer-term agreements with small and medium size suppliers located in the region. Environmental sustainability called instead for skills and resources not available in house. For this reason, the firm has activated long-term collaboration with the local university to study the product carbon footprint and obtain the LCA certifications, and hired a consultancy firm for the achievement of ISO14001.

The case illustrates the role of extended cross-sector collaborative networks in closing material loops and delivering enhanced sustainability solutions; as well as the value of collaboration typical of a SME environment.

4.1.6. Tools

The firm is a diversified global provider of professional and consumer hand tools, power tools and related accessories. For the purposes of this case study the unit of analysis was the Italian manufacturing subsidiary.

At the corporate level, a great emphasis is given to sustainability disclosure as demonstrated by the participation to the Carbon Disclosure Project, the leadership in the Dow Jones Sustainability Index and the development of a corporate sustainability scorecard to capture leading indicators. At the factory level, sustainability *per se* is not part of the language, but rather efficiency, productivity improvement, and health and safety have been, and continue to be, the key focus of the business.

In the Italian operations, so as to realise a flexible material supply system part of their lean manufacturing philosophy, they had to develop a local supplier base to deliver the capabilities needed. This demanded an investment in time, resources, and know-how, but ultimately has created a strong and highly supportive industrial base in the region. Additionally, the operations strategy of the company adopted vertical integration in some areas, bringing machining of castings and steel parts, production of motors, and some technical processes in-house to give greater control and flexibility.

The company has integrated resource and energy sustainability principles in its lean philosophy, by implementing significant changes to operations and achieving important benefits in terms of agility, reliability and costs of manufacturing activities. Despite not having an explicit purpose of delivering environmental or social sustainability, their lean initiatives have directly led to waste and energy reduction and hence have delivered environmental benefits. Furthermore, the strategy of local sourcing and working closely with regional suppliers, has also delivered significant social benefits in the form of local jobs, skills development, and has stimulated regional development as a whole.

The company does not present structured governance mechanisms at the supply chain level for sustainability, but the overall industrial model shows positive sustainability achievements. The corporation is planning the implementation of formal sustainability audits, but this has yet to happen.

4.1.7. Components

The firm is an international company with headquarters in Italy, leader in the production of mechanical components for the aeronautics and industrial sector. Given the challenges of working in the

aeronautics sector, the company has been conceived by the family owners with a strong focus on quality, service delivery and support to clients. Zero-defects, on-time delivery and continuous improvement are the foundation on which the group's success is built.

Within this context, continual and constant respect for the environment and the health and safety of employees and sub-contractors are formal sustainability elements declared in the company's mission. Practical implementation of this concept is the integrated quality system developed by the firm in all production plants, including ISO9001, ISO14001 and ISO18001. Economic sustainability is promoted as well, and it is interesting to note the company's initiative to share the 5% of the ownership with employees. This leads to increased motivation and long-term commitment to the firm. Lean manufacturing is the approach used by the company to achieve excellence in quality, as well as environmental saving on materials and energy.

At the supply chain level, sustainability is implemented with governance mechanisms formalised through contracts, where the alignment to ethical and sustainability principles is demanded. Suppliers are formally requested to guarantee the dignity and respect of their employees, to pay in line with industry standards and to establish a healthy and safe work environment. The company performs surprise audits to verify that standards above mentioned are met.

The case illustrates a company where some sustainability is intrinsic to the industrial model and enforced by the standards requested by the industry. Such a traditional approach is implemented in terms of SSCGMs with limited and isolated actions characterised by a formal, non-collaborative approach.

4.2. Cross-case analysis

The purpose of this paper is to investigate how corporate sustainability approaches are implemented and aligned with governance mechanisms at the supply chain level. For this reason, Table 2 presents the detailed list of the SSCGMs activated by the focal companies at the corporate level and their extension at the supply chain level with reference to formalisation and collaboration factors as previously defined in the literature review section. For each identified mechanism we coded its TBL orientation, to understand the impact on environmental, social and economic (from the focal firm's perspective) dimensions of sustainability. While the investigation of collaborative approaches is applicable only at the supply chain level, the degree of formalisation of mechanisms was investigated at the corporate level as well so as to highlight the level of alignment of SSCGMs with a specific CSA. Findings are discussed in the following section.

5. Discussion of results

Empirical evidence described in Table 2 suggests that the investigated companies present different corporate approaches to sustainability and in turn a variety of different governance mechanisms. Despite the small size of the sample composed by 7 companies, we argue that three clusters emerge distinctively when considering the TBL orientation and the extension along the supply chain of governance mechanism as parameters for the identification of specific CSAs. In particular, emerging empirical evidence seems to confirm the findings of Hahn and Scheermesser (2006). Therefore, the first contribution of this study to the literature is the identification of sustainability profiles with an understanding of supply chain practices that were not previously considered. Hence, the following definitions are given to depict the three sustainability profiles:

- *Sustainability leaders* – characterised by a TBL approach to business which extends to SSCM;
- *Sustainability practitioners* – characterised by a myopic approach to business sustainability with a limited focus to one or two TBL dimensions, and isolated SSCM initiatives;
- *Traditionalists* – characterised by traditional approaches to business that not necessary include explicit TBL and SSCM initiatives, but might present sustainability elements.

This classification is used in the subsequent sections to describe the connections between corporate sustainability approaches and governance mechanisms, and by reviewing the results through the lenses of contingency theory, strategic alignment perspective and the resource-based view of organisations.

5.1. Sustainability leaders

Coffee and Pasta are identified as Sustainability Leaders given their TBL approach with a strong focus on supply chain-oriented initiatives. In fact, as highlighted in Table 2, the majority of initiatives simultaneously consider the three dimensions of sustainability. In addition, these two companies developed and implemented a wide array of mechanisms in comparison to the other firms of our sample.

Contingency elements have both enabled and driven such a leadership attitude. In fact, both companies are operating internationally in the food industry, predominantly based on B2C models where end-consumers value sustainability efforts and disclosure, retailers increase the pressure for sustainable products with their private label lines, competitors are developing rapidly sustainability initiatives (e.g. green labels, LCA studies, certifications) reinforced by aggressive marketing. Industrial business models based on sustainability stewardship characterise the two firms in their wider strategic context. The uncertainty typical of agrifood supply chains (e.g. crops affected by weather conditions and price volatility) has pushed the two firms to develop resilient supply chain approaches to guarantee supply continuity (Pagell and Wu, 2009) and quality for competitive advantage; this became the heart of their proactive sustainability approach where sustainability and quality are indissoluble concepts.

“Quality and sustainability are two inseparable and intertwined elements. The recent evolution in our company is only represented by increased formalisation and awareness of past experience by the family owners, the company departments and its employees.” (Corporate Executive, Coffee)

In both cases, the family-run management leadership would be considered a contingency factor. The connection between family values and the sustainability approach was stressed by the interviewees, who depicted the family business as a cultural environment that facilitates the commitment towards sustainability principles.

“Sustainability is rooted in our management style and it is a fundamental ethical value, not a fashion. The family owners are entrepreneurs aiming at serving both the company and consumers by creating value for everybody.” (PR Manager, Coffee)

Sustainability leaders leverage this in their internal mechanisms with both formal and informal initiatives and extend it at the supply chain level (Coffee activated specific mechanisms for value sharing with Brazilian coffee growers, such as annual prizes intended as trust and loyalty development initiatives) predominantly with

informal and collaborative initiatives aiming to long-term trust development of relationships.

From a strategic alignment perspective, both Coffee and Pasta declare a consistent TBL approach to business which finds substantial implementation in their operations.

“Our company understood that without carefully considering the economic dimension, it is impossible to develop social and environmental initiatives. Therefore, in this journey towards sustainability it is crucial to consider not only the company's economic sustainability, but also economic objectives of farmers and suppliers and create a balance. If raw materials were not economically sustainable, our overall project would not have sense.” (Purchasing Manager, Pasta)

While at the internal level formal mechanisms prevail, both companies show a consistent set of SSGMs with a balance between formal and informal mechanisms, and a preference for collaborative approaches. In the literature, Alvarez et al. (2010) underlines that informal mechanisms act as moderators in the relationship between formal mechanisms and outcomes. This is reflected in the practices of the two companies (e.g. both of them activated knowledge sharing and transfer actions as part of their suppliers' development schemes that resulted in the further collaboration for the definition of formal supply chain certifications consequently adopted).

Sustainability leaders appear to keep a balance between formal and informal mechanisms and a collaborative approach that extends both upstream and downstream in the supply chain (e.g. Pasta develops educational initiatives, also with retailers, targeting final consumers). Such balance and extension of governance mechanisms along the entire supply chain has been identified only in the profile of Sustainability Leaders. The high level of socialisation is translated in the engagement with a broad network of actors in the extended business environment.

“In the last five years we embarked on a proactive journey to involve our strategic suppliers in our sustainability design as actors of change.” (Purchasing Manager, Pasta)

The nature of mechanisms activated both internally and externally are archetypal of companies with large financial resources, managerial skills and sustainability understanding. In fact, in both cases corporations have invested in the development of skills in house through extensive training initiatives and developed formal dedicated support structures (e.g. sustainability teams, project committees). Pasta and Coffee present supply chains of international extension but a different portfolio of products (in the case of Pasta this includes many food categories, while in the case of Coffee is substantially only one category).

5.2. Sustainability practitioners

Cement, Fashion and Recycling are identified as Sustainability Practitioners. All these companies present industrial business models with a clear component of sustainability, embracing mainly two components of sustainability simultaneously as evidenced in Table 2; however, journeys and achievements vary considerably. Contingency elements help understanding these differences.

Cement operates in an industry where environmental regulation and pressure from external stakeholders push environmental commitment. The recent crisis of the construction industry explains also the strong consideration for economic sustainability. The family values, also in this case, have promoted a sustainability journey in an industry where sustainability is hard to implement.

The story of Fashion presents a case where the family owners have built a competitive advantage around social sustainability.

“Our CEO believes that a new form of human-centred capitalism is emerging where the human-being is central to everything. You must share the right profit with your employees, give them dignity and listening. Quality of human relationships is key in today business environment.” (PA to the CEO, Fashion).

Despite of this, the luxury industry where Fashion operates does not call for sustainability, and this explains the limited and isolated actions developed by the company. The case of Recycling highlights instead the story of a start-up conceived as a sustainable industrial model. Such a strategic relevance of sustainability to the firm has triggered interesting actions that go beyond the traditional approaches of SMEs. In the cases of Cement and Fashion, the family-run business presented a set of values in this case that favoured a sustainability culture, even if this is found to be more selective of certain sustainability components.

“At Cement the owners have always been oriented towards the use of the best available technologies to reduce the environmental impact of the firm. Today, this is still a core element of our sustainability approach.” (PR and Sustainability Manager, Cement).

Evidence from the cases suggests that the operating environments of sustainability practitioners do not call for structured TBL approaches.

From a strategic alignment perspective, none of the three companies presents a TBL approach to business and therefore achievements need to be assessed in reference to declared goals. The variety of sustainability governance mechanisms activated, the impact and the coherency appear inferior in comparison with sustainability leaders. Formal mechanisms prevail in this category both internally and externally, and appear to be characterised by a wide collaborative approach. Evidence in Table 2 suggests that sustainability practitioners have an inferior supply chain approach compared to the “leaders” counterpart, and limit their formal sustainability disclosure (e.g. manifestos, code of ethics and reporting are less popular).

Resource-based view of organisations helps in understanding the aforementioned elements. Cement is a large firm with good financial capability and solid managerial skills in house. The nature of SSCGMs activated reflects these resources. Fashion has large cash assets that could be invested, but the myopic vision of sustainability together with limited sustainability expertise has not triggered structured SSCGMs. Recycling, on the other hand, is the case of a small company that in order to build a competitive advantage based on its industrial sustainability has invested heavily relative to its financial capacity and has solved the issue of managerial and sustainability inexperience by developing sustainability partners and a network approach to business with focused and specialised partners.

“I had the business idea, but did not know how to develop it. The partnership with the local University was crucial to develop our new products/services and the industrial business model we have in place today.” (CEO, Recycling).

In all cases, the managerial and sustainability inexperience combined with limited tangible and intangible resources in comparison with leaders seem to favour more formal external governance mechanisms such as Life Cycle Analyses and certifications and limit the development of informal mechanisms. According to Pilbeam et al. (2012), informal mechanisms are usually adopted in contexts where prior relationships exist between supply chain

actors. In addition, more limited resources appear to reduce the level of socialisation and engagement with other actors in the extended business environment.

5.3. Traditionalists

Tools and Components embody the Traditionalist profile. In fact, at the factory level both of them stress economic sustainability of the business, and only recently they reconsidered their approach to a wider TBL horizon. Indeed, it is interesting to note that even if sustainability is not part of the language per se, operations and supply chain activities highlight positive elements of both environmental and social sustainability. These companies demonstrate not to have a clear understanding of sustainability, even if their business presents elements of sustainability.

Contingency theory facilitates the analysis of these cases. Both firms have invested heavily in developing a manufacturing model based on the principles of lean manufacturing. Not surprisingly, this has resulted in a positive environmental and social performance as in line with the findings of several works (Dües et al., 2013; Galeazzo et al., 2013). Lean manufacturing in the case of Tools was pushed by an industry calling for efficiency, while in the case of Components was an industry calling for standardisation and safety.

“Sustainability is not part of our language, but efficiency and productivity are. The development of our lean manufacturing strategy has significantly reduced our impact in terms of energy and waste. Today we call it sustainability.” (CEO, Tools).

From the cases a strategic misalignment is noted. This seems to be caused by the limited interest in sustainability, the gap between corporate policies and internal actions, the consequent misalignment between internal and external solutions limited to traditional actions of supplier development. While these companies present their sustainability achievements, these are result of manufacturing decisions not explicitly linked to sustainability goals (e.g. waste reduction solutions).

The governance system extends at the supply chain level with few actions, presenting predominantly formal mechanisms supported by both collaborative and non-collaborative approaches. These non-collaborative approaches, more dominant in this category, seem to be driven by contingency factors of the industry (e.g. Components pushes supplier toward selected certifications).

“The evolution of our industrial model is completely pulled by the large customers of the aeronautics sector. We are subject to a huge pressure on quality control, and we reflect this on our suppliers. Today, the attention for the environment and labour practices is receiving more attention and we are requested from our customers to take action.” (Owner, Components).

Both Tools and Components are large firms characterised by substantial economic resources and managerial expertise: however, these resources are mainly allocated to manufacturing excellence, and not dedicated to sustainability. Sustainability knowledge and capabilities need to be developed in order to strengthen the CSA and related governance mechanisms. Contingency and resource-related factors explain the sustainability positioning of these companies. However, if changes in the competitive landscape would favour the business case for sustainability, we expect the CSAs and the GMs to change coherently.

With the purpose of enriching the definitions provided by Hahn and Scheermesser (2006) with further empirical evidence emerging from the cases we summarise the key characteristics of the three

sustainability profiles in Table 3. We provide a detailed analysis of these profiles by reviewing them through the three theoretical lenses in order to understand the linkages between the elements investigated in our research, as shown in Fig. 1. We encourage research scholars to use the empirical results reported in Table 3 as a starting point to develop further research propositions, investigate and test in detail the relationships among variables (in our research design we are not interested in identifying the nature of these relationships, such as mediation or moderation) so as to develop and refine theory in SSCGMs.

6. Conclusions

6.1. Academic contributions

Although the literature on sustainable supply chains is flourishing, little attention has been paid to governance mechanisms activated by companies along supply chains and the linkage with their wider approach to sustainability. This research has proposed an empirical investigation of the problem by analysing seven case studies in the light of contingency factors, strategic alignment perspective and resource-based view. Specific gaps of the literature have been addressed, including:

- 1) Prior studies have attempted to categorise different approaches to sustainability. Limited extant research has focused on the governance issues regarding sustainability a from supply chain dimension (Vermeulen and Seuring, 2009; Alvarez et al., 2010). Building on the preliminary findings regarding different sustainability profiles identified by Hahn and Scheermesser (2006), this work has enhanced the characterisation of these profiles by describing connections between the CSA and the activated SSCGMs, the nature of these mechanisms and their role as explained through the three theoretical lenses. Empirical evidence from the cases shows that the nature of activated governance mechanisms is dependent on the CSA.
- 2) Available SSCG literature shows positive benefits of collaboration in the development of SSCM initiatives, as well as a diversified use of formal and informal mechanisms of governance. Empirical evidence is claimed in the literature to build theory explaining different sustainability approaches (Tonelli et al., 2013). Our study is a contribution to the fulfilment of this gap. In fact, a classification based on formal vs. informal and collaborative vs. non collaborative mechanisms is provided in reference to the sustainability profiles identified.
- 3) Scholars working in the field of SSCM have called for theory development and empirical evidence explanation in light of established organisation and management theories. We build this research using a solid theoretical framework and identify a number of factors were identified as enablers of SSCGMs. In reference to contingency theory, we identified industry, business model, management structure and firm size. In reference to strategic alignment perspective, we noticed how firms approach differently the TBL and its dimensions, the balance between internal and external SSCGMs, the equilibrium in the variety of SSCGMs, the equilibrium between formal and informal SSCGMs, and collaborative and non-collaborative SSCGMs. In reference to the resource-based view, we identified allocated resources, managerial and sustainability expertise, and organization for sustainability.

6.2. Practical implications

We argue that the findings of this research can provide valuable insights for the industry and practitioners. Empirical evidence

Table 3
Enhanced definition of sustainability profiles through theory.

	Contingency theory	Strategic alignment perspective	Resource-based view
Leaders	<ul style="list-style-type: none"> Industry calls for TBL approaches Understanding of sustainability opportunities pushed from context uncertainty Strategies can be proactive, offensive, pioneering Management structure and style sponsor sustainability 	<ul style="list-style-type: none"> CSA is defined with clear strategies, business models and practices of disclosure A consistent number of GMs of different nature are implemented especially at the SC level GMs are structured internally at the corporate level GMs extend coherently at SC level both upstream and downstream Formal mechanisms prevail internally, with informal mechanisms activated for support Formal mechanisms are balanced with informal mechanisms at the SC level Collaborative approaches dominate mechanisms at SC level High level of socialisation and stakeholder engagement 	<ul style="list-style-type: none"> Resources are dedicated to support the CSA internally and externally Managerial and sustainability expertise is available in-house and object of continuous development Mechanisms are developed for transferring knowledge and resources at the SC level Tangible and intangible resources lead to the creation of specific sustainability structures
Practitioners	<ul style="list-style-type: none"> Industry calls for sustainability approaches focused on one or two TBL dimensions Understanding of sustainability opportunities is limited Strategies can be proactive, offensive or defensive Management structure and style can favour sustainability 	<ul style="list-style-type: none"> CSA is only partially defined with clear strategies, business models and practices of disclosure A number of GMs of different nature are implemented GMs are structured internally at the corporate level GMs extend coherently at SC level predominantly upstream Formal mechanisms prevail internally Formal mechanisms prevail on informal ones at the SC level Collaborative approaches dominate mechanisms at SC level Moderate level of socialisation and stakeholder engagement 	<ul style="list-style-type: none"> Limited resources are dedicated to support the CSA internally and externally Managerial and sustainability expertise is not always available in-house and requires development Limited mechanisms are developed for transferring knowledge and resources at the SC level Specific sustainability structures are missing
Traditionalists	<ul style="list-style-type: none"> Industry not necessary calls for sustainability approaches Understanding of sustainability opportunities is limited Implicit sustainability strategies are driven by operational excellence Management structure and style does not favour sustainability 	<ul style="list-style-type: none"> CSA is not defined with clear strategies, business models and practices of disclosure A limited number of GMs of different nature are implemented Limited GMs of ambiguous alignment are structured internally at the corporate level Limited GMs extend at SC level predominantly upstream Formal mechanisms prevail internally Formal mechanisms prevail on informal ones at the SC level Collaborative mechanisms are mixed with non-collaborative ones at SC level Low level of socialisation and stakeholder engagement 	<ul style="list-style-type: none"> Resources are not dedicated to support the CSA internally and externally Sustainability expertise is not always available in house and requires development Mechanisms for transferring knowledge and resources at the SC level are not implemented Specific sustainability structures are missing

emerging from the cases depicts a scenario where management is challenged by addressing new issues that impact on both business strategy and operations. Results suggest that the more ambitious the CSA is, the greater the challenge for management and the potential impact on business. Organisations engaging in developing CSAs need to plan carefully this evolution towards sustainability, determine the partners to involve, and establish proper resources including financial and knowledge capital.

Interesting evidence confirmed by our research is that firms engage with sustainability at different levels. During the company interviews, several times we discussed with management the long-term sustainability goals of the firms, and found that in most cases companies identify challenging journeys of improvement not necessary aiming to a position of leadership in industry or a TBL approach. Using the terms of our research, this means that a sustainability *traditionalist* or *practitioner* does not necessarily aims to become a *leader*, but all of them develop strategic approaches and operations aimed at improvement. We argue that it is an imperative for organisations to clarify their CSA and communicate it properly internally and externally. This will facilitate their sustainability journey and the development of coherent SSCGMs.

This research has presented a consistent set of SSCGMs that companies can activate to develop SSCM initiatives based on their CSA. The relevance of this outcome was confirmed when we disseminated the findings of this research to the participating companies. In fact, some of these demonstrated a genuine interest in understanding the SSCGMs activated by others, and in some cases decided to start planning for the implementation of these new mechanisms. This demonstrated that knowledge barriers exist in the implementation of SSCM practice. There is a large variety of SSCGMs that companies can use, and management needs to develop a critical understanding of these mechanisms so as to be able to adopt the ones more aligned with the company's CSA, the context and the available resources.

Moreover, we make effort to gauge our results with recent discussions in industry, and found that our findings are well aligned with practice emerging from specialists and professional bodies. The three types of CSAs and the characterisation we made are well aligned with the *5-stage sustainability journey* concept developed by Willard (2012) in his popular book. In fact, after the three initial stages where companies change their strategies and operations driven by compliance to elements of the TBL, then only some

develop fully integrated CSAs and only few become recognised leaders driven by genuine passion and purpose. Similarly, Deloitte (2013) identifies four stages of sustainability maturity, namely *follower*, *mature*, *leader* and *innovator* where the last two categories draw characteristics similar to our *sustainability leader* category.

We also found an emerging interest in SSCGMs in industry. The *United National Global Compact* has launched initiatives to track SSCM practices. Similarly, the *Chartered Institute of Management Accountants*, the *Association of Chartered Certified Accountants*, the *International Federation of Accountants*, the *Sustainability Accounting Standards Board*, the *Global Reporting Initiative* and the *International Integrated Reporting Council*, key players of the sustainability reporting debate, have extended their focus to supply chain activities and governance mechanisms. In our research, we found a number of firms engaged in sustainability reporting. However, we did not find structured internal measurement systems for sustainability (only *Pasta* developed specific balanced scorecards). We argue that this gap between internal and external reporting needs to be fulfilled by management and we envision that it could be a growing topic of interest in academy as confirmed by a recent work of Taticchi et al. (2014).

Eventually, during our interviews we often engaged in discussion with practitioners regarding the cost of different SSCGMs, receiving different opinions. For instance, sustainability leaders underlined that sustainability initiatives are intrinsic to their management style, and consequently they should not be perceived as a cost; on the other hand, companies with limited resources faced more difficulties in developing specific mechanisms, especially those implemented at the supply chain level. We recognise that cost issues represent an important aspect for the industry, although they were not part of the objectives of our research. In recognition of the industrial interest on this issue, we encourage scholars to further investigate this interesting problem in research.

6.3. Limitations and future research opportunities

We conclude our paper highlighting some research limitations and providing opportunities for future studies. A first limitation is represented by case sampling. Our sample is composed by seven companies, all based in Italy. Since country-specific characteristics can be identified as contingency factors (Sousa and Voss, 2008), this element could limit the generalisability of the findings. However, it is important to note that we selected cases of firms that have international supply chains, so as to reduce this limitation and support the generalisation of findings. We encourage future studies to explore the country-dimension as a contingency factor in the SSCG practice. Moreover, we acknowledge that bias could have been

introduced in our research by the fact that companies deliberately decided to be engaged in our study. However, we believe that this bias is minimal, as confirmed by the diversity of results obtained, where three heterogeneous groups clearly emerge, sharing homogenous behaviours within the group. Our research methodology also aimed at reducing bias caused by the researchers' interaction with companies: mechanisms were checked and validated using additional sources. In order to reduce case selection bias, we aimed at covering several industries, in order to get a broader perspective. Scholars could use our exploratory findings to develop further theory-testing surveys.

Secondly, in our study we adopted the perspective of the focal company. Future research should investigate multi-tier portions of the supply chain – in line with the recent study of Mena et al. (2013) – and embrace the perspective of additional stakeholders. This could also help to improve our investigation regarding the development of collaborative governance mechanisms along the supply chain and our understanding of how benefits arising from sustainability initiatives are shared between supply chain partners.

Thirdly, the analysis did not involve the longitudinal study of the evolution and the dynamics of governance mechanisms over time – similarly to Alvarez et al. (2010) – as well as their impact in the long term; but we had the perception during the interviews that both the CSAs developed and the SSCGMs might follow specific dynamics. This is an interesting area for future research, in line with the study performed by Epstein (2008) and Baumgartner and Ebner (2010).

Eventually, we believe that the research approach and the structure of the cases carried out give quality and depth to the analysis presented. Therefore, it is felt that the limitations do not compromise the research value of the work, and the findings will be expanded and reinforced in the future by other studies.

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Appendix

Table A1
Additional information regarding data collection.

Company	Role of interviewees	Interaction	Secondary data used
<i>Coffee</i>	<ul style="list-style-type: none"> • Corporate Executive • PR Manager • Purchasing Manager • Sustainability Expert • Consultant for External Certifications 	<ul style="list-style-type: none"> 2 full days on site 5 follow-up phone calls 	<ul style="list-style-type: none"> • Code of ethics • Sustainability report • Internal presentations • Responsible sourcing certification documents • Website
<i>Pasta</i>	<ul style="list-style-type: none"> • Owner • Sustainability Manager • Operations Manager • Marketing Manager • Purchasing Managers • Logistics Manager • Health and Safety Director 	<ul style="list-style-type: none"> 2 full days on site 7 follow-up phone calls 	<ul style="list-style-type: none"> • Sustainability report • Internal presentations • External publications • Balanced scorecards • Website
<i>Cement</i>	<ul style="list-style-type: none"> • Owner • PR and Sustainability Manager 	<ul style="list-style-type: none"> 1 full day on site 4 follow-up phone calls 	<ul style="list-style-type: none"> • Code of ethics • Sustainability report

Table A1 (continued)

Company	Role of interviewees	Interaction	Secondary data used
	<ul style="list-style-type: none"> Director of Operations Quality Manager 		<ul style="list-style-type: none"> Sample of contracts Software used for sustainability reporting Website
Fashion	<ul style="list-style-type: none"> PA to the CEO Supply Chain Manager 	0.5 day on site 1 follow-up phone call	<ul style="list-style-type: none"> Sample of supply chain contracts Sample of internal communication Website
Recycling	<ul style="list-style-type: none"> CEO 	1 day on site 5 follow-up phone calls	<ul style="list-style-type: none"> Drafts of sustainability report Product certifications Internal presentations
Tools	<ul style="list-style-type: none"> CEO Director of Operations 	0.5 day on site 1 follow-up phone call	<ul style="list-style-type: none"> Internal presentations Corporate sustainability report Website
Components	<ul style="list-style-type: none"> Owner PR Manager Director of Operations 	1 day on site 2 follow-up phone calls	<ul style="list-style-type: none"> Sample of supply chain contracts Record of supplier audits Website

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