Strategic approaches to sustainability in fashion supply chain management

Laura Macchion, Alessandro Da Giau, Federico Caniato, Maria Caridi, Pamela Danese, Rinaldo Rinaldi & Andrea Vinelli

To cite this article: Laura Macchion, Alessandro Da Giau, Federico Caniato, Maria Caridi, Pamela Danese, Rinaldo Rinaldi & Andrea Vinelli (2017): Strategic approaches to sustainability in fashion supply chain management, Production Planning & Control, DOI: 10.1080/09537287.2017.1374485

To link to this article: http://dx.doi.org/10.1080/09537287.2017.1374485

Published online: 12 Sep 2017.

Submit your article to this journal

Article views: 72

View related articles

View Crossmark data
Strategic approaches to sustainability in fashion supply chain management

Laura Macchion\textsuperscript{a}, Alessandro Da Giaua\textsuperscript{a}, Federico Caniato\textsuperscript{b}, Maria Caridi\textsuperscript{b}, Pamela Danese\textsuperscript{a}, Rinaldo Rinaldi\textsuperscript{c} and Andrea Vinelli\textsuperscript{a}

\textsuperscript{a}Department of Management and Engineering, University of Padova, Vicenza, Italy; \textsuperscript{b}Department of Management, Economics and Industrial Engineering, Politecnico di Milano, Milano, Italy; \textsuperscript{c}Department of Industrial Engineering, University of Florence, Firenze, Italy

ABSTRACT

Today, the sustainability challenge has become a relevant issue in the fashion industry. However, given that the request for sustainability is relatively new in this industry, empirical research that could guide companies towards supply chain sustainability is lacking. This study aims to deepen the understanding of the main strategic approaches to sustainability used in fashion supply chain management (SCM). Ten case studies were examined in terms of the practices that characterise these approaches. Moreover, contextual factors, drivers and barriers that support or hinder different approaches were identified. To accomplish this goal, both environmental sustainability and social sustainability were investigated, and all the areas of fashion SCM (i.e. new product development, source, make, deliver, retail, return, governance) were considered simultaneously to offer a wide overview of this industry’s sustainability issue.

1. Introduction

Recently, the literature has increasingly explored social (Dickson and Eckman 2006; Ciliberti, Pontrandolfo, and Scozzi 2008; Hutchins and Sutherland 2008) and environmental (e.g. Chaabane, Ramudhin, and Paquet 2011; Barber, Beach, and Zolkiewski 2012; Dey and Cheffi 2013; Genovese et al. 2014; Lee et al. 2015; Montoya-Torres, Gutierrez-Franco, and Blanco 2015) sustainability matters because sustainability initiatives are becoming crucial to companies’ strategies (Carter and Rogers 2008; Sureyyatanapas, Yang, and Bamford 2015). The fashion industry – which is characterised by very short product life cycles, global and fragmented supply chains and differentiation advantages that are often based primarily on product style (Bruce and Daly 2011) – is one of the most challenging sectors in regard to sustainability (Søndergård, Hansen, and Holm 2004; Lakhal, Sidibé, and H’Mida 2008; Caniato et al. 2012; Choi and Chiu 2012). Many recent scandals, such as the Dhaka disaster in 2013, in which approximately 1200 workers died due to the collapse of a clothing factory, have had a negative impact on fashion brands and helped raise awareness of social issues related to safety and work conditions (Seuring and Müller 2008). Moreover, the campaigns launched by non-governmental organisations (NGOs), such as Greenpeace, have revealed numerous human rights and environmental abuses by fashion companies and increased customers’ and companies’ interests in sustainability (Seuring and Müller 2008).

As illustrated above, the relevance of sustainability for the fashion industry is evident, and empirical studies that could support fashion supply chains in their efforts to make a sustainable change are needed (Karaosman, Morales-Alonso, and Brun 2016). The present research contributes to the literature on sustainability by adopting a supply chain management (SCM) perspective that considers the sustainability practices undertaken by focal companies (i.e. the company that owns the brand and manages the supply chain being responsible for the alignment of the sustainability objectives and actions of its entire supply chain and responding directly to any sustainability problems) within their supply network (Ahi and Searcy 2013). In particular, this paper aims to identify strategic approaches to sustainability according to an SCM perspective by focusing on 10 leading Italian fashion companies and their supply chains. To date, the literature has primarily addressed the issue of sustainability from either a social or an environmental perspective, but further complete and integrated analyses are encouraged (Marshall et al. 2015). Because fashion companies have to balance their sustainability efforts by focusing on both social and environmental areas, this paper addresses both dimensions. Strategic approaches to sustainability will be determined by reviewing and evaluating the sustainability practices in all SCM areas (i.e. new product development (NPD), source, make, deliver, retail, return, governance). Finally, contextual variables, drivers and barriers that could be an incentive or a disincentive to sustainable change are considered to exhaustively characterise sustainability strategic approaches. The empirical evidence that is found is summarised in the form of propositions.

2. Sustainability in fashion SCM

In the past, companies were primarily interested in the identification of efficient systems of production; emphasis was placed on
containing the price of the final product and decreasing production and delivery lead times (Forza and Vinelli 1996; Faisal 2010; Niinimäki and Hassi 2011; Wu 2011; Fornasiero, Zangiagomi, and Sorlini 2012). In recent years, the debate on how the industrial world should meet sustainability goals has also expanded significantly from both an environmental (Rao and Holt 2005; Tsoulfas and Pappis 2008; Faisal 2010; Rossi et al. 2013) and a social point of view (e.g. Seitz and Wells 2006; Hutchins and Sutherland 2008). In the past, all human and manufacturing activities have been based on the paradigm of unlimited resources and the world’s unlimited capacity for regeneration. From now on, the awareness of the termination of this assumption means that all related behavioural models must be changed, and this very impressive objective requires continuing efforts by companies (Garetti and Taisch 2012). However, the management of sustainability is not confined to a firm’s internal processes; it relates to the entire network of suppliers, distributors and retailers that comprise the supply chain of a focal company. In fact, the development of sustainability approaches within supply chains involves the implementation of both environmental and social issues, starting from a strategic point of view at the governance level but also encompassing product design, the selection and purchase of raw materials, manufacturing processes, delivery to shops, sales and the recovery of end-of-life products (Zhu and Sarkis 2004).

Companies that fully integrate social and environmental practices within their supply chains can be very competitive in the market; their strategies can be more difficult to replicate thanks to the development of specific assets to support sustainability along the entire supply chain (Faisal 2010). Despite the importance of achieving a sustainability approach as a whole, some academic literature discusses either environmental or social sustainability perspectives without considering them simultaneously (Carter and Liane Easton 2011; Ashby, Leat, and Hudson-Smith 2012). Instead, adopting a sustainability approach that identifies the synergies between these two aspects is becoming compulsory for SCM, in particular, within the fashion industry, where many companies are currently implementing different activities to lower their impacts on the environment and society (Chen and Burns 2006; Allwood et al. 2008; Gam and Banning 2011; Niinimäki and Hassi 2011; Armstrong et al. 2015). As suggested by Kozlowski, Bardecki, and Searcy (2012), social and environmental aspects within fashion supply chains should not be treated separately, but rather simultaneously, as they intertwine and influence each other. In studying the sustainability issue, Kozlowski et al. illustrated that the proper identification of stakeholders and their interests, responsibilities, and accountability can provide a basis for the development and implementation of appropriate policies and programmes to respond to both environmental and social concerns. Important brands, such as the Swedish fast-fashion retailer H&M, are, in fact, approaching sustainability by addressing both environmental and social impacts. This is because when a fashion company aims to promote sustainability, the main objective should be to develop a sustainable supply chain, while considering aspects relating to the environment and human well-being (Shen 2014). In accordance with this aim, H&M is devoting a great deal of effort towards building its sustainable supply chain by engaging in developing eco-materials, as well as providing safety training, monitoring sustainable manufacturing and reducing carbon emission in distribution.

2.1. Drivers and barriers

Strategic approaches to sustainability depend, first of all, on the ability to strengthen the drivers that push companies towards sustainable programmes or to limit the barriers that delay their implementation. In fact, companies could be led to adopt sustainability based on previous accidents that compromised their brand image among consumers, as well as on their deliberate intention to incorporate sustainability principles within the corporate mission.

Today, for instance, BP, one of the world’s leading oil and gas companies, is actively engaged in environmental sustainability, but its sustainability commitment started after a huge oil spill in the Gulf of Mexico (Cherry and Sneirson 2010). The fashion company TOMS started its business based on the value of social sustainability and has established itself as a reputable leader in supply chain sustainability. However, at the same time, it has been highly criticised for its one-for-one model, which means that for every pair of shoes that a customer buy from TOMS, the company gives away a free pair to someone who needs it. Involuntarily, this model caused cobbler and small companies producing shoes at the local level to no longer be able to sell their goods because people were waiting to receive free shoes from TOMS. Nike, which has great supply chain sustainability initiatives today, was initially motivated towards sustainability because of the accusation by a documentary produced in 1996, that it used sweatshop labour. On the contrary, other brands, such as Stella McCartney (Cervellon and Shamsas 2013), Patagonia (Fowler and Hope 2007; Kim and Hall 2015; Macchion et al. 2017), and Uniqlo (Kapferer and Michaut-Denizeau 2014), have begun to implement sustainability projects based on a genuine and voluntary concern over the state of the industry’s poor practices, which they would like to innovate from a sustainability point of view. Therefore, focusing on motivations for the adoption of sustainable programmes appears to be an interesting research perspective from which to explain the sustainable development of companies and their supply chains (Carroll 1979).

Relevant debates on this issue are evident within the fashion industry literature. For instance, Vermeulen and Ras (2006) describe the sustainability knowledge driver that two Dutch fashion firms experienced, while attempting to green their global supply chains. Carter and Mol (2006) document regional drivers of social sustainability between Europe and Asia; Caniato et al. (2012) discuss the internal, market and legal drivers; and Jørgensen and Jensen (2012) contribute to the debate on sustainability by providing a review of the on-going product-related sustainability regulations. De Brito, Carbone, and Blanquart (2008) underline that NGO attacks aimed at fighting for better work conditions are common in the fashion industry and can influence companies to adopt new sustainable actions.

Moreover, Faisal (2010) shows that a fashion company’s long-term sustainability vision can significantly contribute to its overall brand image enhancement. The literature also highlights that sustainability approaches support an enhancement of business performance, in particular of financial indicators (Delmas 2001). More recently, Lo, Yeung, and Cheng (2012) have shown the positive influence that environmental sustainability has on business performance. However, sustainability improves more than economic performance; for instance, companies that adopt
environmental certifications can decrease their operative costs thanks to improved controls during the production stages and along their supply chains, as well as through a better selection of raw materials (Melnyk, Sroufe, and Calantone 2003). In general, it is well known that sustainable development leads to the optimisation of resources (e.g. water, chemicals, energy, and raw materials), as well as to a reduction of waste and pollution (De Brito, Carbone, and Blanquart 2008; Caniato et al. 2012); however, the sustainability issue can also influence a company’s product and process differentiation from its competitors (Hallstedt, Thompson, and Lindahl 2013) by revealing the importance of sustainability as a source of innovation (Clancy, Fröling, and Peters 2015; Macchion et al. 2017).

Despite these drivers, which should encourage fashion companies to embark on a sustainable path, some companies still perceive sustainability regulations as a barrier that afflicts their business processes and do not foster the adoption of sustainability practices along their supply chains. These companies invest the least amount of resources required to be compliant with the rules and standards for being dedicated to sustainable projects. This is because of the rigidity of the bureaucratic structure, characterised by excessive documentation and the need to adapt the companies’ procedures to meet sustainability requirements. However, the respect for bureaucratic limits does not enhance a company’s sustainability competency nor generate new ideas for product or process improvement (Hallstedt, Thompson, and Lindahl 2013). Lee, Hu, and Ko (2008) show that if companies perceive sustainability procedures only as a bureaucratic requirement, their sales growth rate could decrease over the years because customers are always more interested in sustainability. De facto, approaching sustainability implies several difficulties for companies, and these can limit their willingness to undertake social and green actions. The high costs associated with sustainability projects and the long return on investments of these projects act as barriers that hamper the full implementation of sustainable practices and hinder top management’s full commitment to sustainability programmes (Seuring and Müller 2008).

### 2.2. Practices

Within the fashion industry, in which customers have significantly increased their awareness of both environmental and social aspects, identifying how supply chains can translate sustainability principles into operational practices has become increasingly relevant (Resta et al. 2014). In fact, the substantial negative environmental footprint of global fashion supply chains is unquestioned; the high energy consumption, production of synthetic fibres, tanning of leather, use of toxic chemicals, water pollution and CO₂ emissions are merely some of the environmental challenges related to fashion production and distribution processes (Fletcher 2008; Herva et al. 2008). In addition, from a social perspective, the need to embrace corporate social responsibility in a structured way is becoming a key competing factor, especially for fashion companies with production facilities in poor areas of the world (De Brito, Carbone, and Blanquart 2008).

However, available studies on sustainable practices focus primarily on only some specific areas of SCM (i.e. NPD source, make, deliver, retail, or return processes) without offering a complete overview. In terms of NPD, authors have investigated the importance of taking care of sustainability practices in the design of fashion collections because many of a product’s sustainability burdens are determined through the choices that are made at this stage of the product life cycle (Dickson and Eckman 2006; Niinimäki and Hassi 2011). However, within the fashion industry, the idea of adopting sustainable design practices often contrasts with the need to continuously renew products, which is characterised by reduced lead times and costs, as proposed by the well-known fast-fashion model (Li et al. 2014; Taplin 2014; Macchion, Danese, and Vinelli 2015). Thus, studies discussed new green design concepts by providing indications of how to approach sustainable NPD without forgetting this industry’s style requirements (Gam et al. 2009; Curwen, Park, and Sarkar 2013). In this vein, Fowler and Hope (2007) described the case of Patagonia, the apparel company that successfully applied life cycle analysis (LCA) in design activities; Vezzoli and Manzini (2008) explored new NPD criteria for sustainable products; and Borchardt et al. (2011) identified eco-design practices used to redesign shoes.

Because suppliers and all purchasing activities are involved in environmental and social issues within their own operations, it is not surprising that the research community has actively investigated sustainability practices in the source area of SCM (Krause, Vachon, and Klassen 2009). From an environmental perspective, sustainable purchasing drives fashion companies to pay more attention to the procurement of green materials (such as, recyclables and recycled materials) (Allwood et al. 2008). In terms of the social dimension, sustainable purchasing involves the identification of suppliers that adopt practices that respect workers’ conditions and, more generally, improve social conditions. Therefore, sustainable sourcing may require companies to closely examine suppliers to verify their environmental and social efforts (Krause, Vachon, and Klassen 2009) because the focal company is responsible for the alignment of the sustainable actions of its whole supply chain.

The practices related to make are also very important for achieving sustainable objectives because manufacturing processes include the development of the final products that will be offered to customers. Several authors have investigated sustainability in fashion production – which is often characterised by its high environmental impacts and the intense use of chemical products and natural resources (Lakhal, Sidibé, and H’Mida 2008; Park and Dickson 2008) – verifying the possibility of developing new green production technologies that strive towards the goal of zero emissions (Nieminen et al. 2007; Saravanabhan et al. 2008; Sawhney et al. 2008; Weingarten, Pagell, and Fynes 2012). From the social perspective, manufacturing processes have recently been accused of shortcomings in regard to workers’ conditions, and some companies have implemented strict controls to trace their production chains by mapping their first-tier productive plants and considering their subcontractors (De Brito, Carbone, and Blanquart 2008).

In terms of deliver activities, fashion supply chains are particularly sensitive to sustainability problems due to the search for lower production costs, which has led to a relocation of production sites to the Far East, thereby increasing the environmental impact of transporting goods. Moreover, if we consider that the sales points of fashion companies are often worldwide, it logically follows that the identification of sustainable practices for delivery is relevant. The set-up of sustainable logistics practices, such
as the optimisation of load factor or the choice of low-emission transportation, could be beneficial for sustainability performance in terms of the reduction in CO₂ emissions (De Brito, Carbone, and Blanquart 2008).

The academic literature highlights the importance of dealing with the sustainability issue by also addressing retail practices. Indisputably, the retail side plays a pivotal role in sustainability change (Burnes and Towers 2016), as shops are the direct intermediaries between manufacturers and customers. Retailers are currently addressing many environmental issues, such as the reduction of packaging volume and energy consumption or the improvement of recycling activities, and they are also involved in the role of informing customers about the sustainable policies and actions undertaken by fashion brands (De Brito, Carbone, and Blanquart 2008).

Within the typical activities of SCM, return practices concern the possibility of facilitating the disposal of products at the end of their life cycles (Ciliberti, Pontrandolfo, and Scozzi 2008). While the reuse, recycling and disposal of products have not received appropriate attention by fashion companies, large potential for improvement can sometimes be found in the post-sale life cycle stages (Clancy, Fröling, and Peters 2015). Woolridge et al. (2006), Poole, Church, and Huson (2008), and Shen, Worrell, and Patel (2010), for example, consider return practices as a way to effectively achieve energy-savings benefits within the fashion industry thanks to the possibility of recycling products.

However, recent studies have argued that achieving successful sustainability results is possible only if the sustainable practices are also implemented in the governance sphere (Lueg, Pedersen, and Clemmensen 2013; Li et al. 2014) to align operative and strategic levels of SCM. In fact, the implementation of sustainable practices in the governance area, such as the identification of key roles and figures supporting sustainability programmes, facilitates the development of organisations’ sustainability capabilities and increases competitiveness (Jørgensen and Jensen 2012).

### 2.3. Contextual factors

The adoption of strategic approaches to sustainability can, however, also be influenced by specific contextual variables in the fashion industry because it is contingent upon the context and circumstances in which firms operate (Caniato et al. 2012). Contextual variables are descriptive elements that show the overall setting in which a specific firm competes, and they might influence a company’s sustainability decisions (Caniato et al. 2012). According to the contingency theory perspective, many different sustainability programmes could be highly effective, there is more than one right way to approach the supply chain sustainability issue, and the best course of action is contingent upon contextual factors (Walker and Jones 2012). Contingency theory underscores the necessity for organisations to adapt their structures to fit these contextual factors (Donaldson 2001). Based on the literature (Ageron, Gunasekaran, and Spalanzani 2012; Caniato et al. 2012), company size and age have been identified as the most important variables in the development of a sustainable fashion company, because large companies with a long tradition in the market should have more resources to dedicate to the sustainability challenge than smaller, younger enterprises. Moreover, large companies are under the public opinion spotlight, and they are somehow forced to enrol in sustainability programmes if they want to preserve their image. However, it should be noted that small- and medium enterprises (SMEs), which represent a large proportion of companies in the fashion sector, can sometimes be even more sustainable than large brands, as they have the flexibility to easily establish sustainability within the company’s culture, vision and goals (Lion et al. 2016).

Internationalisation (at both the distribution and production levels) is another important contextual factor because the fashion industry has been clearly demonstrated to be international (MacCarthy and Jayarathe 2012; Caniato et al. 2015; Chiarvesio et al. 2015). Finally, the literature also emphasises that the market focus of a company can be another influential variable (Walker and Jones 2012). In fact, companies could be interested in providing only quality products, which cannot always be combined with sustainability: for instance, tanning is one of the fashion manufacturing processes with the highest levels of pollution, and it was only recently that it became interested in making improvements to ensure environmental protection and preserve the quality of products. In this way, the type of products manufactured by firms and their market focus are strongly connected to the sustainability approaches developed by companies (Schaltegger, Lüdeke-Freund, and Hansen 2012).

### 3. Research objectives

Although the previous literature has highlighted the necessity to investigate strategic sustainability approaches, a holistic perspective that considers sustainability as a whole, from both an environmental and a social perspective, is required. It also needs to be enhanced by more studies that not only examine focal companies’ sustainability but also consider the supply chain by exploring this issue in different sustainability-sensitive industries (e.g. the fashion industry) (e.g. Fowler and Hope 2007; Svensson 2007; De Brito, Carbone, and Blanquart 2008; MacCarthy and Jayarathe 2012). For example, Carroll (1979), one of the pioneers of the strategic sustainability approaches field, set out specific companies’ modes of just social responsiveness (i.e. reaction, defence, accommodation, and pro-action), and Murillo and Lozano (2006) contributed to formalising corporate social approaches adopted by SMEs in the metallurgical and chemical sectors. In addition, contextual factors, key drivers and barriers that facilitate or hinder a transformation towards sustainability have been debated in the academic literature, but researchers may be able to gain better insight through comprehensive models of sustainable SCM only after combining these factors with strategic sustainability approaches (Seuring and Müller 2008).

Finally, the available studies have not yet simultaneously considered all the areas of fashion SCM – from NPD to product recovery, including source, production, distribution and governance processes – thus, overlooking the fact that all of these aspects are parts of a global systematic setting that characterises the strategic approaches to the sustainability of fashion SCM.

Thus, this study aims to identify the strategic approaches that fashion supply chains are adopting to embrace sustainability by considering environmental and social practices concerning all SCM areas (i.e. NPD, source, make, deliver, retail, return,
governance). The environmental and social practices that are implemented in the different SCM areas will contribute to the characterisation of the different strategic sustainability approaches, which will, in turn, be related to contextual factors, drivers and barriers. In fact, the application of contingency theory to the sustainability issue suggests that there is more than one strategic sustainability approach for companies in the same industry, and these approaches can be explained only by not solely looking at practices but also by considering other factors, such as drivers, barriers, contextual factors (e.g. Caniato et al. 2012; Walker and Jones 2012). Thus, the present study contributes to the literature by investigating the following research question, which is examined in detail by analysing two sub-questions:

RQ1: What strategic approaches to sustainability characterise fashion SCM?

RQ1.1: What sustainability practices of SCM belong to the different strategic approaches to sustainability?

RQ1.2: What drivers/barriers and contextual factors influence the different strategic approaches to sustainability?

Figure 1 shows the framework of the research that will investigate strategic approaches to sustainability based on the investigation of SCM practices (i.e. governance, NPD, source, make, deliver, retail), drivers, barriers and contextual factors. As illustrated in Figure 1, the framework comprises different sections: practices will be analysed with the goal of identifying and characterising strategic approaches to sustainability, and drivers, barriers, and contextual factors will be considered with a view to analysing the factors influencing the different strategic approaches to sustainability (both social and environmental). An accurate review of the literature was undertaken to structure the framework, and Table 5 in the methodology paragraph will present in detail the variables analysed within each section.

4. Methodology

To explore research question 1, a multiple-case study methodology was adopted. This allows for a deeper level of observation and increases the external validity of the results (Voss, Tsikriktsis, and Frohlich 2002). The case study methodology is appropriate when the research is exploratory and the phenomenon under investigation is still poorly studied, as it offers the opportunity to achieve in-depth results through direct experience (Meredith 1998; Voss, Tsikriktsis, and Frohlich 2002). Because the identification of strategic approaches to sustainability in fashion supply chains has not been well studied, the case study approach helps generate valuable insights (Eisenhardt 1989). Thus, companies operating in this industry (Table 1) were chosen, adopting theoretical and literal replication logic (Yin 2003). In setting the eligibility criteria for the sample, the selection included companies that (i) operate in the fashion industry, (ii) are headquartered in Italy, (iii) have international production and distribution networks (including, companies that have to address different environmental and social international regulations within their supply chains) and (iv) are brand owners (and, thus, have control of their whole supply chains). Ten firms in the Italian fashion system that are investing significant resources to embed social and green requirements in SCM were selected for the sample and agreed to participate in the research project. The cases are heterogeneous in terms of company size and product categories; therefore, they offer a broad overview of the researched issues. Multiple case studies were, thus, conducted to confirm the reliability of the results through replication (Sayer 1992). The total number of fashion companies, which meets our sampling criteria, amounted to approximately 450 companies (Macchion et al. 2015), but as suggested by Yin (2003), 10 case studies can be considered a proper sample to provide accurate results during a limited time of data collection, as well as for studies within the fashion industry (e.g. MacCarthy and Jayarathne 2012; Da Giau et al. 2016). Moreover, sustainability studies in other industries, aiming to identify different sustainability approaches, also confirmed the legitimacy of the sample size: for example, Formentini and Taticchi (2016) investigated sustainability approaches based on seven case studies (the case studies involved mechanical tools industry, mechanical components industry, the fashion industry, two companies in the food industry and two companies in the construction industry).

4.1. Data collection and analysis

To conduct data collection, an interview protocol designed for this specific research (Voss, Tsikriktsis, and Frohlich 2002) was developed; it focused on gathering information concerning strategic sustainability approaches. The protocol was designed
The research protocol related to the drivers, barriers, and contextual factors influencing the adoption of sustainability. The second part concerned sustainability practices based on the adaptation to the fashion context of the Supply Chain Operations Reference (SCOR) model, which is an integrated process architecture for analysing supply chain operations (Lo 2013). The SCOR model, proposed by the Supply Chain Council in 1996 and then updated in numerous subsequent editions, was used in the previous literature as a basic supply chain conceptual model to identify standard language that was useful for determining and comparing supply chain practices. Recently, the SCOR value was also verified for use in sustainability studies (e.g. Ntabe et al. 2015). In particular, in this research, sustainability practices were studied within different SCM areas suggested by the SCOR model (i.e. source, make, deliver, return). Three additional areas (i.e. governance, NPD, retail) were added to the analysis to cover the entire structure of SCM in the fashion industry. In fact, sustainability studies are dedicating increasing attention to the governance area from a sustainable supply chain perspective: sustainability practices should be supported by a robust redesign of the supply chain at the strategic and organisational levels (Li et al. 2014; Formentini and Taticchi 2016). The NPD area was also considered within this research because of the importance of sustainability practices in the earliest moments of collections creation (Dickson and Eckman 2006; Niinimäki and Hassi 2011). Finally, the retail area was included in the research according to the key role that shops play in the direct contact with final customers during sales (De Britto, Carbone, and Blanquart 2008). For each section, aspects related to both environmental and social challenges were researched by asking companies to specify their practices in each of the cited areas in the field of sustainability.

The entire data collection and analysis were conducted in 2015. To ensure the validity of the collected data, senior managers were involved in the research: compliance and sustainability managers, chiefs of the sustainability programmes, industrial directors, industrial planners, quality assurance managers and energy managers were interviewed during the first round of site visits. All the interviews were tape recorded and transcribed.

A team composed of multiple researchers worked to analyse the collected data. The information provided by key informants was then triangulated with companies’ codes of conduct, sustainability, and corporate social responsibility reports and press releases. Each researcher classified the data from the 10 case studies independently, according to the research framework areas (practices, drivers, barriers and contextual factors) (Figure 1).

During the qualitative data analysis, each researcher analysed the transcript of each interview, first independently and then during multiple meetings, to identify similar and contrasting aspects of the case studies and to collect different points of view. Case summary reports were then prepared and reviewed by the research team to improve validity (Yin 2003). A within-case analysis was conducted to identify each company’s peculiarities: the salient practices, drivers, barriers and contextual factors of each case were highlighted (see Appendix 1). A cross-case analysis was, thus, developed to classify the sample companies (Eisenhardt 1989), thanks to a comparison of levels of sustainability practice adoptions, as well as drivers/barriers and contextual factors (Su et al. 2014). The cross-case comparisons helped extract the common patterns, and strategic approaches to sustainability were recognised thanks to the identification of possible explanations for each pattern. The existing literature in the field of sustainability within the fashion industry was used to better identify and characterise the strategic approaches. For each approach, a specific label was then proposed by each component of the research team, and each proposal was evaluated by the team until global consensus was achieved regarding the term that best explained the behaviour of firms based on this approach.

In accordance with the research method used by Su et al. (2014), the results were then discussed with the key experts selected for the first round of interviews for each case study to collect additional case evidence and refine the analysis.

Figure 2 gives the overview of the research method.

### 5. Findings

Different strategic approaches to sustainability adopted by the fashion companies within their supply chains were identified through case studies (RQ1). The authors have labelled these approaches reactive, proactive and value-seeker, and the following section presents the practices (RQ1.1), drivers/barriers

<table>
<thead>
<tr>
<th>Case study</th>
<th>Revenue 2014 (Mln €)</th>
<th>Year of establishment</th>
<th>Product typology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company 1</td>
<td>&lt;10 – Small enterprise</td>
<td>90s</td>
<td>Clothing and handbags realised using biological and hand-spun tissues</td>
</tr>
<tr>
<td>Company 2</td>
<td>&gt;1000 – Large enterprise</td>
<td>60s</td>
<td>Eyeglasses and sunglasses</td>
</tr>
<tr>
<td>Company 3</td>
<td>500–1000 – Large enterprise</td>
<td>60s</td>
<td>Handbags, luggage, accessories, textiles and leather, clothing and footwear for men and women, sunglasses, jewellery, home accessories</td>
</tr>
<tr>
<td>Company 4</td>
<td>250–500 – Medium enterprise</td>
<td>End 1800</td>
<td>Department stores selling clothing and household products</td>
</tr>
<tr>
<td>Company 5</td>
<td>&gt;1000 – Large enterprise</td>
<td>70s</td>
<td>Clothing, accessories, eyewear, watches, jewellery, furniture and furnishing accessories, perfumes, cosmetics</td>
</tr>
<tr>
<td>Company 6</td>
<td>250–500 – Medium enterprise</td>
<td>20s</td>
<td>Clothing, handbags, small leather goods, accessories, textiles, footwear, jewellery, eyewear, watches, perfumes, household products</td>
</tr>
<tr>
<td>Company 7</td>
<td>50–250 – Medium enterprise</td>
<td>70s</td>
<td>Clothing, footwear, leather accessories and textiles, handbags, lingerie, beachwear, watches, sunglasses, perfumes, jewellery</td>
</tr>
<tr>
<td>Company 8</td>
<td>50–250 – Medium enterprise</td>
<td>50s</td>
<td>Handbags and fashion accessories</td>
</tr>
<tr>
<td>Company 9</td>
<td>&gt;1000 – Large enterprise</td>
<td>2000s as a group by acquiring its historical brand in the 20s</td>
<td>Shoes and clothing, handbags, small leather accessories</td>
</tr>
<tr>
<td>Company 10</td>
<td>10–50 – Small enterprise</td>
<td>60s</td>
<td>Clothing, footwear and accessories for children</td>
</tr>
</tbody>
</table>
Table 2. Investigated areas of the interview protocol.

**DRIVERS** that facilitate the adoption of strategic sustainability approaches

| Sustainability becomes the foundation of brand awareness |
| Sustainable long-term vision |
| Knowledge of sustainability |
| Legal requirements |
| NGO attacks |
| Enhancement of business performance |

**BARRIERS** that hinder the adoption of strategic sustainability approaches

| Bureaucratic structure to be dedicated to sustainable projects | Lee, Hu, and Ko (2008), Seuring and Müller (2008), Hallstedt, Thompson, and Lindahl (2013) |
| High costs of sustainability projects |

**CONTEXTUAL FACTORS** related to the circumstances in which the firm operates

| Company's age based on company's foundation year (young companies were established after 1990 and old companies before 1990) |
| Internationalisation (percentage of turnover abroad and percentage of manufacturing processes in foreign countries) |
| Market focus (number of sustainability products compared to the whole production) |

**SUSTAINABILITY PRACTICES** in SCM areas

| NPD: Practices from the earliest moments of collections creation | Green design concepts |
| LCA |
| Source: Practices to identify sources and suppliers able to provide materials required | Procurement of green materials (recyclables and recycled materials) |
| Respect for workers' conditions |
| Supplier monitoring |
| Make: Manufacturing and assembly practices | Green production technologies |
| Control of the supply chain for social questions |
| Delivery: Product delivery practices | Sustainable logistics practices (optimisation of load factor or the choice of low-emission transportation) |
| Retail: Practices implemented in stores | Reduction of packaging volume and energy consumption |
| Improvement of recycling activities |
| Informing customers about the sustainable policies and actions undertaken by fashion brands |
| Return: Practices associated with returning products at their end of life | Disposal of products at the end of their life cycles |
| Governance: Practices to redesign the strategic and organisational levels | Identification of key roles and figures in supporting sustainability programmes |

Downloaded by [Universita Degli Studi di Firenze] at 07:17 11 October 2017
and contextual factor (RQ1.2) details for each approach. Table 3 recapitulates the different approaches.

5.1. Strategic approaches to sustainability

5.1.1. Reactive

Reactive companies are investing minimal efforts towards sustainability within their SCM.

Regarding the drivers that allowed the introduction of new (even if minimal) sustainability actions, the companies commitment to green and social goals is mainly due to the external pressures that they experience. In fact, these companies have started to address the sustainability issue primarily to ensure compliance with existing and emerging regulations (at the national or international level) and to reduce the possibilities of media attacks by NGOs. These companies are also considering adopting some sustainable practices to reduce costs – mainly energy costs (for instance, by introducing photovoltaic panels in production plants) – and do not recognise any opportunities to gain a further competitive advantage in the market through sustainability.

This perspective, which does not put sustainability at the heart of business processes, is certainly hampered by important barriers due to the fact that these companies are limited in their sustainability actions. These limitations result from a lack of internal resources that could be allocated to these goals and from the absence of a strong commitment by the top management and owners to promote sustainable principles within the company.

Considering contextual factors, reactive companies (cases 6, 7 and 8) (see Table 1) are old-, medium-sized organisations with a high level of distribution and production internationalisation. Despite the growing attention to sustainability in the fashion industry, their distinctive market focus is still more product-oriented. In fact, their aim is more focused on providing a quality product to the end customers than on accomplishing sustainability goals. In this way, they preserve the manner in which they compete in the market, which, considering the long history of these companies in the fashion industry, has allowed them to remain competitive until today.

The practices implemented by reactive companies were also considered in the analysis. From a governance perspective, the companies in this group have developed a specific code of conduct for sustainability that is in line with the legal requirements, and they extend that legal code of conduct to their first- and second-tier suppliers. In this way, they ensure that their sustainability-related regulatory requirements are applied to their SCM. Internally, reactive companies sporadically stimulate their direct employees to be motivated and involved in sustainability issues. Instead, the research did not identify significant actions undertaken in the NPD and return processes. Within their production (make) and delivery (deliver) processes, reactive companies are expending some effort solely on energy-saving solutions mainly to achieve cost-saving results instead of pursuing a road towards radical sustainable change. Moreover, some actions are devoted to conducting periodical green and social assessments at their suppliers’ facilities (source) to be sure that their suppliers are following the legal codes of conduct and the agreed-upon regulatory requirements. The SCM represents the riskiest point for the sustainability issue for fashion companies; consequently, random and periodical chemical tests on incoming raw materials are conducted to verify the company’s sustainability target. Finally, at the retail level, these firms are still working to develop preliminary sustainable solutions, such as the adoption of certified Forest Stewardship Council (FSC) shopping bags that do not require a heavy sustainable effort with regard to the reorganisation of their downstream channel but rather represent a first step towards the implementation of new sustainable paradigms.

5.1.2. Proactive

Proactive companies (cases 1, 4, 5, 9 and 10) are pursuing sustainability in a more systematic and thorough way than reactive companies. In particular, they are trying to implement some solutions that go beyond compliance with existing regulations within their supply chains. For this group of companies, common contextual factors are not a discriminating factor. Companies in this category include both old firms (both small or large) with a high downstream internationalisation structure and a market focus oriented towards the quality of products in line with their

---

**Figure 2. Overview of the method. Source: Adapted from Su et al. 2014.**
Table 3. Strategic approaches toward sustainability.

<table>
<thead>
<tr>
<th></th>
<th>REACTIVE (Companies 6, 7, 8)</th>
<th>PROACTIVE (Companies 1, 4, 5, 9, 10)</th>
<th>VALUE-SEEKER (Companies 2, 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRIVERS</td>
<td>Compliance with legal requirements</td>
<td>Sustainable long-term vision: top management commitment</td>
<td>Sustainable long-term vision: high top management commitment</td>
</tr>
<tr>
<td></td>
<td>NGO pressure</td>
<td>Sustainability becomes the foundation of brand awareness</td>
<td>Strong involvement of suppliers within the whole SCM</td>
</tr>
<tr>
<td></td>
<td>Enhancement of business performance: reduction of costs</td>
<td>NGO pressure</td>
<td>Sustainability becomes the foundation of strong brand awareness</td>
</tr>
<tr>
<td>BARRIERS</td>
<td>Lack of resources for sustainability projects</td>
<td>Suppliers' poor capacity to adapt to sustainable requirements</td>
<td>High costs of sustainability projects</td>
</tr>
<tr>
<td></td>
<td>Absence of commitment by top management</td>
<td>Customers' low sensitivity towards sustainability issues (even if they recognise a growing trend towards sustainable collections)</td>
<td>Identification of suppliers available to undertake long-term sustainability partnerships</td>
</tr>
<tr>
<td>CONTEXTUAL FACTORS</td>
<td>Medium-sized companies</td>
<td>Both small and large companies</td>
<td>Large companies</td>
</tr>
<tr>
<td></td>
<td>Old companies</td>
<td>Both young and old companies</td>
<td>Old companies</td>
</tr>
<tr>
<td></td>
<td>High level of internationalisation</td>
<td>Level of internationalisation both high and low</td>
<td>High level of internationalisation</td>
</tr>
<tr>
<td></td>
<td>Market focus oriented towards providing only quality products</td>
<td>Market focus oriented towards providing sustainable and quality collections</td>
<td></td>
</tr>
<tr>
<td>SUSTAINABILITY PRACTICES in SCM areas</td>
<td>NPD / Source</td>
<td>Supplier monitoring only for legal requirements</td>
<td>Sustainable collections based on green design concepts</td>
</tr>
<tr>
<td></td>
<td>Supplier monitoring only for legal requirements</td>
<td>Supplier monitoring</td>
<td>Complete traceability of raw materials for sustainable reasons: identification of raw materials' origin</td>
</tr>
<tr>
<td></td>
<td>Chemical tests on raw materials</td>
<td>Supplier monitoring</td>
<td>Partnerships with suppliers for sustainability projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier monitoring</td>
<td>Training for suppliers in the sustainability area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier monitoring</td>
<td>Sourcing preferably from local suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier monitoring</td>
<td>Suppliers' audits to verify respect for social and environmental targets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier monitoring</td>
<td>Complete sustainable production technologies: (pollutants and production waste management, water and energy use, and consumption of other natural resources)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier monitoring</td>
<td>Improvement of working conditions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier monitoring</td>
<td>Green building solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier monitoring</td>
<td></td>
</tr>
<tr>
<td>Make</td>
<td>Isolated energy-saving solutions</td>
<td>Green production technologies: mainly water and energy-saving solutions</td>
<td>Green building solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green production technologies: mainly water and energy-saving solutions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green building solutions</td>
<td></td>
</tr>
<tr>
<td>Deliver</td>
<td>Isolated energy-saving solutions</td>
<td>Eco-friendly packaging for transportation</td>
<td>Minimisation of CO₂ emissions by cooperating with logistic providers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitoring transportation systems' CO₂ emissions</td>
<td>Complete supply chain sustainable logistics practices: eco-friendly packaging for transportation, fully loaded carriers, avoidance of high-pollution transportation, and preference for local suppliers.</td>
</tr>
<tr>
<td>Retail</td>
<td>Certified shopping bags</td>
<td>Green building solutions</td>
<td>Green building solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Certified shopping bags</td>
<td>Certified shopping bags</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sustainability sensitisation actions of customers</td>
<td>Training for shop assistants to make customers more aware of their companies' sustainability efforts (structured customer awareness programmes).</td>
</tr>
<tr>
<td>Return</td>
<td>/</td>
<td>Disposal of products at the end of their life cycles</td>
<td>Incentives to recover and recycle end-of-life products</td>
</tr>
<tr>
<td>Governance</td>
<td>Legal code of conduct extended to suppliers</td>
<td>Identification of key roles and figures for sustainability programmes: centralised sustainability offices with dedicated persons (however, without the possibility of changing other business areas' decisions)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sporadic sustainability sensitisation programmes for employees</td>
<td>Identification of key roles and figures for sustainability programmes: centralised sustainability offices with dedicated persons (however, without the possibility of changing other business areas' decisions)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adoption and supervision of environmental and social KPIs</td>
<td>Adoption and improvement of sustainability KPIs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Detailed sustainability offices with decision-making power over all other company departments</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adoption and improvement of sustainability KPIs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Detailed sustainability and corporate social responsibility reports involving the SC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>External communication of the achieved goals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Certifications achievement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Involvement of employees at every hierarchical level regarding sustainability goals</td>
</tr>
</tbody>
</table>
previous collections (companies 4, 5 and 9), as well as companies (companies 1 and 10) that are young and small with a low downstream internationalisation structure and that have embedded the sustainability goal within their strategies to achieve market differentiation since their birth. Thus, the common factor for the proactive group becomes the will to implement relevant efforts to include sustainability in their overall mission in addition to ensuring the quality of their final products.

The drivers that these companies acknowledge are the high commitment from their top management teams and the internal willingness to improve their corporate image by defending it from possible media attacks in the sustainability field (even if they have not yet experienced direct attacks by NGOs). However, in their sustainability programmes, they experience suppliers’ poor capacity to adapt to new green and social requirements, and due to their customers’ low sensibility towards sustainability issues, even if they recognise a growing trend that is pushing even sustainability sceptical consumers to collect information about the origin and composition of the products they purchase.

Despite these difficulties, proactive companies undertake numerous actions to strengthen the sustainability profiles of their supply chains. First of all, proactive companies in a governance area have created centralised sustainability offices that have specific persons dedicated to meeting sustainability objectives. The implementation of sustainable practices of governance turns out to be a critical point for all companies in this group to identify key persons who can lead the company towards sustainable change. In fact, the identification of dedicated people is recognised in the literature as a practice that allows sustainable projects to be successful over time. However, these figures have no discretion to change the decisions of other business areas of the company, and this, as we will explain in the following paragraph, is a substantial difference from value-seeker companies. To monitor the progress of sustainability programmes, these companies have also adopted or developed different environmental and social key performance indicators (KPIs) that are supervised at the governance level. For the NPD process, these proactive companies are developing specific – even if sporadic – and complete sustainable collections manufactured using sustainable raw materials (for instance, organic cotton or other natural fibres) sourced from traced suppliers. These capsule collections are developed entirely using sustainable principles, and they coexist with the traditional collections that the companies develop within the spring–summer and autumn–winter periods. Thus, capsule collections are small collections that are characterised by a low number of products for which the application of sustainable design principles is easier than it is for traditional collections, and they act as pilot tests for new sustainable materials and production processes.

For the ‘source’ aspects, proactive companies select and assess their suppliers using a sustainability vendor rating thanks to the development of proper indicators that support procurement activities, and they regularly audit their suppliers’ working conditions and chemical thresholds (for both capsule and traditional collections) to enhance the level of sustainability within their supply chains. Moreover, within their own companies, they work to improve their ‘make’ activities using sustainable practices that are primarily dedicated to the development of new water- and energy-saving solutions. In some cases, they evaluate the possibility of applying green building solutions within their manufacturing sites. At the ‘deliver’ level, eco-friendly packaging for the transportation of goods is being implemented, and these companies dedicate particular attention to the introduction of CO₂ emissions monitoring systems. For the ‘retail’ component, these companies have adopted green building solutions, such as the use of LED lighting and the adoption of sustainable building techniques, and have adopted sustainable shopping bags. Of great importance for the future are the sensitisation actions of their clients in the field of sustainability by, for instance, promoting different ‘return’ programmes for the recovery of the end-life products.

5.1.3. Value-seeker
These companies (cases 2 and 3) are the best in class in terms of social and environmental sustainability. They approach the sustainability challenge with a high internal commitment, which is extended to every level of the organisation but which is also supported by the strong involvement of suppliers within the whole SCM.

By addressing sustainability, these companies expect to create a competitive advantage that is built on a sustainable image, and their managers’ strong internal commitment demonstrates that those at the highest levels of the company believe that sustainability is, and will continue to be, a winning factor in the market. For this reason, this cluster has been labelled value-seeker companies because this group pursues sustainability as a path to achieving better value. Through the theme of sustainability, they seek to offer consumers new and greater value for the products they buy in accordance with the principles of environmental and social sustainability.

Regarding contextual factors, the research highlighted that these large, long-standing companies have a high international distribution and production presence. Unlike the previous clusters, these companies present the highest sustainability focus in the market. For instance, they develop only products that are based entirely on sustainable principles, always striving to manufacture quality products as well. In this way, they represent a concrete way to identify the synergy between sustainability and quality requirements, and this combination makes these companies particularly innovative in terms of how they approach the sustainability issue and makes them potentially able to address those niche markets that are committed to sustainable products.

However, even for value-seeker companies, constraints make it difficult to address sustainability issues. The main barriers to the implementation of supply chain sustainability actions are the high costs that are generally associated with sustainability solutions, in particular for extended sustainable SCM practices, and the difficulty of finding suppliers that are available to undertake long-term partnerships aimed at developing new sustainable products and processes. These barriers also apply to big companies with big economic potential.

Focusing on the practices that value-seeker companies are adopting from a governance perspective, sustainability goals are a central component of the companies’ decisions. Towards this end, dedicated sustainability offices are put in charge of the company’s sustainability goals. These departments (unlike those at proactive companies) also have decision-making power over all other company activities to ensure that the organisation achieves its sustainability governance objectives. Moreover, they have the responsibility to always advance the sustainability targets to
improve the company’s sustainable profile, because sustainability KPIs are considered to be as important as other company goals (such as productivity). These companies are also adopting different sustainability certifications that address all the organisation’s activities, in particular, ISO14001 and SA8000; involving employees at every hierarchical level; and making them responsible for improving their companies’ sustainability footprints. To monitor and highlight their sustainability commitment, these companies release yearly detailed sustainability and corporate social responsibility reports, which are often published on their websites and can be easily accessed and reviewed by customers. From an NPD perspective, value-seeker companies are always actively in search of new sustainable products based on the search for green raw materials. They aim to develop new collections that combine style requirements with LCA indications to identify the potential sustainability impacts that are assignable to products. In terms of source activities, value-seeker companies work to guarantee the complete traceability of their raw materials for sustainable reasons (for instance, ensuring the origin of critical raw materials, such as leather) by establishing strong partnerships with suppliers, by training and supporting them with respect to new sustainable technologies and processes, and by sourcing preferably from local suppliers. They also actively work to protect working conditions not only internally but also within their suppliers’ sites; in particular, international suppliers are subject to controls and audits to verify their respect for social and environmental targets. Moreover, considering the high strategic valence of sustainability for value-seeker companies, they aim to establish lasting cooperation with suppliers to develop improved sustainable raw materials and solutions. Unlike the previous two groups, in regard to manufacturing activities (‘make’ area), value-seeker companies expect to develop new production processes that can simultaneously guarantee the improvement of working conditions and be less environmentally harmful not solely in terms of energy consumption but also by considering all the ways in which a production process can have an impact on the environment (e.g. pollutants, the management of production waste, water and energy use, the consumption of other natural resources). Green building solutions that allow these companies to reduce their consumption of energy and water also play an important role in the sustainable reorganisation of production sites.

In terms of ‘deliver’ activities, value-seeker companies are reorganising their logistic flows by cooperating with logistics providers to optimise their global distribution channels. The aim is to minimise CO₂ emissions and adopt green logistic solutions (for instance, by concentrating deliveries in fully loaded carriers; avoiding high-pollution transportation options, such as air travel; or using eco-friendly packaging during transportation). However, they also carefully monitor the impact of deliveries in supply and production networks. In fact, the preference for local suppliers also has a positive impact on the sustainability of delivery because this can significantly decrease the effect of transportation within the entire supply chain on the environment. Finally, regarding sustainable retail improvement, these companies are adopting green solutions in the redesign of shops and are using sustainable shopping bags. Also of great significance is their commitment to instructing shop assistants to make customers more aware of their companies’ sustainability efforts through structured customer awareness programmes. Customers are also offered opportunities to recover and recycle end-of-life products (‘return’ area); they are incentivised to return their old products to the shops in exchange for economical vouchers for future purchases. The results of these recovery campaigns have been interesting: value-seeker companies have developed new collections based on the recycled products that are collected from their customers. For instance, companies melt the used metal pieces to make new accessories or utilise the collected clothing to generate new textiles.

In accordance with the results outlined above, Figure 3 presents further details about the three strategic approaches to sustainability by showing the sustainability practices that the company develops internally for each approach (i.e. internal sustainability practices) and in collaboration with supply chain partners (i.e. external sustainability practices). In particular, the x-axis shows the sustainability practices that the company implements within its boundaries, while the y-axis shows the external sustainability practices that the company develops in collaboration with its supply chain partners. For each axis, the main areas of SCM (i.e. governance, NPD, source, make, deliver, retail), in which companies are committed to the development of sustainability practices, are identified.

Reactive companies have low sustainability practices at both the internal and the external levels. From the internal point of view, their commitment to sustainability relates only to the development of few practices in the ‘governance’ area, which presupposes the fulfilment of legal constraints to be in compliance with current sustainability regulations. Other practices focus on the ‘make’ and ‘delivery’ areas but are developed primarily to achieve an advantage in terms of energy saving, which leads to cost containment. The level of collaboration with the partners in the chain is also low and always involves actions to respect the existing sustainability legislation, such as the requirement for suppliers to comply with the minimum standards and codes of conduct established by the normative (‘governance’ area) or the monitoring of suppliers, for instance, through chemical testing on products (‘source’ area).

Conversely, proactive companies have higher internal sustainability practices than reactive ones and, at the same time, show a higher collaboration with their networks (even though they have less advanced practices than value-seeker companies), positioning them in the middle of the diagonal in Figure 3. Many sustainability actions that require partners’ collaborations are promoted; these include the adoption of codes of conduct that can go beyond legal requirements (‘governance’), the development of capsule collections involving suppliers in the testing of new materials (‘NPD’), the monitoring of suppliers according to strict sustainability parameters (‘source’), and CO₂ emissions based on agreements with logistics partners (‘deliver’), the development of sustainability customers’ sensitisation actions (‘retail’), or the development of joint projects for the disposal of products at the end of their lives (‘disposal’). However, proactive companies are not developing collaborative actions in the ‘make’ area with façonniers, as producing dedicated products and limited capsule collections with sustainability principles does not require a strong reorganisation of suppliers’ manufacturing facilities. Regarding internal practices, proactive companies present actions related to all major areas (governance, NPD, make, deliver, retail and return), but the ‘supply’ area is not relevant because, as underlined before,
there is no strong sustainable change in the whole collection that requires the updating of vendor selection and monitoring practices.

Finally, the value-seeker group is composed of companies that consider sustainability to be a competitive advantage and are consistently committed to implementing sustainable business practices inside and outside of their firms within the supply chain. The external practices of collaboration with network partners are, therefore, advanced with noticeable improvements throughout all areas of proactive companies. For example, supply chain partners are actively involved in CSR reporting and sustainable certification (‘governance’); in the development of whole sustainable collections and LCA (‘NPD’); in the implementation of supply chain traceability projects, auditing, training and sharing of vendor rating indexes (‘source’); in the minimisation of CO2 and in the elaboration of sophisticated logistics practices (‘deliver’); in training for sustainable retail and communication to customers (‘retail’); and in the growth of recycling incentives (‘return’). Unlike proactive companies, the ‘make’ area is also relevant in external sustainability practices that require collaboration with network partners through, for example, the identification and experimentation of new production technologies in line with sustainability principles that relate to the entire fashion collection. These companies also expand their sustainability commitment to achieve advanced internal sustainability practices in all areas (governance, source, NPD, make, deliver, retail and return), resulting in the most advanced strategic sustainability approach in the fashion sector.

It should be noted that in the three strategic approaches observed, we found a balance between the efforts dedicated by companies to internal and external practices (i.e. companies are positioned along the diagonal in Figure 3). This interesting empirical evidence suggests to us that there is an awareness among fashion companies that improving only internal sustainability practices without addressing external practices in collaboration with network partners could annul any result in terms of sustainability. From an SCM point of view, it is well known that the results achieved depend on how a supply chain, not single companies, performs (Croom, Giannakis, and Romano 2000), and as regards sustainability, this evidence seems to be well understood by fashion companies, which is probably due to the notable scandals that occurred in the sector (e.g. the Nike case). Starting with the results of this research on the three strategic approaches to sustainability, as discussed in Section 7, future research could address this issue in more detail.

6. Discussion

Figure 3 suggests that there is an alignment between internal and external practices when approaching the sustainability issue in the fashion industry. Within each of the three strategic sustainability approaches, an alignment between what is done internally (i.e. internal practices) and in collaboration with the supply chain (i.e. external practices) exists: both internal and external practices are at a low level of implementation in the case of reactive companies, at a medium level for proactive companies, and at a high level for value-seeker companies. All in all, among the different strategic approaches to sustainability, the level of collaboration with the supply and distributive partners is very different (extremely small in the reactive companies and high in the value-seeker companies). The sustainable growth of a company (and of its supply chain) passes through different maturation levels, in which the company’s cooperation with its network partners and its ability to communicate with end customers evolves, making the company more open to new collaboration and communication opportunities. Indeed, examining this evolution naturally links to the concept of the maturity model, assuming that there are successive stages in
the life cycle of a process indicating how explicitly the process is defined, managed, measured, and controlled (Lockamy and McCormack 2004). This concept can also be useful for indicating the current state of, and potential areas of improvements in, the sustainability area (e.g. Reefke, Ahmed, and Sundaram 2014; Da Giau et al. 2016). In fact, the three different strategic approaches to sustainability denote that the highest practices of sustainability commitment and stakeholder collaboration (both supply and retail partners) can be ascribed solely to the value-seeker approach to ensure not only product quality but also better sustainability results within collections.

The previous discussion leads to the following proposition concerning the practices characterising the strategic approaches to sustainability.

Proposition 1: In the fashion industry, it is possible to distinguish three strategic sustainability approaches, depending on the different levels of implementation of sustainability practices: reactive companies are characterised by a low level of implementation of both internal and external sustainability practices, proactive companies are characterised by an intermediate level of implementation of internal and external sustainability practices, and value-seeker companies are characterised by a high level of implementation of internal and external sustainability practices.

Most of the analysed fashion companies began their sustainable changes by respecting the legal environmental limitations regarding emissions and natural resource consumption. Thereafter, proactive and value-seeker companies continued this effort thanks to sustainable behaviour that is oriented towards overcoming these limitations by adopting more stringent parameters (for instance, by attempting to overcome the national or international requirements regarding work conditions and emissions and developing social sustainability programmes in support of workers in different areas of the world). This result is also in line with the literature debating the drivers supporting sustainable change in fashion companies and supply chains (Caniato et al. 2012), but it also demonstrates how strategic sustainability approaches can change across firms within the same industry, revealing that the journey to sustainability is strongly related to a dynamic improvement of supply chain practices influenced by different drivers.

In fact, as regards reactive companies, the main driver towards sustainability practices seems to be compliance with regulatory limits. For this reason, internal and external practices have been implemented only at a low level. Instead, for proactive companies, sustainability is not only a normative constraint but also becomes the foundation of brand awareness through the long-term commitment of top management. For such companies, however, the implementation of sustainability practices stops at an intermediate level due to a more limited implementation compared to the value-seeker companies. In fact, for proactive companies, sustainability practices do not interest the whole SCM: not all areas (i.e. NPD, source, make, deliver, retail, return, governance) are involved, and the practices are not complete. For instance, they only interest limited collections. Finally, in regard to sustainable change, value seekers are supported thanks to the strong involvement of the entire chain in sustainability projects that enable the achievement of strong brand awareness, recognised by end customers, which becomes a remarkable competitive advantage. Based on this evidence, Proposition 2 summarises the results found in terms of drivers.

Proposition 2: Reactive companies are interested in being in compliance with the current sustainability normative, proactive companies aim to go beyond legal compliance but are lacking with regard to implementing sustainability in the entire collection, and value seekers consider sustainability a competitive advantage for the entire supply chain.

However, the different levels of maturity among the three strategic approaches could also be linked to the fact that important barriers can hamper a higher level of implementation of sustainability practices. Sustainability projects require a great deal of funding from companies to implement innovative, and often very expensive, practices. Furthermore, the repayment of such investments often requires long periods, thus necessitating strong financial efforts. For example, considerable investments are needed for reengineering production processes and manufacturing buildings according to green principles or for introducing suppliers’ monitoring plans to verify working conditions in the supply chain constantly and in a timely manner (e.g. Seuring and Müller 2008). Therefore, the third proposition can be formulated.

Proposition 3: The implementation of advanced sustainability practices is hampered by the long return on investments of sustainability projects and by the need for large amounts of capital to finance the sustainable reorganisation of a supply chain.

Higher investments can be more easily supported by large companies. The value-seeker companies are, in fact, very big companies with extensive experience in the fashion market and large budgets that they can devote to sustainability. In any case, our study shows that large companies may also have reactive or proactive strategies, and for this reason, the size of the company does not seem to be the key contextual factor that determines the implementation of advanced practices inside and outside of the company.

Based on this consideration, the last proposition is formulated.

Proposition 4: Being a large company is a necessary, but not sufficient, condition for adopting a value-seeker strategic approach.

7. Conclusion and future research possibilities

This paper shows how 10 Italian fashion companies are responding to challenges posed by increased sustainability requirements in today’s competitive market. In particular, this study identifies the strategic approaches to sustainability implemented by fashion companies by considering multiple cases in the Italian fashion industry. In keeping with a holistic view, the identified approaches are described in terms of the social and environmental practices implemented inside and outside of the focal company in collaboration with its supply chain partners and are related to drivers, barriers and contextual factors. The focus is the fashion sector, an industry that is particularly interesting from a sustainability perspective but that has received little attention compared to other sectors, such as the automotive, food or transportation industries (Carter and Liene Easton 2011).

This study represents an interesting contribution to the current literature because it investigates the sustainability practices implemented in the sector by not only focusing on specific areas of SCM – previous literature focused only on some areas, such as design (e.g. Vezzoli and Manzini 2008) or manufacturing (e.g. Nieminem et al. 2007) – but by also offering a more complete perspective that
Considers governance, NPD, source, make, deliver, retail and return activities. As such, it posits that each of these aspects is important for understanding the strategic approaches to sustainability that are used in fashion SCM. In this way, this work provides updated academic and managerial knowledge on the sustainability issue in the fashion industry by revealing the existence of three specific strategic approaches to sustainability that are adopted by reactive, proactive, and value-seeker companies.

In particular, from a theoretical point of view, this research highlights the necessity to approach the sustainability issue by adopting a supply chain perspective that considers both environmental and social sustainability efforts not only within companies’ boundaries but also outside in collaboration with supply chain partners. This is the only way in which the research topic of SCM can be combined with sustainability, finding its fulfilment in the paradigm of sustainable SCM (SSCM) (as suggested by Carter and Liane Easton 2011; Ashby, Leat, and Hudson-Smith 2012). Therefore, the identification of different strategic approaches to sustainability follows this line of research, which aims to identify the interconnections between the sustainability and SCM topics. Moreover, this research formulates four propositions summarising the results related to the sustainability practices that characterise strategic approaches (Proposition 1), drivers (Proposition 2) and barriers (Proposition 3), as well as the contextual factors (Proposition 4) influencing their adoption, that should be further tested by researchers in the sustainability field.

Regarding managerial implications, this paper points out key questions for supply chain managers who are committed to implementing sustainability. It also illustrates the areas of SSCM that need further improvement, along with the need for practitioners to have more practical indications for implementing SSCM according to the reactive, proactive or value-seeker strategic approaches.

Companies belonging to the reactive approach do not believe that sustainability is currently – nor could be in the near future – an important leverage to improve their sales in the market. They also do not view it as a way to differentiate their firms from their competitors and, thus, invest minimal effort and resources in sustainability. Their approach to sustainability is restricted to respecting legal limits and implementing some practices – such as random periodical chemical tests on incoming raw materials or the request for a sustainability compliance document by suppliers – solely to ensure compliance with regulatory requirements. In this way, from a sustainability point of view, the relationships that are established within the supply chain, in particular with suppliers, appear to be merely bureaucratic.

In contrast, proactive companies believe that sustainability is a method of increasing sales, and they implement sustainable practices more systematically, going beyond legal compliance. Thus, they identify key persons and assign them the role of following sustainability projects (even if they have lower decision-making powers over all other company activities compared with sustainability key persons in value-seeker companies). They implement practices (such as, suppliers’ rating systems) to ensure the sustainability of the chain. This is not only to verify that all the suppliers comply with the law but also to share and discuss their sustainable perspective with the most worthy suppliers in achieving sustainability goals. Thus, their commitment is translated into the development of limited sustainable collections and, in the future, into wider collections that are entirely developed according to sustainable practices. The proactive companies recognise, first of all, that the supply side is critical to the development of sustainable SCM, and they begin to reinforce their sustainability actions in this area. Moreover, they dedicate attention to downstream activities that need to be restructured in line with sustainability principles. For this reason, proactive companies also begin to develop (even if less extensively than value-seeker firms) sustainable practices in the deliver, retail and return processes to enhance their customers’ interest in and sensibility towards sustainability.

Finally, value-seeker companies exceed the proactive approach by exhibiting greater involvement in sustainable change (in all the NPD, source, make, deliver, return and governance areas). For these companies, both social and environmental sustainability is an important part of their SCM strategy, as evidenced by their dedicated key offices, certifications, and targets aimed at improving sustainability. Value-seeker companies understand the importance of integrating sustainability throughout their whole supply chain to ensure their success and actively extend the sustainability challenge outside of the company’s boundaries. They are steadily attempting to improve the level of collaboration with their suppliers, their retail channels, and, ultimately, their customers. In fact, they share their sustainability actions with their customers by publishing sustainability reports and by activating new awareness initiatives regarding sustainability themes. Among the three strategic approaches, only value-seeker companies are able to integrate different and complex social and green sustainability practices in conjunction with their internal processes and their upstream and downstream partners in their supply chains.

In this way, this research offers managers and practitioners concrete evidence that they can use to define the most suitable sustainability approach for their companies, and it contributes to the on-going debate on sustainability by deepening the understanding of this topic in the fashion industry. Because this research investigates companies from only one country, further studies could consider other countries to verify the different approaches to the sustainability issue in different areas of the world. Similar to other researchers in the field of sustainability, such as Luthra, Garg, and Haleem (2015), who investigated sustainability in the Indian automotive industry, or MacCarthy and Jayaratne (2012), who studied sustainability of fashion in the Sri Lanka area, this study chose to focus on a defined geographical area, but the geographical factor may have affected the results. Future research that considers the peculiarities – for instance, of Latin vs. Nordic countries or developing vs. developed countries – could simultaneously highlight differences and similarities in the strategic approaches to sustainability undertaken by companies.

The evolution of the current configurations and the movement of companies across different configuration strategies (as also suggested by Macchion, Fornasiero, and Vinelli 2017) are additional issues that could be addressed in future research. It might be valuable to replicate this study over the period of a number of years to conduct a longitudinal analysis that could identify dynamic changes in the strategic approaches to sustainability.

In addition, Figure 3, which suggests the existence of a balance between internal and external sustainability practices, offers ideas for future work. Examining the different levels of implementation of sustainability practices (low for reactive, medium for proactive...
and high for value seekers), we can note an alignment between the level of implementation of internal and external practices. In fact, as explained, the existence of a misalignment between the internal and external practices of fashion firms has, in recent years, resulted in growing media attention to questions regarding sustainability. Investing to improve internal sustainability practices without considering collaboration with external partners could offset any benefit, in terms of sustainability performance, due to the existence of weaker – and, therefore, more exposed to possible sustainability attacks – loops within the supply chain.

However, future research, based on a larger sample of companies, could examine this issue in more detail by identifying whether cases of misalignment between internal and external practices can exist and the potential implications for companies.

Further studies could also deepen the relationships between strategic approaches to sustainability and performance (for instance, economic performances). Moreover, considering the importance of NPD (and, in particular, of product design) in the fashion industry (e.g. Lin, Piercy, and Campbell 2013) identifying the impact of sustainability on products and processes represents an area for future research. In particular, further studies could include designers and product developers as key figures to be interviewed, which is a limitation of the present study. Interesting highlights in this area could help to identify which NPD decisions can have an impact on the sustainability profiles of companies and supply chains.

Finally, future researchers could also deepen existing relationships between the sustainability issue and the contingency theory, using the latter as a theoretical lens. Some evidence relating to influential contextual factors has been reported in this research, but future researchers are encouraged to further investigate this topic.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Laura Macchion is an assistant professor at the Department of Engineering and Management of the University of Padova, Italy. Her PhD thesis in Management Engineering explored the theme of the internationalisation within production and distribution networks, by providing evidence on how companies in the fashion industry are pursuing different strategies in order to become global and competitive players. Her interests of research focus on supply chain management and operations strategies, particularly within the fashion industry. She is a member of the European Operations Management Association (EurOMA) board and of the Osservatorio Sistema Moda, research project designed to study the management of fashion supply chains.

Alessandro Da Giau has a PhD in Management Engineering, gained at the University of Padova, Italy. His research interests cover the topic of environmental sustainability and dynamic capabilities in the fashion industry, on which he developed his PhD. thesis, based on some qualitative case studies, steered at developing a preliminary roadmap that fashion companies should follow when they want to start from a greenfield and develop a sustainable business model. During the PhD programme, he has been a visiting PhD candidate at Copenhagen Business School. Alessandro is an expert as well of the Oil and Gas industry.

Federico Caniato is full professor at the School of Management of Politecnico di Milano, teaching Supply Chain and Purchasing Management in both undergraduate and graduate courses. He is the director of the Master in Supply Chain and Purchasing Management of MIP Politecnico di Milano Graduate School of Business. His research interests are in the fields of Supply Chain and Purchasing Management, in the last years he has focused on Sustainability and Supply Chain Finance. He is the director of the Supply Chain Finance Observatory, the leading research initiative in Italy on the topic, in close collaboration with the international Supply Chain Finance Community. He authored several international publications on various Operations Management journals, and he is Associate Editor of the Journal of Purchasing and Supply Management.

Maria Caridi is an associate professor at the Department of Management, Economics and Industrial Engineering of Politecnico di Milano, Italy. She received her PhD in Industrial Plants and Production Systems from the University of Parma. Her main research interests are in the fields of operations and supply chain management. She is author of more than 80 publications about these topics. She is now a visiting scholar at the Lindner College of Business of the University of Cincinnati.

Pamela Danese, PhD, is an associate professor of Operations & Supply Chain Management at University of Padova, Italy. From 2011 to 2017 she was a member of the European Operations Management Association (EurOMA) board and chair of the communication team of EurOMA. She is Special Issue Editor of International Journal of Operations and Production Management, and a member of the Editorial Review Board of Journal of Operations Management. Her research interests focus on supply chain management and lean management. She is Director of the Master in Lean Management of Fondazione CUOA, Italy. She has published in several prestigious journals.

Rinaldo Rinaldi is associate professor at the School of Engineering of the University of Florence. He teaches ‘Supply Chain Management’ for the Master of Science in Mechanical Engineering and ‘Operations Management’ for the Master of Science in Company Government and Management. His areas of research deal with the design of logistics systems, programming and production control, optimisation of production processes and supply chain. He is the scientific director of the laboratory ‘LogisLab – Laboratory for logistic process management and intelligence systems development’ and is also the organiser of the annual meeting ‘It4Fashion: how can technology help companies in the fashion’.

Andrea Vinelli, PhD, is a professor of Operations and Supply Chain Management and Service Operations Management at the Department of Engineering and Management at the University of Padova, Italy. He is the president of the Alumni Association of the University of Padova, president of the Italian Association of Engineering and Management (AiIG), director of the MBA Programme at the CUOA Business School, Italy. His research and consulting interests lie in the areas of operations strategies, supply networks and supply chain management, with a specific expertise in the fashion industry.

ORCID

Laura Macchion http://orcid.org/0000-0003-1122-7596
Alessandro Da Giau http://orcid.org/0000-0003-2416-3472
Federico Caniato http://orcid.org/0000-0003-4949-2272
Maria Caridi http://orcid.org/0000-0002-8438-3840
Pamela Danese http://orcid.org/0000-0002-2355-575X
Rinaldo Rinaldi http://orcid.org/0000-0002-9083-8987
Andrea Vinelli http://orcid.org/0000-0003-2070-0162
References


## Appendix 1. Within-case analysis

<table>
<thead>
<tr>
<th></th>
<th>Practices</th>
<th>Drivers</th>
</tr>
</thead>
</table>
| **1** | NPD→ sustainable capsule collection  
Source→ GOTS certified, preference for biological materials; social and environmental supplier monitoring  
Make→ reduction in energy and water consumption; green solutions in production plants  
Delivery→ eco-packaging; preference for low-emission transportation  
Retail→ certified shopping bags; dedicated sustainability campaign on the website  
Return→ waste recovery processing  
Governance→ key person for sustainability | Drivers→ sustainability belongs to the mission of the company; top management commitment  
Barriers→ suppliers' poor capacity to adapt to sustainable requirements; customers' low sensitivity towards sustainability issues  
Contextual factors→ small-sized company; young company; low internationalisation; focus on providing quality and sustainable products |
| **2** | NPD→ LCA; sustainable collections  
Source→ traceability of raw materials; sustainable materials; assessment questionnaire developed for suppliers; partnerships with suppliers for sustainability projects (preferably local suppliers); training for suppliers  
Make→ sustainable production processes; sensitisation of employees  
Delivery→ reduction of packaging volume; optimisation of transportation for employees using trains and sharing cars; minimisation of CO₂ emissions  
Retail→ green building; certified shopping bags; sustainability training for shop assistants  
Return→ return projects for old products; incentives to recover and recycle end-of-life products  
Governance→ CSR reports; dedicated sustainability offices with decision-making power over all other company departments; sustainability KPIs; external sustainability communication; involvement of employees at every hierarchical level regarding sustainability goals | Drivers→ corporate sustainability commitment; improvement of brand awareness; collaboration with suppliers  
Barriers→ high costs; identification of sustainable suppliers  
Contextual factors→ large-sized company; old company; high internationalisation; focus on providing quality and sustainable products |
| **3** | NPD→ LCA; sustainable collections  
Source→ traceability of raw materials; organic and biodegradable materials; suppliers' audits; partnerships with suppliers for sustainability projects (preferably local suppliers); training for suppliers  
Make→ LEED certification and use of renewable energies; sustainable production processes; improvement of working conditions  
Delivery→ eco-packaging minimisation of CO₂ emissions; fully loaded carriers; avoidance of high-pollution transportation  
Retail→ green building; certified shopping bags; sustainability training for shop assistants  
Return→ return projects for old products  
Governance→ CSR reports; SA8000 and environmental reports; sustainability offices with decision-making power over all other company departments; sustainability KPIs; external sustainability communication; involvement of employees at every hierarchical level regarding sustainability goals | Drivers→ long-term sustainable vision; top management commitment; NGO pressure  
Barriers→ suppliers’ poor capacity to adapt to sustainable requirements; customers’ low sensitivity towards sustainability issues  
Contextual factors→ medium-sized company; old company; high internationalisation; focus on providing quality (and sustainable products for new sustainable collections) |
| **4** | NPD→ some sustainable products  
Source→ social and environmental supplier monitoring based on SA8000 indications  
Make→ full tracks to decrease emissions  
Delivery→ full tracks to decrease emissions  
Retail→ certified shopping bags; attention to new sustainable campaigns  
Return→ waste-recovery processing  
Governance→ sustainability KPIs; sustainability roles | Drivers→ long-term sustainable vision; top management commitment; NGO pressure  
Barriers→ suppliers’ poor capacity to adapt to sustainable requirements; customers’ low sensitivity towards sustainability issues  
Contextual factors→ medium-sized company; old company; high internationalisation; focus on providing quality (and sustainable products for new sustainable collections) |
| **5** | NPD→ some sustainable products: LCA on just four bestseller products  
Source→ social and environmental supplier monitoring; chemical inspections of raw materials; development of an international Responsible Ecosystem Sourcing Platform  
Make→ reduction of energy and water consumption; green solutions in production plants  
Delivery→ full tracks to decrease emissions  
Retail→ certified shopping bags; collaboration with institutions to disseminate knowledge on sustainability  
Return→ waste-recovery processing  
Governance→ sustainability KPIs; sustainability roles | Drivers→ long-term sustainable vision; top management commitment; NGO pressure; preserving and improving company’s image  
Barriers→ supply chain complexity; suppliers’ cultural and geographical resistance; customers’ low sensitivity to sustainability  
Contextual factors→ large-sized company; old company; high internationalisation; focus on providing quality (and sustainable products for new sustainable collections) |
| **6** | NPD→ | Drivers→ compliance with regulations; reduction of costs |

(Continued)
<table>
<thead>
<tr>
<th>NPD</th>
<th>Practices</th>
<th>Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Source → control of purchased materials and suppliers for legal requirements</td>
<td>Barriers → lack of resources; top management not fully involved in sustainability</td>
</tr>
<tr>
<td></td>
<td>Make → adoption of energy-saving solutions for productive building</td>
<td>Contextual factors → medium-sized company; old company; high internationalisation; focus on providing quality products</td>
</tr>
<tr>
<td></td>
<td>Return → /</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Governance → development of code of conduct with the support of a specialised company</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Source → legal data required for chemicals; checks on raw materials based on legal parameters</td>
<td>Drivers → compliance with regulations; reduction of costs</td>
</tr>
<tr>
<td></td>
<td>Make → adoption of photovoltaic systems in production plants</td>
<td>Barriers → lack of resources in terms of cost and human capital; poor commitment of ownership</td>
</tr>
<tr>
<td></td>
<td>Delivery → reduction of transportation</td>
<td>Contextual factors → medium-sized company, old company, high internationalisation, focus on providing quality products</td>
</tr>
<tr>
<td></td>
<td>Retail → certified shopping bags</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Return → /</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Governance → social and environmental code of conduct developed in collaboration with employees</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Source → chemical tests based on legal requirements mainly regarding natural materials and tans</td>
<td>Drivers → compliance with regulations; reduction of costs</td>
</tr>
<tr>
<td></td>
<td>Make → energy-saving solutions;</td>
<td>Barriers → lack of resources; little support from top management: sustainability is not considered a driver of value</td>
</tr>
<tr>
<td></td>
<td>Delivery → /</td>
<td>Contextual factors → medium-sized company, old company, high internationalisation, focus on providing quality products</td>
</tr>
<tr>
<td></td>
<td>Retail → LED and solar panels; green shopping bags</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Return → /</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Governance → extension of code of conduct for leather suppliers</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Source → social and environmental supplier monitoring and audits; chemical inspections of raw materials</td>
<td>Drivers → top management commitment; NGO pressure; improving brand awareness considering that 'all successful businesses have developed sustainable initiatives' (top management opinion)</td>
</tr>
<tr>
<td></td>
<td>Make → reduction of energy and water consumption; green solutions in production plants</td>
<td>Barriers → suppliers’ poor capacity to adapt to sustainable requirements; customers’ low sensibility about sustainability issues</td>
</tr>
<tr>
<td></td>
<td>Delivery → optimisation of transportation based on CO₂ emissions; renewable and recyclable packaging (FSC)</td>
<td>Contextual factors → large-sized company; old company; high internationalisation; focus on providing quality (and sustainable products for new sustainable collections)</td>
</tr>
<tr>
<td></td>
<td>Retail → certified shopping bags; collaboration with institutions to disseminate knowledge on sustainability</td>
<td>Drivers → top management commitment; NGO pressure; improving brand awareness</td>
</tr>
<tr>
<td></td>
<td>Return → waste-recovery processing</td>
<td>Barriers → suppliers’ poor capacity to adapt to sustainable requirement; customers’ low sensibility about sustainability issues</td>
</tr>
<tr>
<td></td>
<td>Governance → sustainability KPIs based on risk assessment; sustainability managers that help brands’ projects</td>
<td>Contextual factors → small-sized company; old company; low internationalisation; focus on providing quality (and sustainable products for new sustainable collections)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>