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A strenuous path for sustainable supply chains in the footwear industry: A business strategy issue

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ABSTRACT

In the age of sustainability, the fashion industry is very concerned about environmental and social issues; nevertheless, it is considered not completely sustainable. This study investigated the sustainable orientation of the complex and under-investigated footwear industry. This paper presents the results of an exploratory, case-based research highlighting the internal and external drivers that footwear companies perceive as relevant in terms of sustainable configuration of their supply chain and the subsequent impact on their business. The study analyzed all the stages of the footwear supply chain to better define which processes and decision-making practices can lead companies to make their supply chains sustainable. The findings showed the existence of different approaches and a different influence on the internal and external drivers; the relevant roles of corporate values and the values of entrepreneurs are highlighted.

制鞋业可持续供应链的一条艰辛之路：一个商业战略问题

在可持续发展时代，时尚产业非常关注环境和社会问题，然而它仍然被认为是不完全可持续发展的。时尚产业对全球环境的重大影响主要在于某些经济和管理因素，也在于生产过程中自然资源，化学、危险产品大量使用的内在性质。时装产业中的制鞋业被认为更复杂，基于不同的原材料和组件的使用，在可持续发展的观点中其生产过程被认为是非常重要的。这项研究主要集中在特定行业的可持续发展方向的分析。

本研究主要集中在对影响时尚业的时尚供应链管理的可持续性原则的分析。这有利于更好地了解一个可持续的鞋类供应链的结构（在其可能的配置方面），也被视为是战略发展新商机的内部和外部驱动最重要的因素。在这个方向上，研究的主要目的是为可持续供应链管理（SSCM）提出新的观点，指出新商业模式正出现在未被调查的时尚领域，例如制鞋业，以此来支持本特定主题进一步研究的发展。根据研究目的，调查基于De Brito等提出的分析，开发了内部和外部驱动因素以及建立一个可持续发展的鞋类供应链的框架、行动的定义。内部驱动因素主要涉及 1) 创造创新能力的有效性研究（特别是可持续创新），2) 其他特定的内部因素如企业家或高层管理的企业价值观，特别是企业社会责任（CSR）。另一方面，影响鞋类供应链可持续发展的外部驱动因素是国家和国际法律、法规和标准、公共政策和目标市场。特别

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关键词

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地，如果法律涉及到当前和未来的法规，市场是一个与消费者对环境和社会可持续性需求相关的驱动因素。

由文献综述显示，SCCM研究还在不断发展中，因此本研究是探索性的。因此，多案例研究方法特别适合分析鞋类行业供应链的可持续发展这一持续在研究的现象。该分析基于一个位于马尔什地区的均匀样本，由五个不同的意大利制鞋公司组成（工业区所在地）。在采访之前，使用来自档案公司的二级资料进行数据分析，并确保在这个特定行业的严谨性和知识巩固性。分析采用半结构化面试来收集和分类有关拟议框架关键驱动因素的数据。采访与参与的企业家和管理者单独进行，每个采访持续30-60分钟。使用研究主题的采访协议指南。检索到的数据使用不同的收集方法为研究问题提供更准确的答案。所有案例研究证实了即使实施的策略有所不同，公司对可持续发展的关注和敏感性却都很高。特别是，案例研究分析提出了以观察到的不同方法为特征的两个不同的定义。

本文中所描述的结果表明，在所有分析的情况下，引导公司的根本驱动因素是内部，指的是所有权和高层管理的高度敏感性。这个问题是文化原因，根源于公司工作方式的文化以及他们属于同一代表专业化的“意大利制鞋”这一卓越区域的因素。在马尔什地区制造的高质量的产品其特点在于使用价值；相反，它的特点具备复杂的意义和高价值的信息（无论在设计、风格、创新方面），它结合了复杂生产过程中典型独有的知识。在这个方向上，可持续发展是一个不可分割的当务之急，旨在保持卓越的“意大利制造”。这些陈述的主要由第一集团公司证实，他们认为可持续发展是整体价值命题的质量的同义词；因此，生产高质量的产品意味着文化足迹的内化。

这项研究为学术界提供了有趣的见解，实践者强调了鞋类公司在可持续性及其对供应链配置和管理的影响方面的驱动因素（内部和外部）。在管理方面，应该支持多定义的实现可持续发展目标的良好做法，并通过它来实现可持续发展的目标。在理论方面，建议框架可以提供一个有趣的方法，以便更好地了解公司在可持续实践中的行为。尽管仍然需要进一步的调查，本研究也是首次尝试更深层次地了解鞋类供应链配置的可持续性影响。本研究同样存在局限性。以后的研究应该将分析基于更多的样本，并涉及到具有不同市场定位的鞋类公司。在定性研究的基础上（如当前研究），进一步进行定量研究。最后，根据分析的公司所提出的建议，后续研究也应该分析文化在可持续供应链配置中的作用。

1. Introduction

Sustainability is a critical issue for the fashion industry and its supply chains (SC). Growing attention is devoted to sustainability in the fashion industry because companies and suppliers have been often involved in economic, social and environmental scandals. The deep impact of fashion activities on the global environment is mainly due to the volume of its activity in terms of world employees (9.3%) and worldwide exports (4%), and to processes dependent on the massive use of natural resources and hazardous products (Fletcher, Grose, & Hawken, 2012). The deep fragmentation, complexity and the rigid control of the fashion SC are due to: the value chain extension and logistics processes with their high environmental impact; new and complex needs, whereby consumer satisfaction is based on the ability to offer the newest and customized value propositions; and the high competitive pressure that forces companies to expand their activities to determine the most advantageous return on

investment. These factors lead companies to be more responsible and responsive in order to go beyond the management of internal core processes to embrace external value chains. Companies should be responsible for their and their partners' practices, since business performance is based on all of the supply network actors' efforts (Beske & Seuring, 2014). Supply chain management (SCM) and a sustainable approach to SCM (SSCM) foster a company's competitiveness in terms of its economic, environmental and social performance (Caniato, Caridi, Crippa, & Moretto, 2012; Seuring & Müller, 2008). The literature underlines the importance of SSCM for the fashion industry (De Brito, Carbone, & Blanquart, 2008; Turker & Altuntas, 2014). However, scholars call for the recognition of those practices affecting the sustainable configuration of fashion and footwear SC (Li, Zhao, Shi, & Li, 2014; Lion, Macchion, Danese, & Vinelli, 2016). In this direction, a few studies have jointly investigated subsectors such as clothing, accessories, eyewear, jewelry, textiles and footwear (Russo & Cardinali, 2012). Scholars consider footwear a cross-sector concept (Brun et al., 2008), often grouping companies that are active in different and highly competitive sectors.

This paper mainly focuses on the analysis of sustainable actions adopted in the Footwear SC (FSC) and the most important internal and external drivers influencing SC configuration and management. This empirical research investigated a sample of five Italian footwear companies, active at different FSC stages, through a multiple case study method. The paper is structured as follows. The next section outlines the theoretical background in terms of the fashion industry and sustainability focusing on FSC, followed by a discussion on research methodology, sample selection and research findings. To conclude, the implications, limitations and further insights are presented.

2. Literature review

2.1. *The fashion industry and sustainability*

In the fashion industry, sustainability is a relevant topic that mainly embraces the following factors. Firstly, specific features such as: (1) the short and seasonal product lifecycle; (2) the high volatility and low predictability of products with demand influenced by several and variable elements or happenings (e.g. films, pop stars' and footballers' preferences etc.); and (3) the high purchasing impulse, as consumers choose purchases directly in the shop or on e-commerce websites. Secondly, consumer behavior and preference are even more complex; thus, purchase decisions are influenced not only by quality, price and style (Burns & Kim, 2010), but also by emotional factors such as attitudes towards sustainability. Thirdly, institutions and governments are focusing their agendas on sustainable development. Recently, European Union developed a framework for research and innovation, Horizon 2020, with 60% of funding support to be allocated to sustainable business projects.

The literature on fashion and sustainability is still evolving; thus, according to Lee and Sung (2016), "Sustainability studies can be categorized in two ways: first they address the consumer aspect of sustainability and second the managerial aspects of sustainability." (p. 73) Most contributions on SSCM focus on its environmental dimensions (Caniato et al., 2012; Wu, Ding, & Chen, 2012) and on the influence of business activities on pollution, hazardous waste or gas emissions. De Brito et al. (2008) highlighted the notion that fashion sustainability is a complex concept, whose main dimensions are legal compliance, sustainable competitive advantage and corporate social responsibility (CSR) based on responsible management

(Lee & Jackson, 2010). Scholars have underlined a holistic vision of sustainability according to positive relations between economic performance and competitiveness (Barile, Caputo, Iandolo, & Saviano, 2015; Kim, Taylor, Kim, & Lee, 2015) and environmental protection and social welfare. Mehrjoo and Pasek (2014) pointed out this vision with a focus on products and their SC. The authors suggested a joint analysis of Pre-Manufacturing, Manufacturing, Using, and Post-Using stages to obtain social and environmental sustainability and better economic performance. Li et al. (2014) underlined that sustainability is a key element of SC design, management and governance. The ability to govern the complexity of manufacturing and logistics is a core competence able to improve the efficiency and effectiveness of a wide supply network, enhancing a trade-off shifting between these two areas. At an inter-functional level, studies have highlighted the way in which integration mechanisms (Macchion et al., 2016) lead companies to develop sustainable innovation in terms of products – e.g. new collections based on green concepts (Luzzini & Ronchi, 2010) – and processes – e.g. green logistics (Lai, Cheng, & Tang, 2010) or reverse logistics, collecting customers' returned packaging waste or products for recycling (Chan & Wong, 2012). These mechanisms support the suppliers in upstream integrations with sub-suppliers, not forgetting to leverage sustainability in their offering (Lion et al., 2016). In the apparel industry, scholars have defined dynamic models and tools to facilitate the interaction between SC physical processes, information flows and managerial policies to promote product variety, inventory, backlogs, costs and revenue. Turker and Altuntas (2014) analyzed the management systems that enable fashion companies to develop the commitment of their suppliers towards sustainability. Several examples support this trend; thus, corporations such as Nike involved suppliers' partners in sustainability plans (Fromartz, 2009). According to a market-driven perspective, sustainability is a component of expected quality in driving end-consumers' purchases, even in the luxury segment (Peshkova, Urkmez, & Wagner, 2016). This phenomenon has influenced companies' conduct in terms of marketing strategies (Kong, Ko, Chae, & Mattila, 2016) and SC configuration and management (MacCarthy & Jayarathne, 2013). Academic studies have underpinned the need for a high commitment between companies and their supply network that goes beyond the first layer of suppliers; thus, if suppliers and sub-suppliers are not involved in sustainability, any effort to satisfy end-customers will be in vain (Chun & Niehm, 2010; Macchion et al., 2016). In sum, the literature review underlines that fashion companies and their SC need a holistic approach to sustainability, even though the awareness of business actors is still in *statu nascenti* (Khurana & Ricchetti, 2016).

2.2. SSCM in the footwear industry

Footwear is a complex industry characterized by many small- and medium-sized enterprises (SMEs). In particular, the European footwear industry is made up of about 27,000 SMEs, often grouped in geographic clusters aiming at focusing production on high-value offerings. Its production is mainly concentrated in Italy, which generates almost 50% of the total overall production. In the last decade, the footwear market has radically changed in terms of demand, supply and distribution (Gregori, Cardinali, & Travaglini, 2013; Hsu & Chang, 2008). The Italian footwear industry is still passing through a critical period, whose key dynamics are subject to the worldwide recession, the drop in national consumption (–1.2%) and the change in EU demand, in particular of Germany (+7%) and France (–8.9%). These factors have led Italian companies to serve new markets such as the USA (+17%),

Table 1. Footwear supply chain description.

Process	Description	Delocalization/outourcing
Design	<ul style="list-style-type: none"> • Prototype creation and designer's concept translation in a serial product (modeling and sampling) 	<ul style="list-style-type: none"> • Footwear companies
Customization	<ul style="list-style-type: none"> • Product customization according to market demand (customization) 	<ul style="list-style-type: none"> • National cluster
Components' Production	<ul style="list-style-type: none"> • Upper cutting • Upper preparing • Upper hemming • Bottom preparing 	<ul style="list-style-type: none"> • Eastern Europe / Far East / national cluster • Eastern Europe / Far East • Eastern Europe / Far East (e.g. China and Vietnam) • Far East (China) / national cluster
Assembling and Refining	<ul style="list-style-type: none"> • Joining of the upper and bottom (sole, insole, heel) using different techniques 	<ul style="list-style-type: none"> • Far East (China) / national cluster
Finishing and Packaging	<ul style="list-style-type: none"> • Shoe finishing and accessories addition • Shoe polishing and packing 	<ul style="list-style-type: none"> • Far East and Eastern Europe • Far East and Eastern Europe / national cluster
Marketing and Sales	<ul style="list-style-type: none"> • Product placing based on specific commercial and marketing strategies 	<ul style="list-style-type: none"> • Footwear companies

Switzerland (+16.3%), the Middle East (+9.2%), South Korea (+26.6%) and China/Hong Kong (+17.1%). Nevertheless, in 2015 Italian footwear gained a positive commercial balance of €4.1 billion (Assocalzaturifici, 2016). To achieve competitive efficiency, this industry has invested in a progressive international outsourcing, moving production to Eastern Europe (e.g. Bulgaria, Romania, Albania) and then to the Far East (e.g. China, India, Vietnam). The delocalization affected many different stages of FSC, which assumed a global dimension. This contributed to reshape FSC and affected SSCM. However, FSC “consists of a complex production network with multiple layers of sub-contractors” (Park-Poaps & Rees, 2010, p. 305). It is made up of: (1) Design; (2) Customization; (3) Components' Production; (4) Assembling and Refining; (5) Finishing and Packaging; and (6) Marketing and Sales. Table 1 depicts these FSC stages and the countries where delocalization and outsourcing are directed.

Table 1 shows that the stages “Design” and “Marketing” are managed in-house by the focal company, while the other activities/stages/processes have been outsourced to foreign companies and in a few cases to companies active in the same area as the focal one (e.g. in regional or national clusters). This phenomenon shows a renovation of logistics and supply areas that directly affects their complexity.

Emerging trends underline the notion that product sustainability is related to its traceability, being a fundamental leverage consideration in purchase decisions. Empirical research has pointed out some critical success factors affecting purchase preferences: product quality and sustainability, criteria for production processes, and country of origin (e.g. “Made In”) (Aiello et al., 2015). SSCM calls for flexible organizational structures based on cross-functional ties, embedded in a sustainable agile SC (Christopher, Lowson, & Peck, 2004) and characterized by strong inter-organizational bonds in a supply network. SSCM requires

Table 2. Sample of five companies.

Company	Year of establishment	Legal form	No. of employees	National turnover %	Foreign turnover %	Foreign markets	Corporate brand	Respondent and No. of interviews	Interviews
A	1977	Ltd	5000	15	85	Western and Eastern Europe, Far East, USA	Multiple brands for different segments	Sustainability manager (1) Marketing manager (1) Operations managers (2) Company owner (1) Marketing manager (1) Quality manager (1)	4
B	1975	Ltd	500	20	80	Europe, Russia, Far East, USA	Yes	Company owner (1) Operations managers (2) Company owner (1) Operations manager (1)	3
C	1965	Ltd	400	30	70	North Europe	Yes	Company owner (1) Operations managers (2) Company owner (1) Operations manager (1)	3
D	1988	Co. Ltd	100	30	70	North Europe Russia	Yes	Company owner (1) Operations manager (1)	2
E	2004	Co. Ltd	27	20	80	Germany, Belgium, France	Yes	Company owner (1) Marketing manager (1)	2

Note: Company established in 1990 and involved in a merger agreement in 2004.

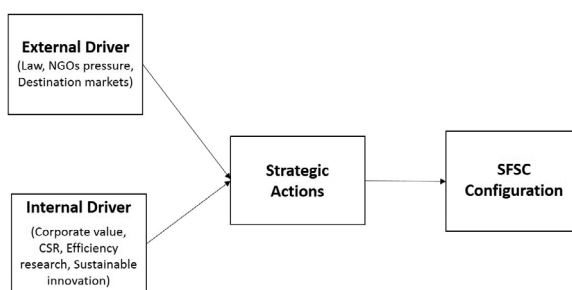


Figure 1. Research framework.

collaboration and cooperation among SC actor networks, based on an integrated logic geared to synchronize their activities, resources, skills and competences.

The literature underlines the importance of the quality of the relationship among FSC actors, highlighting the fact that long-term buyer–supplier relationships are fundamental for the improvement of SSCM performance. Scholars have pointed out the importance of technological innovations (Carpanzano & Ballarino, 2008) for the enhancement of SC (in terms of real-time information sharing and the ability to improve logistics efficiency and effectiveness) and sustainable strategies. Briefly, the development of a SSCM approach is based not only on technical and physical components, but also on behavioral components such as value, organizational culture and effective relationship management able to connect information and knowledge sharing (Lee & Sung, 2016). However, the literature is lacking in relevant studies on footwear SSCM and is still calling for a better understanding of relationships and mechanisms that lead footwear companies towards SSCM. This current research was based on the analysis of De Brito et al. (2008), which inspired the definition of drivers (internal and external) and strategic actions that set up a Sustainable Footwear Supply Chain (SFSC) framework (see Figure 1).

Internal drivers are: (1) efficiency research in corporate business processes – the ability to run a business in a less expensive way with a lower socio-environmental impact; (2) effectiveness – the ability to generate sustainable product and process innovations; and (3) other specific internal factors – e.g. the corporate values of entrepreneurs or top management, especially in terms of CSR. External drivers comprise: (1) national and international laws; (2) NGOs’ pressures, whose growing power affects companies’ choices in terms of sustainability requests; and (3) destination markets. If legislation refers to current and future regulations, the market is related to end-consumers’ environmental and social sustainability requirements. In sum, this study attempted to respond to the following research questions:

RQ1: Which are the main internal and external drivers that companies perceive as relevant?

RQ2: How do drivers and their importance influence SC configuration and management?

3. Research method

3.1. Research design

This research is exploratory because, as the literature review revealed, SFSC studies are still evolving. Therefore, the multiple case studies methodology is fitting for the analysis of an

under-investigated phenomenon (Yin, 2003). This approach led to a deep investigation of the contextual dynamics enabling different configurations of SFSC based on strategic internal and external drivers as depicted in the research framework (see Figure 1). Contextual conditions are relevant to the understanding of the phenomenon under investigation (Yin, 2013). Five Italian footwear companies, belonging to a cluster located in the Marche region (the “Fermo-Maceratese” cluster), were investigated. The cluster plays a fundamental role in the footwear sector. The sample was chosen following Eisenhardt (1989), as this number offers a reliable interpretation of a known phenomenon. The understanding of drivers and motivations leading to different SFSC contributed to adopting a comparative logic that aimed to collect grounded evidence on the topic under investigation (Eisenhardt & Graebner, 2007).

3.2. Case study selection and data collection

Multiple techniques were used to collect empirical data about the orientation of Sustainable Supply Chain (SSC) among footwear companies and multiple sources were accessed to highlight the most relevant internal and external drivers. A desktop analysis was undertaken of strategic and business plans, reports and informative flyers. The sampled companies provided those documents or they were accessed by surfing corporate websites. The document analysis led to a preliminary contextualization of the study, paving the way for further investigations. To improve the consistency of the study, 14 semi-structured questionnaires of key informants (company owners, CEO, marketing manager, research and development manager, quality, environment, and safety manager; and operations managers such as SC manager, purchase manager or production manager) were conducted. Key informants were selected from managers who directly and indirectly handle FSC. Each survey took about 30–60 minutes to complete. A survey protocol was used and the interviews were audiotaped and transcribed verbatim. According to the specific research protocol, the collected data were entered in five electronic worksheets, one for each company. Evidence was classified in homogeneous categories according to the topic and sources in order to improve their comparability. The authors critically examined, interpreted and compared the collected data according to a cross-case technique. Finally, a research report was written and findings were entered in tables as compared and discussed (see Tables 3, 4, 5 and 6). A preliminary analysis of the sample structure is depicted in Table 2.

All companies are characterized by a high rate of longevity and serve global markets, as shown by the amount of foreign turnover compared to the national one. Some specific features led us to classify them in two groups: one made up of the three larger companies (A, B, C), serving segments of luxury shoes, and the other made up of the two smaller ones (D, E), operating as subcontractors of important national and international brands.

4. Result and discussion

4.1. SFSC internal drivers

Entrepreneurs and managers of A, B, and C stated that sustainability emerges from corporate values in which the pervasiveness of business problems and ethical evaluations is fundamental, as well as the assessment of the impact of ethical choices. Company A

Table 3. Internal drivers and analysis categories in sustainable footwear supply chains (companies A, B, C).

Internal drivers		Effects on supply chain		Effects on supply chain		Effects on supply chain	
Company	Actions	Company A		Company B		Company C	
Corporate value	Inspiration of top management	Brand image		Brand image; Corporate reputation		Brand image, Corporate reputation	
CSR	China–Italy exchange program; social and cultural initiatives	Corporate reputation, long-lasting training involving Chinese employees and managers; making them able to interiorize corporate values		–		–	
Efficiency	Implementation in all factories, located in both developed and emerging countries, of a monitoring system for energy consumption, emissions and wastes	Corporate code of conduct (corporate team working directly with suppliers to support them in compliance); supplier education; direct supply chain control		Eco-friendly factory, completely powered by a solar system; reduction of environmental impact of in and out logistics		Energy expenditure streamlining; exclusive use of renewable sources for energy (e.g. methane). Implementation of an in-house global communication platform	
Effectiveness	Innovation: (1) <i>Product</i> : Design and production of high-quality and luxury shoes (handmade production); fair trade of raw materials, semi-finished and finished products; (2) <i>Process</i> : Production system certification; waste separation and recycling	Company code of conduct; long-lasting training in order to involve suppliers; supplier commitment to corporate practices; quality assurance pointing to a structured quality check of all stages of production processes; development of conjoint project with partners and local suppliers		Innovation: (1) <i>Product</i> : Design and customization of sustainable and unique shoes (e.g. production of handmade and tailored shoes stained with natural colors); design and manufacture of new product lines (e.g. saddler and automotive harness); fair trade of raw materials; (2) <i>Process</i> : Production system certification; full manual manufacturing processes; exclusive use of renewable sources for energy (e.g. solar power); use of whole natural production components; waste separation and recycling		Innovation: (1) <i>Product</i> : Design and production of sustainable shoes (e.g. woven straw shoes, upper in cork and in corncob, upper in texon cotton, and transpiring shoes); recycled packaging; fair trade of raw, semi-finished and finished materials; (2) <i>Process</i> : Production system certification; use of whole natural production components (e.g. water glues etc.); waste separation and recycling; reverse logistics (e.g. leather)	
		Direct supply chain control; long-lasting training in order to involve suppliers; supplier commitment to corporate practices; quality assurance pointing to a structured quality check of all stages of production processes; development of conjoint project with partners and local suppliers		Direct supply chain control; develop conjoint projects with partners in and outside of the footwear supply chain (e.g. Mercedes Benz); suppliers' selection on social and green practices; short supply chain (e.g. 0-km supply chain); local procurement network; internalization of all value chain's activities; development of conjoint project with suppliers		Direct supply chain control; development of conjoint projects with local partners in and outside of the footwear supply chain; suppliers' selection on social and green practices; development of conjoint project with strategic suppliers; closer relationship to reduce the impact of transportation	



Table 4. Internal drivers and analysis categories in sustainable footwear supply chains (companies D, E).

Internal drivers	Actions	Effects on supply chain	Actions	Effects on supply chain
Company		Company D		Company E
Corporate value	Value of the owner; new business opportunity	Development of a stronger brand and corporate image	Value of the owner; new business opportunity	Development of a stronger brand and corporate image
CSR				
Efficiency	Agile manufacturing/production	Agile and fast supply chain	General reduction of lead-times and high fulfillment rates for consumers' demand	Agile supply chain
Effectiveness	Innovation: (1) <i>Product</i> : Fair trade of raw, semi-finished and finished materials; (2) <i>Process</i> : Production system certification	Suppliers' selection on social and green practices; short supply chain (e.g. 0-km supply chain); local procurement network; logistics optimization	Innovation: (1) <i>Product</i> : Fair trade of raw, semi-finished and finished materials; (2) <i>Process</i> : Production system certification	Short supply chain (e.g. 0-km supply chain); local procurement network; logistics optimization

Table 5. External drivers and analysis categories in sustainable footwear supply chains (companies A, B, C).

External drivers	Actions	Effects on supply chain	Actions	Effects on supply chain	Actions	Effects on supply chain
Company		Company A		Company B		Company C
Law	Not relevant	Cooperation project with international NGOs	Not relevant	–	Not relevant	–
NGO pressure	Relevant	Tailored product and products' line sold directly to consumers through flagship stores and e-commerce web site	–	–	Relevant	Cooperation with national NGOs
Market	Acquiring of new luxury brand in order to enter a new niche market	Tailored product and products' line sold directly to consumers through flagship stores and e-commerce web site	Development of new luxury niche market	Tailored product and products' line sold directly to consumers through flagship stores and e-commerce web site	Development of a new niche market	Products selling directly to consumers through flagship stores and e-commerce web site

Not interested.
Followers.
D, E.
Internal/external drivers.
Internal sustainable actions.
External sustainable actions.

Table 6. External drivers and analysis categories in sustainable footwear supply chains (companies D, E).

External drivers	Effects on supply chain		Effects on supply chain	
	Company D	Company E		
Company				
Law	Relevant, because the company adopts active behavior	Relevant, because the company adopts active behavior	Commitment to social and environmental regulations	Commitment to social and environmental regulations
NGO pressure	–	–	–	–
Market	Entering in new markets	Enforcement of market niche positioning	International network of flagship stores	Products selling to consumers through e-commerce web site

developed a global SC and institutionalized CSR programs, especially when intended for emerging markets. Its commitment is rooted on long-lasting training programs dedicated to human resources and pointing to the promotion of social and environmental skills. These programs aimed at developing those emergent countries where A operates, disseminating corporate values and a cultural footprint focused on a sustainable lifestyle. This company institutionalized several welfare projects in its Italian headquarters and in foreign locations where it made commercial investments, the company cooperates with partners to develop projects aimed at responding to employees' needs. Economic support for Italian employees' families has been offered in terms of school facilities or health care protection. B and C did not implement CSR programs, but they looked at sustainability as a way to achieve a lifestyle characterized by strong product identification and purchasing experiences inspired by the "Made in Italy" philosophy and its protection and assurance of corporate high-quality branding. The efficiency objectives represent a strategic driver, rather than a mere orientation to cost reduction. The three companies argued that their investments were mainly concerned about the environmental dimension of sustainability and were financed by reducing materials, energy and resources consumption. In 2010, B built a totally eco-friendly factory using 90% recyclable materials, where the implementation of natural resources reduced its energy consumption. A photovoltaic plant covered the building producing 1,107,500 kWh per year, which corresponds to 170% of its energy needs; thus by selling an energy surplus, B achieved additional financial returns. In 2011, its headquarters won a national award for innovative green technologies. B streamlined all its logistics costs to reduce the impact of transportation. In terms of SC, this led to preferred local suppliers and adopting 0-km practices. Company A focused its attention on efficiency, implementing in all international factories a monitoring system for energy consumption, emissions and waste. In emerging countries, it educates suppliers to develop a growing awareness and sensitivity towards resource preservation. Company C implemented a program dedicated to energy expenditure rationalization; thus, the temperature of plants warmed the whole factory and a methane-fueled corporate car fleet was used. In terms of effectiveness, all of the companies looked at product innovation as a core element of their sustainable strategy. They developed high-quality and environmentally friendly products, using natural raw materials and combining attention to design and style geared towards green practices. B did not outsource any stage of its SC, directly managing all of the processes described in Table 1. Its belief in giving to corporate products a strong sustainable footprint as a synonym of quality-oriented finishing processes and raw materials, required a constant effort in developing new ideas and a closer collaboration with network suppliers. The originality of handmade and customized shoes arose from cooperation with suppliers, pointing to assessing the composition and origin of raw materials (e.g. leather, glues, rubber, colors etc.). The development of conjoint projects involved external partners of the FSC; thus, B cooperated with niche firms to produce customized saddlers and automotive harnesses. C produced several models of environmentally friendly shoes (e.g. corn fibers and woven straw shoes, cork and corncob upper etc.) launched in each seasonal collection and produced by collaborating with designers and raw materials' producers. Company A developed a global SC, where traceability represents a complex practice. Assuming an environmental perspective, it analyzed the influence of a single production phase and the entire product lifecycle. Even if this company paid growing attention to money saving, time and knowledge improvement, its supply chain manager still considered suppliers' commitment towards

sustainability to be not so high. C maintained direct control over the design and customization stages and established a monitoring system across all of the SC stages. It looked at communication as a key element to create and stabilize relationships with its network of suppliers, thus enacting different communication programs (e.g. visits, personal cooperation and research). Company A implemented an in-house communication platform to communicate, inform and educate its global suppliers about quality standards, as well as other issues (e.g. ecological and ethical aspects, safety, lead times, traceability and transparency), and to discover possible misconduct in its supplier network. C enacted a FDI in Bulgaria to replicate Italian production plants, processes and products, involving local employees thanks to specific information and training programs. All three companies considered innovation as fundamental; thus, they rethought their processes using renewable energies and clean energy systems. The interviewed managers considered the implementation of green facilities as leverage to maintain and make as comfortable as possible their partners' working conditions, being the target of long-lasting improvement actions. In terms of effects on SC, all companies selected their supplier network according to specific criteria based on social and green practices. However, A developed a more structured approach to company-supplier relationship management, having applied a specific code of conduct certified by external agencies. B internalized all of the stages of its FSC. Moreover, it focused on the environmental dimension of sustainability, both in the overall production stages and in the reconfiguration of the outbound SC to reduce its logistics costs, implementing conjoint projects with local logistics service providers. This company considered supply integration to be a strategic element. In fact, the suppliers' involvement in product development and in joint decision-making can preserve product design and supplier capabilities consistency with the reduction of production time and costs. C adopted a dual-sourcing strategy to make its SC quickly responsive. Therefore, local suppliers and employee training in the offshore production plant followed the same sustainability actions established and implemented in an onshore Italian plant.

The second group (D and E) differs from the first one in terms of size and markets served. The entrepreneurs of both companies pointed out that over the past few years they lost competitiveness because of the high pressure from those countries with low labor costs and off-shore production. These companies considered sustainability as a business opportunity, pointing to the strength of the business customers' perception of a corporate image and entering new market niches of end-consumers. They considered the search for efficiency to be a strategic driver. D made its production and manufacturing processes as agile as possible to respond in a shorter time and at lower cost to their business consumers' emerging needs. This led to a reconfiguration of inbound SC, which shifted towards the agile SC. Also, E developed an agile SC to improve its ability to respond to its business clients' requests. It acted in terms of lead-time to achieve efficiency in management, delivery planning, model production and selection. In terms of effectiveness, D and E considered sustainable innovations as mediated by their business customers' requests, because business customers exclusively commissioned design and customization. These companies are mainly oriented to ensure sustainable production processes as well as the use of raw materials to ensure plain product traceability. In fact, they used natural raw materials, semi-finished products purchased from certified suppliers and sustainable packaging (e.g. recycled cardboard boxes). Moreover, the stages of production in which companies are not specialized (e.g. assembling and finishing) were assigned to local companies operating in the district.

In terms of process innovation, the two companies oriented their production to compliance in terms of certification systems; thus, production processes were socially and environmentally certified. This led to the application of national and international standards (e.g. ISO 14000) and to the constant quality control of all processes and of the whole SC.

4.2. Analysis of external drivers

A, B and C considered the pressure of national and international laws as nonthreatening because they tried to go beyond the laws' boundaries. They also reacted differently to the pressure of NGOs. Being a global corporation, A was more sensitive towards this pressure. It developed specific exchange programs with Chinese NGOs to spread its values worldwide, namely, creativity, craftsmanship, tradition and the promotion of "Made in Italy" quality output. Several Chinese managers were selected to make them familiar with Italian lifestyles, confirming the company's constant commitment to the creation of an internationally minded group. Similarly, C cooperated with national and international NGOs; thus, it realized a project in partnership with Slow Food Market to create whole natural colors and, in cooperation with the main local glue supplier, it developed natural water glues. Conversely, B did not enact any action or project. A, B and C considered the driver "market" as fundamental for the strategic decision-making in the downstream stage of their SC. Their target was mainly made up of consumers with a strong quality orientation and who demanded handmade, unique products. They ensured high quality and valuable products thanks to the sustainability approach as embedded in style and design (e.g. "Made in Italy") that, according to corporate management beliefs, was rooted in the overall value propositions. These companies actively involve consumers through their marketing strategies. In fact, they directly connect with the market, which is the target of their core values and sustainable strategies. The three companies served the market through a direct logistics channel, featuring flagship stores and e-commerce websites. They used an appropriate communication style to preserve global consumer cultural diversity, behaviors, traditions and expectations. This vision led these companies to enter into new international market niches, strengthen their positioning and differentiate their SC configuration.

Company A acquired a new luxury brand to enter into a new American market niche, that of high-luxury women shoes. To offer high-quality and handmade products, the company located the production site and the supply network in North America in order to be able to quickly respond to the local market needs. Company B entered a new market niche differentiating its product lines, e.g. designing, producing and customizing saddlers and automotive harnesses. Companies D and E developed a similar attitude towards external drivers; thus, it was natural for them to run their businesses by respecting environmental and social sustainability principles. This attitude arose from serving, for over 20 years, business clients operating in other countries (e.g. Northern Europe, the EU, Russia) in which the stakeholder sensitivity to social and environmental sustainability was very high and the regulations were very restrictive. This attitude was not completely expressed, because neither of the companies implemented any action to respond to NGO pressures. Relying on sustainability investments, they aimed for new sustainable business opportunities. Both companies tried to position themselves in niche markets by addressing end-consumers in terms of their own brands. Company E was positioned in the segment of children's shoes, offering environmentally sustainable sneakers. Consequently, it redesigned its SC, excluding

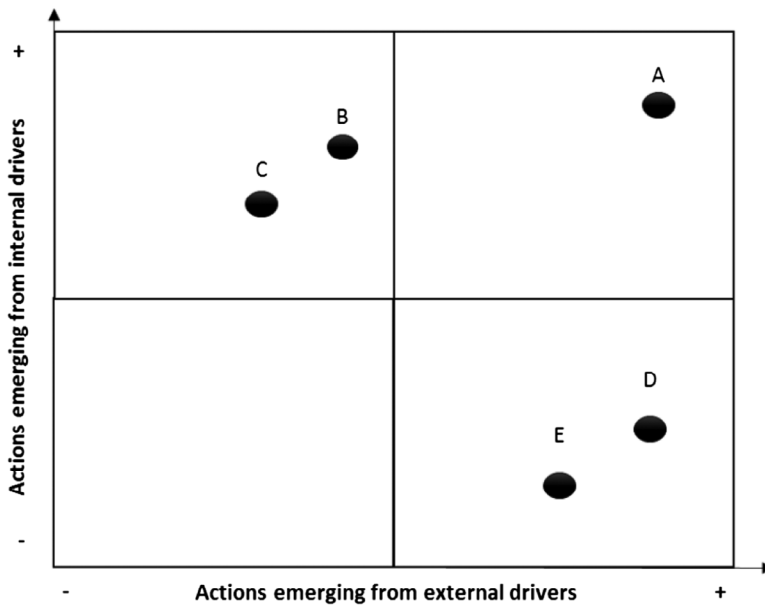


Figure 2. A taxonomy of the sample's actions pointing to the sustainability of their supply chains.

retailers to serve the market (e.g. through e-commerce). This strategic option led to increasing revenues. To enter into new markets, company D developed its sales network, based on an international network of flagship stores also located in those foreign countries in which it operates as a sub-contractor.

5. Key findings

Figure 2 depicts a taxonomy that classifies the sample companies in four different clusters to better represent the actions aimed at reshaping SFSC. No company belongs to the cluster with a low level of actions emerging from internal and external drivers. Consequently, companies put in place different actions impacting SFSC configuration. This was due to the effect of internal and/or external drivers. Company A was positioned in the square characterized by actions with a high level of internal and external drivers. The actions emerging from internal drivers are characterized by different shades of top management responsiveness towards sustainable and suppliers' activities as supported and improved through specific training projects. This responsiveness is at the core of corporate values and inspired social and environmental projects, with investments and actions pointing to reshaping inbound and outbound SC. In the first case, Company A focused on an internal alignment of all international departments, integrating SC sustainability into core business practices (Khurana & Ricchetti, 2016). In the second case, it implemented specific management systems to make SC more transparent and easier to control. Transparency encompasses production stages, focusing on information/training programs to enhance relationships alongside the SC. All of the corporate efforts are aimed at the adoption of sustainable practices in terms of supplier selections (Beske & Seuring, 2014) and the network of supplier commitments. To improve ethical and environmental abilities, and the commitment towards sustainable

performances, collaboration with suppliers is fundamental. In terms of actions emerging from external drivers, the company was not only complying with the main international laws, regulations and standards, but it also adopted a proactive approach to sustainability, going beyond legislative prescriptions. In fact, the social dimension also was developed because it implemented welfare policies in all international branches and exchange programs with international NGOs. Lastly, the focus on sustainability was rewarded by destination markets; thus, the company progressively reshaped its SC network towards a global dimension. In sum, Company A developed a sustainable core competency in terms of design and governance of the overall SC (Li et al., 2014). The findings relating to B and C confirmed their positioning in the cluster with a high level of actions emerging from internal drivers and a lower level emerging from external ones. In the first case, serving market segments of luxury shoes, these companies based their activities on long-lasting attention to the quality of all inbound SC processes. As a result, their strategic orientation was to maintain a direct control over design and manufacturing by avoiding any outsourcing choices (B), and by implementing FDI (C) to externalize components' production and assembling stages. B and C looked at innovation as a core element of a sustainable strategy. In fact, this cluster considered new or renewed eco-friendly products made up of natural and sustainable raw materials or components as connected to their value proposition and invested in making their production processes socially and environmentally sustainable. This strategic orientation, focused on quality as being synonymous with corporate sustainability, led companies to shape their supply and production networks by using local suppliers. Closer collaboration and conjoint projects with suppliers had important effects on sustainability. Information/competences sharing and conjoint projects fostered sustainable processes and products, contributing to differentiate the corporate competitive advantage. B, C and supplier networks jointly developed further sustainability-related competences. This approach aimed at working together to gain a concrete advantage by sharing competences and practices. This can be considered as a bidirectional investment; thus, each actor shares resources to enhance its sustainability competences, and knowledge, to develop synergies. These actions showed how a SC enables new sustainable business models (Trkman, Budler, & Groznik, 2015). The market is the most important external driver on which sustainable strategic actions are based, because being able to respond to consumer demands is fundamental for companies. In fact, end-consumers are even more demanding for durable, high-quality and stylish shoes. These attributes are at the root of luxury brands, being able to support the entry of these companies into new luxury market niches and to make their positioning stronger than ever thanks to specific attributes such as artisanship, authenticity, and environmental and societal respect. These companies decided to serve their markets through a direct logistic channel, based on flagship stores and e-commerce websites.

Companies D and E are positioned in the cluster with a low level of action emerging from internal drivers and with a high level emerging from external ones. The reshaping of the SC shows a market-driven orientation, rather than a truly strategic orientation towards sustainability. In fact, D and E did not develop a proactive approach to sustainability, by not implementing corporate projects or initiatives pointing to social and/or environmental sustainability. Their compliance towards sustainability aimed to better respond in terms of value creation to business client requests. To improve business customers' satisfaction, these companies made manufacturing processes agile and quick. A basic level of actions emerging from internal drivers characterizes D and E; thus, they limited their activities

to achieving efficiency through a better selection of suppliers, the definition of a short SC and local procurement networks with the optimization of logistics. To ensure the full traceability of inbound SC, D and E redesigned their SC, adopting a short supply chain strategy (Crippa, Golini, & Luzzini, 2010). They referred to a network of national suppliers, or those belonging to the district with which they have close relationships. D and E used the advantage emerging from the country of origin (“Made in Italy”) in order to develop their brand, positioning themselves in new niche markets and addressing their products to end-consumers through e-commerce websites. This also highlighted the complete redesign of the outbound SC to directly serve the market by excluding distributors and retailers. In terms of influence on the drivers in the SC configuration, the findings demonstrated that in the majority of the examined cases the fundamental driver guiding companies is internal and referred to the high sensitivity towards sustainability on the part of corporate ownership and top management. This issue is related to cultural reasons rooted in the *modus operandi* of the sample companies and to their belonging to the same area, whose specialization represents the excellence of “Made in Italy”. The high-quality products made in the Marche district do not represent an ordinary product characterized only by its value in use. Instead, they are characterized by a complexity of meaning and high-value information (in terms of design, style, creativity) that incorporate this distinctive knowledge into complex production processes. In this direction, sustainability represents an inalienable imperative aiming to preserve the excellence of “Made in Italy”. The attitude of companies confirmed the previous statements; thus, they considered sustainability as synonymous with the quality of the overall value proposition. Therefore, the production of high-quality goods implies the interiorization of cultural footprints. This strategic orientation, focused on quality as synonymous with corporate sustainability, led companies to make incremental changes to integrate suppliers into their systems and by promoting their commitment and compliance. The main changes involved the following activities: supplier selection, code of conduct implementation, on-going support and development of shared expertise based on long-term relationships. Therefore, compliance, monitoring, auditing and commitment are the main components of SFSC. However, even though these initiatives improved sustainability practices of the inbound SC, further advancements are still needed in terms of SFSC management.

6. Conclusion, limitations and future research

This research contributed to fill a gap in the lack of a perspective covering the implementation of sustainable action at the FSC level. Following the results of a literature review, footwear has been considered as a mere subsector of the more general fashion industry. The analysis offered some empirical evidence on footwear sustainability and, in particular, on SFSC configuration, a topic that scholars and practitioners have overlooked, being mainly concerned about the economic drivers developed for the general fashion industry (Smirnova, Henneberg, Ashnai, Naudé, & Mouzas, 2011). Another theoretical contribution is the development of a taxonomy based on internal and external drivers fundamental for SFSC configuration. In terms of managerial implications, findings might support companies in the definition of those good practices pointing to a sustainable configuration of FSC. A general sustainability commitment and the adoption of proactive strategies, involving different actors (e.g. ownership, top management, suppliers, end-customers etc.), might

reduce companies' and their partners' reputational and economic risks arising from their irresponsible and unsustainable conduct. Even if some issues have limited this study, it has also paved the way for further research about the topic under investigation. A first limitation is related to the small sample size: a future comparison with a larger and international sample could offer further insights in terms of broader SFSC configurations. A second limitation is related to the companies analyzed here positioning themselves in medium and high market segments. Future research should base analyses on a wider sample involving footwear companies with different market positioning. Finally, as suggested by the sample, it would be interesting to analyze the role of culture in the SFSC configuration.

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