A focused supply chain strategy for luxury fashion management

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Abstract

Purpose – Globalization and advanced manufacturing capabilities changed industrial dynamics. To this end, not only were new retail concepts developed to broaden the distribution toward larger consumer bases, but alternative ways were also sought to reorganize supply networks for a balance between local and global production. Yet, the choice of supply network configurations must be coherent with a fashion companies' critical success factors. Hence, it is pivotal to understand how such large brand portfolios and global supply networks could be effectively managed in a united way. In this vein, the purpose of this paper is to explain how the triplet of product, brand, and retail channel could affect SC performance, and how the positioning of a luxury company could depend on managerial attitudes.

Design/methodology/approach – Subsequent to an extensive literature review, 30 most frequently quoted key performance indicators (KPIs) were derived. A Delphi study was then employed to reach a consensus and 17 key KPIs were derived considering the key SC performance areas and marketing dimensions. Survey technique was deployed to examine the impact of strategic combinations of product, brand, and retail channel on SC strategy. Survey results were analyzed through factor analysis where five principal components emerged to represent performance areas. ANOVA technique was then employed to explore the dependence between product-brand-retail channel and key performance areas.

Findings – Brand, retail channel, and product directly affect operational performance. The positioning of a fashion company would depend on its management attitude toward strategy segmentation and considered stage of the SC. The respondents' profile analysis further showed a preference to segment the SC based on products. Interestingly, this finding is not aligned with earlier research (Brun and Castelli, 2008) suggesting that the brand was to become the most relevant driver for SC segmentation.

Originality/value – Academic development and empirical testing is rather rare in the luxury fashion context. Undeniably, SC strategies represent a very relevant issue for fashion companies, and the present study could be considered a first statistical step toward SC segmentation for luxury fashion companies.

Keywords Fashion industry, Segmentation, Brand, Supply chain management, Product, Retail channel

1. Introduction

Luxury is defined in terms of its functional value, its psychological value, and the experience in which customers are highly involved (Fionda and Moore, 2009). Luxury is an industry in which a wide range of products and services are offered, including personal goods, wines, yachts, and cars. Human involvement, limited supply, and value recognition are some of the distinctive features of the luxury industry (Vigneron and Johnson, 2004). Hence, not only does luxury refer to premium priced products, but also it is associated with emotional aspects and experiential value.

Luxury fashion used to be geographically centralized. New trends were diffused from a single location. However, consumers everywhere at every income started demand more luxury, and therefore luxury fashion companies expand their sales outside the country of origin in order to reach a larger customer base (Brun et al., 2008). Global luxury industry has

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consequently reached a value of €1.081 B in 2016, with a growth rate of 4 percent. The personal luxury goods sector, specifically, holds the biggest share, and accounts for€249 B (D'Arpizio, 2016).

Luxury companies move toward a higher positioning, and they attempt add valuable features to their offerings. Nevertheless, globalization and optimized technical production capabilities result in changing market dynamics. On the one hand, the democratization of luxury has led to mass luxury in which luxury brands have extended themselves to more affordable offerings (Cristini et al., 2017); on the other hand, there exists the creation of brand portfolios, comprising a number of different positioning strategies. For example, Burberry represents high-end couture through its signature Burberry Prorsum brand, additionally easy to wear style market has also been served with Burberry London line.

Operations and supply chain management (SCM) emerge as critical areas and play a significant role in the success (Brun et al., 2008). Nevertheless, luxury companies encounter serious challenges in terms of operations and SCM. The integration of traditional marketing activities to logistics and production has become a challenging topic (Ponticelli et al., 2013). Furthermore, commoditization has become a crucial area since there are difficulties to make products unique and sell them at higher prices (Riot et al., 2013). Luxury is expected to offer symbolic and experiential value in addition to functionality (Grigorian and Espinoza-Petersen, 2014). Therefore, customer service management, channel management, product management, on the whole, the entire SC perspective, become critical to reach and maintain the market success (Brun et al., 2008; Caniato et al., 2009).

The ratio of intangible and situational utility to price is high in luxury (Vigneron and Johnson, 2004). Luxury market thus features such distinctive features whose existence is critical to reach competitive market advantage. Critical success factors involve premium quality, heritage of craftsmanship, exclusivity, emotional appeal, global reputation, recognizable style and design, country of origin, uniqueness, technical performance, and creation of a lifestyle (Caniato et al., 2009). Nonetheless, not every luxury product shares the same list of critical factors. For example, technical performance is more important in the complex products, such as cars and yachts, while emotional appeal might emerge stronger in personal goods. Legitimacy in luxury is essential and therefore, not all contingent variables derived from earlier SC models could be applied to the companies operating in the luxury market (Caniato et al., 2011). SC complexity requires luxury companies to adopt more structured supply management strategies (Caniato et al., 2011). For example, Burberry has recently changed its business model toward reshoring and has realigned its business toward a customer-centric and brand-led model that resulted in renewing and realigning the SC strategy by consolidating and rebuilding manufacturing activities back to the UK to support the brand positioning and the refocus on heritage products (Robinson and Hsieh, 2016).

Global competition resulted in companies rethinking the need for cooperative, and mutually beneficial SC partnerships (Flynn et al., 2010). Fashion companies have started seeking ways to reorganize their supply networks for a balance between local and global sourcing and production (Macchion et al., 2015). In this setting, new retail concepts have been developed to broaden the distribution and to target larger consumer bases. Furthermore, some major changes, including dissolving entry barriers through digital revolution (D'Arpizio, 2016), growing adoption of see now-buy now movement (Brun et al., 2017), sustainability integration in fashion supply networks (Karaosman et al., 2016) and new acquisitions from both established and new luxury groups, obliged luxury fashion companies to change their strategic management tactics. Demand chain is referring to the whole production and distribution process as a sequence of events in order to serve the ultimate customer (Childerhouse et al., 2002). The SC, in this sense, is oriented toward customer satisfaction (Ponticelli et al., 2013), subsequently, brands, suppliers, and retailers are growingly in need of being in direct relationship to reach better performance results.

There must be a significant correlation between back-end synergies, with respect to cost management and efficient resource utilization, and front-end synergies, with respect to the provision of brand portfolio as well as the maximization of internal control of company owned or company controlled production and distribution. As previous research evidenced, Tom Ford stopped Gucci's decline through his adoption of the business model, which maximized internal controls pertaining to product sourcing, brand communication and distribution (Moore and Birtwistle, 2004). Luxury should not be conceptualized as a set of characteristics or attributes (Sjostrom et al., 2016). Indeed, there must be harmony among functional, experiential and symbolic dimensions. The goal of any fashion company is to align its product, brand and production channels with customers' expectations and needs (Macchion et al., 2015).

To this end, the choice of production and supply network configurations must be coherent with a firm's critical success factors. Hence, it is becoming pivotal to understand how such large brand portfolios and global supply networks could be effectively managed in a united way. Earlier research addressed that a value chain perspective must be incorporated since luxury companies often pursue competitive advantage over brand exclusivity (Robinson and Hsieh, 2016). However, academic development and empirical testing is rather rare in the luxury fashion context. The majority of existing literature associating luxury attributes with operational strategies also adopted mostly qualitative techniques. Yet, it is vital for the companies to understand to what extent SC performance could influence the strategic SC objectives and, accordingly, to what extent brand, retail channel, and product could affect the chain performance.

In this vein, through a quantitative approach, the present study aims to demonstrate to what extent a focused SC strategy by encompassing the crucial components of brand, retail channel and product in a concentrated way could impact the competitive advantage, to what extent such strategic elements could affect SC performance, and how the positioning of a luxury fashion company could depend on managerial attitudes toward SC strategy. The remainder of the paper is organized as follows. First, theoretical background is provided in Section 2, which is followed by research methodology in Sections 3 and 4. Analysis and results are displayed in Section 5, which leads to conclusion in Section 6.

2. Theoretical background

2.1 The principal foundations of luxury fashion

2.1.1 Brand. Branding remains a fragmented and a contextual concept, which is not easy to capture with one single definition. Brand refers to the organization's principal asset and the core business activity (McColl and Moore, 2011). Yet, the branding literature experienced evolutionary changes over the last decade where brands are subject to a redefinition (McColl and Moore, 2011). As a consequence of the globalization, there has been a shift in the emphasis from product brands to corporate brands as a communicator of corporate image. The success of the own brand is reflected within the values, principles, and success of the corporate brand. Consequently, it emerges that the development and deployment of branding strategy is a pivotal element of a fashion house's corporate strategy (McColl and Moore, 2011). In luxury fashion industry, for example, brand image, which is critical to effective positioning, must be carefully executed and supported by a value-driven configuration of local and global sourcing and production. In this vein, SC strategy has to be renewed to assure competitive advantage (Robinson and Hsieh, 2016); hence, all actors involved in the production and distribution processes should manage the brand in a coordinated way. Assumptions made over the luxury fashion industry, such as high-end fashion companies avoid international networks, is too naive to explain the complexity of decision making on production. There appears to be a dramatic shift in terms of the scale

and power of retail buyers, the emergence of own brand retail networks, and the nature of global sourcing decisions. Consumers, on the other hand, focus on more than only product characteristics and their purchase attitude is more and more influenced by the experience (Brun and Castelli, 2008). Consequently the entire SC perspective, customer service management, channel management, product management, has become significantly critical for the market success within the luxury industry (Caniato et al., 2009).

Luxury companies need to reinforce the brand and to establish their territories by appropriating unique competencies and resources to maintain their competitive advantage (Riot et al., 2013). For example, by maintaining production in Italy, Italian fashion companies could obtain benefits associated with the increase in the perceived quality of Made-in-Italy (Macchion et al., 2015). In the same vein, Louis Vuitton and Chanel adopted a concentrated strategy, which involves in-house sourcing and centralized distribution channels (Robinson and Hsieh, 2016). The brand is a key resource for the luxury organizations to give a symbolic dimension and emotional value (Riot et al., 2013). Luxury fashion companies are thus in need of a specific alignment between tangible and intangible characteristics, particularly in terms of operations, SC, and brand positioning.

2.1.2 Retail channel. In the fashion industry, demand chain is not only driven by brand and/or product characteristics, but it is also affected by some other crucial elements such as accessibility. Retail channel strategy is thus an important feature for luxury brands. To illustrate, in the past, shops were meeting points where the designers as well as the producers were to meet the consumer, whereas today, larger brands extend their retail activities (Riot et al., 2013). Moore and Birtwistle (2004) highlighted that a clearly defined brand positioning communicates a specific set of attractive brand values. Yet, it is pivotal to maintain a coordinated strategy whereby brand values to complement and to be complemented by retail chains.

In order to remain competitive in a globalized and turbulent market setting, companies are needed to match the configuration of their SCs with their strategic management orientation (Ponticelli et al., 2013). Earlier research also suggested that there is a strong association between the type of retailer and the type of supply network (Macchion et al., 2015). Rather than one-size-fits-all approach, there is a need to configure a SCM strategy through different contextual conditions. Thus, the retail side is required to be consistent with the company's objectives (Riot et al., 2013). An accurate implementation of SCM strategies cannot be excluded from the identification of context-specific variables (Ponticelli et al., 2013). Consequently, the success of a retail channel depends on the company's ability to execute its own strategy and operations. Therefore, if – in the considered retail channel – availability of a certain product/category is a relevant source of value for the targeted customer segment, "time compression" and flexibility through SC are needed. This requires retail and delivery alignment based upon "end-user focus."

2.1.3 Product. Product characteristics imply different requirements (e.g. a t-shirt and a gold – diamond bracelet are completely different in terms of bill of materials, manufacturing process, packaging, delivery requirements, etc.), and therefore they affect manufacturing and distribution processes directly (Brun and Castelli, 2008). Due to increasing consumer demands for product variety, design and functional innovation emerged as differentiating features within a single-product category. Changing fashion trends, shorter product life cycles, and fierce competition from low labor cost countries have distorted the industry's traditional business models. A balance appears to be a need amongst internal and external features and the company's supply network.

However, mass-market policy reduces the exclusive features of luxury brands, their esthetical distinction and their singularity. In order to create competitive advantage to remain unique, companies are required to execute SC processes very carefully to deliver

an efficient tailored response (Riot et al., 2013). As global competition intensifies, companies must think beyond traditional SC boundaries that emphasize operational efficiency and speed and therefore they need to embrace a value creation mind-set while designing and executing SC strategies. Thus, SC strategy must add value to the competitive strategy while contributing to meeting the strategic objectives (Robinson and Hsieh, 2016). All in all, the decisions on production and SC network design are becoming more and more important to obtain competitive advantage (Qi et al., 2017); henceforth, from a strategic SCM perspective, a SC design should be well aligned with product characteristics.

2.2 The relevance of a focused SC strategy

Childerhouse et al. (2002) described the development of focused demand chains over an extended period of time. The tactical question of which focused demand chain was appropriate for a specific product was explored, and consequently the study analyzed how the company transformed from operating in traditional SC to driving change through the engineering of four focused demand chains. Particularly, the authors proposed such different approaches depending on product characteristics. The DWV3 model established SC strategy segmentation based on five variables, including duration of lifecycle, time window for delivery, volume, variety, and variability. Despite the fact that four different SC configurations were coherently proposed through four different positioning of the decoupling and order penetration points, a wider consideration, encompassing retail channel and brand, seems required for theory extension.

Filling this observed gap, Brun and Castelli (2008) relied on a theoretical development and proposed a segmentation tree model for adopting a focused SC strategy based on three drivers, including product, brand, and retail channel. The "Fashion-Specific Model" explored the relative importance of different performance areas on at least one of abovementioned three elements. It was accordingly suggested that product, brand, and retail channel emerged to be driving different SC configuration and management strategies. Yet, the main limitation of this extended approach relied on its explorative nature. Considering the need for theoretical and normative validity, there appears to be a need for the definition of a set of explicit hypotheses pertaining to the impact of product, brand and retail channel on SC strategy, which must be tested via a proper investigation tool.

There is ample evidence suggesting that product, brand, and retail channel are drivers to compete in the fashion industry (Brun and Castelli, 2008). Nevertheless theory testing is required. Despite topic's growing relevance, earlier studies did not statistically contribute to this relation in the luxury context, nor a set of specific key performance indicators (KPIs) was tested. Yet, KPIs, beyond their objective of improving SC performance, could be the way to align the SC with business strategy. To this end, Table I displays the most significant SC performance attributes and corresponding metrics, which were utilized as principal foundations of this study's theoretical constructs.

Henceforth, starting from results as well as gaps emerged in the extant literature, the present study seeks to explain how and to what extent a focused SC could impact luxury fashion companies' competitive advantage, how such product, brand, and retail channel could affect SC performance areas, and how the positioning of a luxury fashion company, in terms of brand, retail channel and product type, could be antecedent to managerial attitudes pertaining to SC strategy. In this vein, under the overarching research question, which is "the implementation of a focused SC strategy could positively impact the competitive advantage of a luxury fashion company," the following hypotheses were formulated:

H1. Performance areas, pursuant to SC reference models proposed in the literature, are a coherent representation in operative terms of the strategic objectives of a fashion SC.

Performance attribute	Performance metrics	Reference
SC responsiveness	Order fulfilment lead times	Stephens (2001), Huang et al. (2005), Gunasekaran et al. (2001), Bhatnagar and Sohal (2005)
	On time delivery	Wong et al. (2011), Handfield and Bechtel (2002)
SC flexibility	SC response time	Huang et al. (2005), Stephens (2001)
	Production flexibility	Huang et al. (2005), Stephens (2001), Wong et al. (2011) Persson (2011)
	Upside and downside SC adaptability	
Delivery reliability	Delivery performance	Bhatnagar and Sohal (2005), Huang et al. (2005), Stephens (2001)
	Perfect order fulfilment	Huang et al. (2005), Stephens (2001)
	Lead time	Bhatnagar and Sohal (2005), Gunasekaran et al. (2001), Persson and Araldi (2009)
SC costs	SC management costs	Huang et al. (2005), Stephens (2001), Persson and Araldi (2009)
	Manufacturing costs	Gunasekaran et al. (2001)

Table I.
SC performance measures

H2. Key antecedents encompassing brand, retail channel, and product directly affect performance areas and the portfolio of SC strategies to be applied within a single fashion company, i.e. brand, retail channel, and product are the actual drivers for stating the objectives of a SC strategy.

H3. The triplet of brand, retail channel, and product affect SC differentiation choices according to a hierarchy, which could be represented through a "segmentation tree."

H4. The positioning of a company on a level of the segmentation tree (e.g. number of different SC approaches to be applied at the same time) depends on its management attitude toward strategy segmentation and considered stage of the SC.

On the whole, a position of enduring superiority over competitors with respect to customer preference could be achieved through better management of logistics and the SC (Christopher, 2011). Hence, logistics management plays a pivotal impact in the achievement of competitive advantage (Christopher, 2011). It is already demonstrated that in order to compete in highly competitive marketplace, there appears to be an urgent need to focus on SC strategy and align in toward CSFs of product and market (Caniato et al., 2009, 2011). Pursuant to strong demonstrations in existing literature, including the milestones of operations and SCM, good performances in said KPIs lead to good results. To illustrate, flexibility is the agility to respond to marketplace changes to gain or maintain competitive advantage (Castelli and Sianesi, 2015) because the concept of value is more and more related to the services that the SC can offer to the customer (Christopher et al., 2007).

Being truly competitive requires not only the appropriate manufacturing strategy but also an appropriate SC strategy (Christopher and Towill, 2000). Thus, it is considered that it is SCs that are competing, not companies. Network competition entails better structure, co-ordination, and relationship management with the partners in a network that is committed to better, closer, and more agile relationships with the final customers (Christopher, 2000). The entire process of supplying goods to the retail stores starts with cross-functional teams, encompassing product, brand and retail experts. Henceforth, it makes strong relevance and rigor to explain to what extent the implementation of a focused SC strategy could impact the competitive advantage. Subsequently, the following section aims to explain how the study was conducted.

3. Research methodology

Figure 1 depicts the research framework and what was performed at each stage. Step 1 consisted of the literature review leading to research hypotheses, as elaborated in the previous section. This was followed by Step 2 to explain the relevance and dependence of KPIs on SC configuration. To this end, 30 most frequently quoted KPIs were derived from earlier studies. Nevertheless, in order to rigorously conceptualize such KIPs, and to reach a consensus Delphi study was employed. Consequently, five industry experts were provided with the list of 30 KPIs and were, respectively, asked to list the most relevant KPIs. Subsequently, a final list of 17 KPIs (please refer to Table AI) was derived considering the key SC performance areas, including reliability, flexibility, responsiveness, costs, efficiency (based on the SCOR model), and marketing dimensions, including brand image and customer satisfaction. Successively, survey was designed to analyze the impact of strategic combinations of brand, retail channel, and product on SC strategies. Hypotheses were tested by means of a survey with a larger sample of Italian fashion brands. Survey results were analyzed through factor analysis (FA), where five principal components emerged to represent performance areas. ANOVA technique was then employed to explore the dependence amongst brand-retail channel-product and the key performance areas. The following section explains the details of survey design and result generation.

3.1 Design of the survey and the creation of the sample case "Fashion Co."

The test of the research hypotheses was carried out through a survey involving SC and operations managers of Italian fashion companies. An ad hoc questionnaire was designed in order to ask how they would match product, brand, and retail channel to strategic choices for a successful SC, and to what extent KPIs depend on SC strategy. The authors

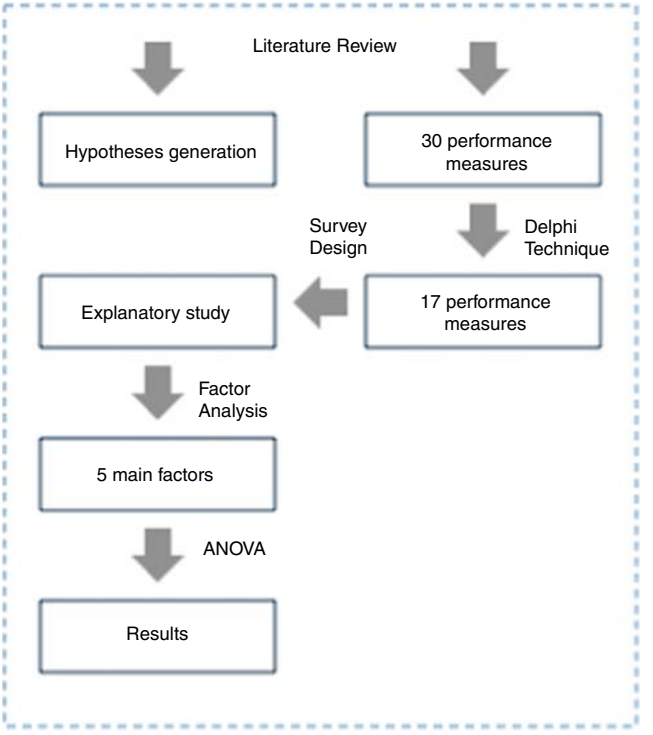

Figure 1. Research framework

opted for a sample case of a fictitious company ("Fashion Co.") to include all details, data and components needed for an entire assessment. Experts taking part in the survey were asked to read the description of Fashion Co., which manufactures different products under different brands and sells them through different distribution channels, as reported in Figure 2.

Not all combinations of brand, retail channel, and product were possible or making greater sense, but only those listed in Figure 2. The questionnaire was developed based on extensive experience of the authors studying a significant number of Italian fashion companies, enabling the case of Fashion Co. to be realistic and be aligned with the real needs of companies operating in this context.

3.2 Sample selection and data collection

The sample of interviewees consisted of SC and operations manager with proven experience in the luxury fashion market. At the time of the interview, experts were working in Italian manufacturing companies operating in a B2C sector, having production/distribution sites either in Italy or in other countries.

The survey was administered through a four steps approach:

(1) Contacting > 300 managers by phone call to introduce the research and to ask their interest.

(2) Sending the research presentation material to the interested people (> 100) in order to assure their knowledge and their interest about SCM topics.

(3) Afterwards (in order to keep the sample as accurate as possible), the survey questionnaire booklet was delivered only to those people who proved to be interested and competent. The booklet consisted of a short description of Fashion Co., the presentation of four different yet randomly chosen combinations of product, retail channel, and brand (within those available in Fashion Co.), and a list of 17 KPIs

BRANDS

TREND LINE	CLASSIC LINE	METROPOLITAN LINE
Modern brand	Established brand	"Young" brand, recently introduced
High variety	Low variety	High variety (models/colours)
High quality	High quality	Low margins
High margins	High margins	Short lifecycle
Short lifecycle (1 season)	Long lifecycle (>1year)	Innovative materials
Higher volumes	Lower volumes	

RETAIL CHANNELS

FACTORY OUTLETS	MONOBRAND BOUTIQUES	DEPARTMENT STORES
Owned by the company	Company-owned or franchising	Not owned by the company
Low margins	Low volumes	High volumes
Previous seasons collections	Identification with the company image	High bargaining power
		High number of substitutes

PRODUCTS

TIES	HATS	BAGS	SUNGLASSES
Simple product	Simple products	Simple product	Complex product
High volumes	Low volumes	High volumes	Mostly sold between April and September
Steady demand	Not predictable	High variety	Small number of models

	Monobrand boutiques			Department stores			Factory outlet		
	Trend	Classic	Metropolitan	Trend	Classic	Metropolitan	Trend	Classic	Metropolitan
Ties	x	x		x	x		x		
Hats	x	x		x	x		x		
Bags	x	x	x	x	x	x	x		x
Sunglasses	x	x	x	x	x	x	x		x

Figure 2. Combination of product, brand and retail channel for "Fashion Co."

to be rated through a Likert scale 1-4 (4 = very important; 1 = not important). All in all, 70 people (belonging to 70 different companies/institutions) received the questionnaire while 37 of them (53 percent) provided a complete and usable answer.

(4) Finally, personal interviews were conducted to acquire a deeper understanding and to guarantee a coherent interpretation.

That is to say, each respondent was regarded as an expert and analyzed four different cases. Hence, there exists a total number of $37 \times 4 = 148$ cases analyzed and consequently, a sample of 148 validated data sets was obtained. The number of data could be considered adequate for exploratory FA. Indeed, "strict rules for sample size in factors analysis have almost disappeared" and "a large percentage of researchers report factor analyses using relatively small samples" (Costello and Osborne, 2005). However, the subject to item ratio of the present research is higher than 10:1, which should provide a probability of having a correct factors structure close to 70 percent (Costello and Osborne, 2005).

4. Analysis and results

4.1 Performance areas for SC strategy (FA)

FA was conducted to reduce a wider set of KPIs listed in the questionnaire into fewer factors, which could represent the performance areas driving SC strategy. Principal components analysis (PCA) was used to determine the number of relevant factors that could synthesize the information contained in the original data (Velicer and Jackson, 1990). Maximum likelihood (Fabrigar *et al.*, 1999) method was utilized for factors extraction. Factors with eigenvalue > 1 were retained as relevant (Velicer and Jackson, 1990), and the scree test was used to confirm the accuracy of the number of factors (Costello and Osborne, 2005).

Subsequent to the identification of the number of factors, FA with varimax rotation, allowing the best simplification and clarification of the data structure compared to other rotation methods, was applied to understand to what extent the different KPIs listed in the questionnaire could contribute to each of the factors extracted. PCA of the collected data shows the existence of five relevant factors, as displayed in Table II, explaining 73 percent of the overall information. Note that 5 represent a reasonable number of factors with reference to both the theory and practical use.

The subsequent FA, as displayed in Table III, allowed a rational identification of the five factors by connecting each of them to the single performances listed in the questionnaire and evaluated by the respondents. Items with a factor loading (FL) higher than 0.5 were retained as factor's components.

All the items with a FL higher than 0.5 were retained as components of the factors, and the very limited overlapping between different factors was noticed due to the varimax rotation. The items included in each factor provide a meaning to the factor itself, as explained in the following interpretation (also supported by the information obtained during step 4 of data collection).

Factor 1: reactivity. Reactivity can be defined as the ability of acting quickly in response to market requests. This factor registers high positive loadings for KPIs "on time deliveries from suppliers," "short lead times in deliveries from suppliers," "short production lead times," "time flexibility," hence reflecting the importance of time-related performances, especially in the upstream side of the SC. The presence of items such as "low stock level for final products" suggests that, in addition to the ability of reacting quickly to the market, short lead times and punctuality can also help reducing final products inventories.

Factor 2: (lack of) dependability (high negative FL). Choices along the SC could contribute to building and supporting a valuable company/product image. This second factor is called lack of dependability due to the negative FL for items "compliance of components received

Table II.
Principal component analysis results

Principal components – eigenanalysis of the correlation matrix																	
Eigenvalue	*5.4566*	*3.1207*	*1.5142*	*1.2986*	*1.0436*	0.739	0.6407	0.5107	0.4948	0.4252	0.4196	0.3403	0.284	0.2116	0.2047	0.1788	0.1168
Proportion	0.321	0.184	0.089	0.076	0.061	0.043	0.038	0.03	0.029	0.025	0.025	0.02	0.017	0.012	0.012	0.011	0.007
Cumulative	0.321	0.505	0.594	0.67	*0.731*	0.774	0.812	0.842	0.871	0.896	0.921	0.941	0.958	0.97	0.982	0.993	1

Table III.
Factor loadings (FL) and factor score coefficients (FSC)

	Factor 1		Factor 2		Factor 3		Factor 4		Factor 5	
	FL	FSC	FL	FSC	FL	FSC	FL	FSC	FL	FSC
1. Compliance of the components received from suppliers	0.233	0.087	*−0.798*	−0.265	−0.061	−0.097	0.046	−0.021	−0.019	0.063
2. On time deliveries from suppliers	*0.627*	0.259	−0.477	−0.099	0.189	−0.069	0.174	0.155	−0.135	0.013
3. Short lead time in deliveries from suppliers	*0.796*	0.352	−0.162	−0.029	0.141	−0.134	−0.195	−0.025	0.103	0.154
4. Low cost workforce	0.127	−0.029	*0.524*	0.142	0.467	0.308	−0.171	0.002	0.397	0.341
5. Low stock level for final products	*0.539*	0.166	0.011	0.005	0.106	−0.182	*−0.65*	−0.335	−0.227	−0.141
6. Low stock level for raw materials or components	0.054	−0.092	0.168	−0.018	0.074	−0.045	*−0.907*	−0.538	−0.009	−0.025
7. Flexible production system	0.345	−0.045	−0.257	−0.111	*0.51*	0.166	−0.497	−0.252	−0.068	0.075
8. Exchange demand information with the supplier	0.252	−0.087	−0.242	−0.085	*0.683*	0.349	−0.087	0.01	0.027	0.181
9. Short production lead times	*0.761*	0.283	0.027	0.047	0.329	−0.027	−0.296	−0.051	0.103	0.125
10. Modular product structure	0.187	−0.143	0	0.014	*0.766*	0.372	−0.135	−0.004	−0.191	0.004
11. Time flexibility	*0.721*	0.279	0.199	0.151	0.352	−0.053	−0.073	0.108	−0.284	−0.165
12. Mix flexibility	0.273	−0.023	0.297	0.162	*0.657*	0.26	0.203	0.197	*−0.506*	−0.201
13. Ability to customize the product	−0.012	−0.118	−0.148	0.016	0.151	−0.076	−0.134	−0.105	*−0.872*	−0.622
14. Quality/compliance of the product	−0.025	−0.062	*−0.823*	−0.29	−0.049	−0.031	0.015	−0.075	−0.085	0.005
15. Reflect brand image	0.413	0.148	*−0.578*	−0.135	0.225	0.026	0.344	0.228	−0.149	0.012
16. Relationship management	−0.165	−0.259	*−0.759*	−0.295	0.375	0.275	−0.071	−0.105	−0.016	0.122
17. Flexible suppliers	0.367	0.008	−0.225	−0.1	*0.503*	0.108	−0.018	0.043	*−0.524*	−0.264

from suppliers," "quality/compliance of the product," "reflect brand image," "relationship management," e.g. elements that reveal the commitment in building a positive image in the mind of the consumer; the factor is also positively correlated to "low cost workforce," which is typically in antithesis to excellent product quality and does not positively affect a company's image.

Factor 3: flexibility. Flexibility is the ability of the whole SC to adapt to changes in short times and with low extra costs. The items correlated to this factor ("flexible production systems," "share demand information with the supplier," "modular product structure," "mix flexibility") can be easily associated to SC flexibility; these elements reflect endeavors to create a flexible, adaptable SC, especially in the downstream part.

Factor 4: (lack of) leanness. A lean SC is characterized by low inventory levels for a smooth and streamlined flow of materials along the chain; items negatively correlated to this factor are "low stock level for final products" and "low stock level for raw materials or components." In the fashion industry, the problem of stock management is of paramount importance in every stage of the SC.

Factor 5: (lack of) customization. This factor has negative correlation to those aspects allowing adaptation the product to specific customer's requirements: "mix flexibility," "ability to customize the product," "flexible suppliers." Customization, indeed, is often quoted as one of the main areas where competitive advantages in the fashion market can be achieved throughout the SC.

4.2 Dependence on brand, retail channel, and product

All factors identified were calculated for the various combinations of brand, retail channel, and product, which were taken into account by the interviewees. ANOVA analysis was then applied to the values obtained with an attempt to assess the dependence of the aforementioned five factors on each element. The value of each factor was calculated on the basis of factor score coefficients reported in Table II. Thenceforward, they were normalized into a 1-100 scale to achieve homogeneity and comfortable comparability. For those factors that expressed "lack of something," the complementary values were calculated and used in the ANOVA to increase the ease of interpretation. The criteria fixed for accepting the hypothesis of dependence between an element of the triplet and a factor was the following: accept hypothesis of dependence when p-values for both ANOVA and test for equal variances (Levene's test) are lower than 0.10.

4.2.1 Dependence on brand. The results of the ANOVA pertaining to the dependence on brand are summarized in Table IV.

Dependence on brand emerged for the factors "Dependability" (p-value = 0.000) and "Leanness" (p-value = 0.000), despite the latter was not supported by the test for equal variances. As Figure 3 displays, dependability-related performances received a higher attention in the case of strategic brands where company name was explicitly associated within the brand. Pertaining to this category, results could recommend that established

	Means for different brands:				
	Classic line	Trend line	Metropolitan line	ANOVA p-value	Test for equal variance (p-value)
Reactivity	49.63	54.86	51.57	0.211	0.561
Dependability	69.74	60.24	56.81	0.000	0.023
Flexibility	54.75	52.03	54.96	0.526	0.932
Leanness	43.19	55.94	48.46	0.000	0.603
Customization	52.02	49.47	48.84	0.464	0.537

Table IV.
Dependence on brand

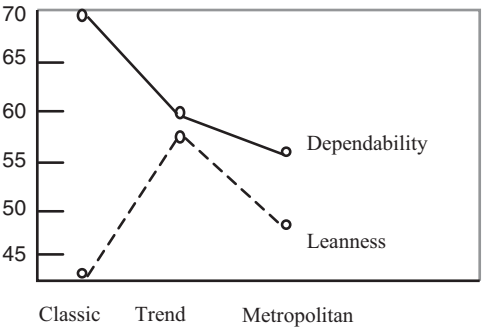

Figure 3.
ANOVA results for the dependence on brand

yet highly strategic plans could be deployed, such as periodical refresh. Furthermore, reputation and dependability-related aspects were observed becoming weaker for emerging and/or more recent brands. In this vein, it was found that, for non-core brands, the brand portfolio could even be modified over time depending on the market success obtained. Lastly, another noteworthy aspect emerged from the data could suggest that "Leanness" could become more critical for the collections encompassing higher fashion contents, e.g., more variety, shorter lifecycle, as higher fashion contents entail rather more critical stock management processes.

4.2.2 Dependence on retail channel. The results of the ANOVA for the different types of retail channel are summarized in Table V.

The relevance of the factors "Dependability," "Flexibility," and "Customization" significantly depends on distribution channel type, as ANOVA results displayed in Figure 4.

What emerged was that the increase in terms of the number of the point of sale associated with the brand escalated the importance of dependability-related practices throughout the SC. In this vein, the data confirmed that the alignment with the desired dependability had a paramount importance for monobrand boutiques while it was less

Table V.
Dependence on retail channel

	Means for different retail channels:				
	Factory outlet	Monobrand boutique	Department store	ANOVA *p*-value	Test for equal variance (*p*-value)
Reactivity	48.91	54.35	52.11	0.183	0.816
Dependability	53.61	68.67	64.35	0.000	0.000
Flexibility	49.96	52.98	58.74	0.006	0.100
Leanness	51.35	47.23	48.14	0.401	0.276
Customization	44.24	51.22	54.57	0.001	0.100

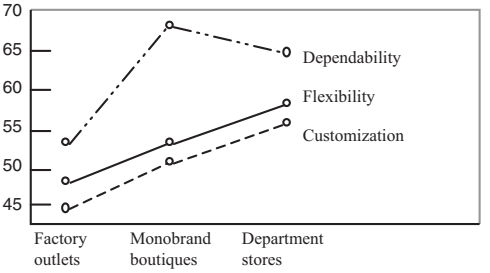

Figure 4.
ANOVA results for the dependence on retail channel

important for factory outlets. To illustrate, the entire product collection (in particular the season's "must-have"s) must be available in monobrand boutiques despite the risk of a relatively bad stock performance. In contrast, the expected best sellers must be proposed (and quickly replenished upon request) to department stores. The finding also suggested that "leanness" objective did not necessarily vary with the retail channel. Flexibility- and customization-related performances, on the other hand, were observed becoming more critical as channel margins grew. In particular, point of sales that are not owned by the brand, e.g. big department stores, increased the competition and ensuring a high service level has become an essential factor to stay competitive against the competitors. To this end, offering in-store personalization opportunities could represent a winning choice.

4.2.3 Dependence on product. The values of each factor were calculated and put into relationship with the product type associated with each of the combinations. The ANOVA results pertaining to product type are displayed in Table VI.

A significant p-value for four factors was unveiled. A fully reliable dependence on product results for the performance areas "Flexibility" (p-value = 0.016) and "Leanness" (p-value = 0.057), while the test for equal variances for the performance areas "Customization" (p-value = 0.007) and "Reactivity" (p-value = 0.001) results in a value higher than 0.1. However, the latter does not constitute a significant problem since groups were of equal sample size. In this vein, the homogeneity of variances assumption was not strictly necessary.

As shown in Figure 5, the performances related to the factor "Flexibility" require less attention for the products characterized by simple structure, low number of variants and stable demand, such as the case of ties. In contrast, this factor becomes critical for all other product categories, including bags, sunglasses, and hats all of which require a quicker flow in the downstream. For example, an Italian leather goods manufacturer could keep the production in-house for its signature products, or it could delocalize its assembly operations to low labor cost countries for the products not constituting luxury components.

As for the factor "Leanness," the importance of keeping low stock levels increases for products with low selling volumes, especially when they are complex. It is interesting to notice that the second highest level of the factor "Leanness" is registered for "sunglasses," a product typically completely outsourced by fashion companies. The control of product stock

	Means for different product types:					
	Bags	Ties	Sunglasses	Hats	ANOVA p-value	Test for equal variance (p-value)
Reactivity	45.48	52.40	56.84	57.55	0.001	0.385
Dependability	58.76	64.95	62.01	64.42	0.303	0.000
Flexibility	56.45	49.28	57.17	56.92	0.016	0.010
Leanness	43.94	49.53	51.73	53.72	0.057	0.074
Customization	45.40	50.79	56.66	49.87	0.007	0.305

Table VI. Dependence on product

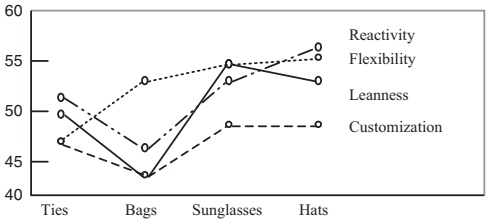

Figure 5. ANOVA results for the dependence on product

levels is also important due to the unit value of these items paid by the fashion company. The unit value is typically higher for completely outsourced items compared to the ones manufactured internally or outsourced partially. In contrast, efficient stock management is less relevant for the product "bags," because (among other reasons) this product type could be still sold through a number of discount channels, such as factory outlets and online sales portals, after the season. Coherently, "bags" is the product category for which the performance "reactivity" results less important, which confirms the classic antithesis between "lean" and "responsive."

Lastly, it was observed that the relevance of the factor "Dependability" does not vary significantly depending on product type: this suggests that, when dependability becomes a critical success factor, the SC has to be appropriately aligned to the desired reputation regardless of product characteristics.

4.3 Managerial attitudes toward a focused strategy

A further analysis was conducted to test the respondents' attitude toward SC differentiation. Consequently, three clusters emerged according to managerial attitudes toward a focused SC strategy. The respondents were then re-contacted in order to ensure their conformity in terms of the category they were assigned to. Further, they were asked to explain the reasoning behind their answers. Whilst compiling the survey, each respondent was requested to compare four different combinations of brand, retail channel, and product. What emerged is as follows:

- Two managers gave the same answer for all combinations. This was named "indifferent" because, in their opinion, any differentiation was considered a waste of resources.
- In total, 15 managers grouped the four combinations into two alternative paths. These were classified as "moderate." They recognized the need for a focused SC strategy, but they suggested applying it depending on only one factor so as to avoid excessive complexity. Within this group, seven managers differentiated the SC based on product, while five did it according to retail channel and three on brand.
- In total, 20 managers provided four different paths to pursue. This category was called "differentiation oriented," because they consider that each combination should be approached through a differentiated SC approach. When asked, most of them addressed product type as the main differentiation element.

4.4 A focused SC strategy to fit fashion companies

H1 was supported by results of the FA. Correspondingly, all performance constructs, including reactivity, dependability, flexibility, leanness, and customization emerged as significant areas for fashion SCs to obtain competitive advantage. These factors represent the objectives that fashion companies must explicitly pursue through their operational cognitions.

Besides, ANOVA results proved that dependence exists between SC requirements and features of brand, retail channel, and product (*H2*). This finding is aligned with what earlier studies addressed (Brun and Castelli, 2008; Childerhouse *et al.*, 2002), that is, the main antecedents, namely brand, retail channel, and product directly affect the performance areas and the portfolio of SC strategies. SC strategy within a fashion company could be segmented based on one, two, and/or all these three factors. The analysis also indicated which performance areas would be more connected to aforementioned three factors. It is thus pivotal to carefully select how to apply different choices according to business priorities depending on the degree of the influence on the performance.

It was also emerged that the specific dependence observed among brand, retail channel, and product and said five performance areas is not generalizable, but derives from the case company: a different company would probably experience different configuration (e.g. product type influences the company's performance objective in the leanness and reactiveness areas, but its SC would not necessarily be more lean for bags than the SC for hats)

It is worth highlighting that the specific dependence observed amongst brand, retail channel, and product, and each of the five performance areas is not generalizable. However, what was derived from the case company suggested that a different company would probably experience different configuration, for example, product type could influence the company's performance objectives in the leanness and reactiveness areas, but the SC would not necessarily be more lean for bags than the SC for hats.

In contrast with the initial hypothesis (*H3*), a clear and general hierarchy among the three analyzed factors does not emerge from the statistical analysis. Hence, these factors probably assume a different importance in each company, for instance managers' intuition as well as managerial attitudes toward which element would be more important vary. Yet, this aspect presents an avenue for a further understanding, which is to be explored in a future study. The respondents' profile analysis, on the other hand, showed an inclination to segment the SC based on product. This contrasts with the earlier research (Brun and Castelli, 2008) suggesting that brand was to be the most relevant driver.

In addition, the survey results showed that the segmentation tree could be drawn not only in terms of a general hierarchy of factors affecting SC strategies, but also in terms of managerial attitudes toward SC segmentation. The positioning of a company on such a segmentation tree could depend on the presence of a portfolio of different products, retail channels, and brands, as well as on the managers' attitudes toward a focused SC strategy (*H4*). Figure 6 correspondingly displays the segmentation tree.

5. Discussion

This study provides concrete model for a focused SC strategy in companies operating in the high-end fashion market. Based on the statistical analysis, the results gave evidence for *H1*, *H2*, and *H4*. FA showed how a SCM strategy could be expressed in terms of operational performance areas. ANOVA, on the other hand, showed that the relevance of those performance areas would actually depend on the characteristics of brand, retail channel, and product. This could suggest that different combinations of brand, retail channel, and product within the same company must preferably correspond to different SCM strategies.

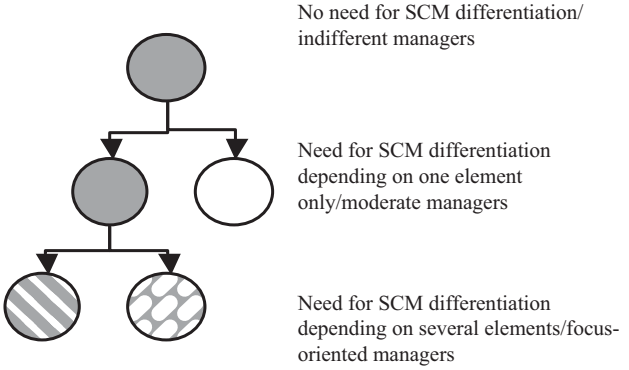

Figure 6.
Resulting segmentation tree

To further elaborate the course, it could be stressed that operational performance areas of reactivity, flexibility, leanness, and customization had reliable dependence on product. For instance, short lead times, and functionality must be assured to reduce the final product inventories. Performance areas associated with time, especially in the upstream configuration, were found holding a great significance. Furthermore, SCs are required to get structured in a flexible and an adjustable way to increase the ability of adopting context. Flexibility and leanness were observed essential to tackle the stock problem. Another fundamental factor, that is customization, was considered important, as it has been one of the main areas where competitive advantage could be achieved. It was analyzed that flexibility required less attention for the products that were categorized by a simple structure with a stable demand, nevertheless it became more challenging to ensure a quick product flow in the demand chain.

As for leanness, it could be stressed that the importance of keeping low stock levels would increase for products characterized by low selling volumes, and a complex nature. However, efficient stock management was observed less crucial for the product categories, such as bags, as they could be sold after the end of the season through a number of discount channels. Regards to dependability, one interesting finding emerged could suggest that reputation did not significantly depend on the product type. With respect to the dependence of performance on retail channel, significant standpoints emerged. When sale points became more, reputation was given a higher importance, so were the corresponding practices along the chain. In addition to dependability, flexibility and customization emerged as other important variables for retail channels. As for the dependence on brand, dependability and leanness were considered significant. Greater attention was prioritized for dependability-related performances for strategic established brands, hence it was important to define action plans. The values observed for leanness stress that when the fashion contents of products became more, the stock management process became more critical.

6. Conclusion

Considering all these aforementioned considerations, it could be articulated that a differentiated SCS must be established in the fashion industry. While most of the participants ranked the product as the main differentiator, it was demonstrated that SCs could be segmented either on the basis of one, two, or three factors. However, often, full SC segmentation cannot be implemented due to excessive managerial complexity. Nonetheless, segmentation based on only one element could also be applied to ease the circumstance. This would mean that there is an importance of hierarchy within the three factors, and the most relevant one seems to be the product, followed by retail channel and brand. Though, the number of companies involved in the study is not sufficient to develop a normative model for SCM strategy differentiation.

The present research could be considered a first significant step toward SC segmentation for fashion companies. Conversely, it would be of great interest to perform deeper investigation of the practical implications of the dependence of SC objectives on aforementioned antecedents. More detailed indications about which SC choices would depend on which drivers could be further investigated via a more appropriate methodology to be applied to a larger population of fashion companies. Certainly, SC segmentation has been considered in very general terms, hence a natural development could be the translation of performance areas into specific configuration and operations choices. Finally, a very interesting development could derive from applying the survey on SC performance objectives to real cases of fashion companies in order to find out differences and commonalities of the drivers-performances relationship on the basis of – for instance – brand positioning (mass – premium – luxury), company's country of origin (e.g. Italy or France vs low labor cost countries), target geographical market

(e.g. traditional or emerging), and specific industrial sector (apparel, leather, jewelry, watches, accessories, and furniture). Undeniably, SC strategies represent a very relevant issue for fashion companies and further research in the area could contribute to provide support to managerial choices.

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Appendix

	Assigned combination			Scale			
Corresponding measures for Fashion Co.	Brand name TBD	Retail channel TBD	Product type TBD	1 Negligible	2 Not very relevant	3 Relevant	4 Very relevant
1. Compliance of the components received from suppliers							
2. On time deliveries from suppliers							
3. Short lead time in deliveries from suppliers							
4. Low cost workforce							
5. Low stock level for final products							
6. Low stock level for raw materials or components							
7. Flexible production system							
8. Share demand information with the supplier (Castelli *et al.*, 2009)							
9. Short production lead times							
10. Modular product structure							
11. Time flexibility							
12. Mix flexibility							
13. Ability to customize the product							
14. Quality/compliance of the product							
15. Reflect brand image							
16. Relationship management							
17. Flexible suppliers							

Table AI.
Sample questionnaire