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## Logistics and supply chain management in the luxury industry

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### A B S T R A C T

This special issue explores new practices and applications in logistics and supply chain management for luxury goods. This editorial note summarizes the discussions on different important topics, including sustainability, sourcing, advertising, behavioral consideration, product sharing, and channel management among other aspects.

### 1. Background and motivation

Luxury is an industry attracting the attention of practitioners, investors, and researchers owing to its large size, fast growth, and alluring margins (Chiu et al., 2018). Worldwide, the overall luxury market size in 2019 was worth approximately 1.2 trillion euros, with about 4 percent growth every year (McKinsey, 2019). In today's globalized economies and markets, luxury goods are manufactured through very complex supply chains that extend globally (Kathiala, 2020) and involve numerous players, including a multitude of small-scale, highly specialized suppliers closely controlled by large brand owners (Brun and Moretto, 2014). For example, raw materials originate from one country and are processed in another (e.g., leather from Latin America or Australia may be tanned in Italy) and then final products are assembled in factories in Asia and distributed worldwide to customers. In the luxury industry, logistics and supply chain management (LSCM) is crucial for business success (Brun et al., 2008). In this globalized scenario, luxury companies face unprecedented challenges due to not only the respective supply chain complexity but also volatility in consumer tastes and spending, shortened product life cycles, growing need for international compliance, and customer demands for sustainability and transparency. These challenges are waiting to be addressed, but the new challenges brought by the COVID-19 outbreak unexpectedly arrived (Choi, 2020; Govindan et al., 2020; Ivanov, 2020).

The global outbreak of COVID-19 would have a dramatic impact on luxury supply chains (Achille and Zipser, 2020). In the carousel of city lockdowns all around the world, luxury companies have to face supply chain delays, factory and store closures, trade show and fashion week cancellations. Other issues, such as the rise of Internet sales, fall of travel-related shopping, problems with long-term business agreements, also arise. All these comprise an unprecedented scenario dominated by uncertainties and an impossibility to forecast on what will happen in the near future (Biondi, 2020). Uncertainties include supply and demand uncertainties, which lead to a domino effect in which decreases in retail sales lead to deterred payments to suppliers, factory closure leads to order cancellations, and eventually, the entire supply chain would be disrupted. In this situation, the smaller actors upstream in the supply chain often bear the worst consequences, with many employees made redundant or the companies even faced with bankruptcy (Shen and Li, 2017). The

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joint impact of the domino effect moving upstream and the non-synchronized timing of lockdowns around the world was enormous. Stores in Asia reopened earlier than in other parts of the world while online shopping almost never stopped (Kathiala, 2020). This situation poses a massive challenge for supply chain managers and planners, whose (partial) solution demanded accepting compromises such as 1) extending the presence of Spring-Summer collections in-store well into the months traditionally dedicated to early sales of the Fall-Winter collections (to sell out a part of the hugely unsold stock), 2) skipping the launch of some collections, and 3) creating new collections largely based on color variations of models of previous collections or avoiding new materials (to reduce time to market and allow the creative team to work at a distance). In the post-pandemic era, luxury supply chains may need to take several years to regain their lost equilibrium and recover their sales and resilience (Achille and Zipser, 2020).

Studies on the luxury industry in sectors such as marketing have been established for several decades. While the focus on LSCM in the luxury industry is relatively new, it is a rapidly growing area of academic interest. We examine some related studies in the literature. Brun et al. (2008) empirically examine the operations and supply chain strategies in luxury fashion by interviewing 12 Italian luxury fashion retailers. They find that the fashion brand owners are more likely to impose control over supply chains and integrate the upstream and downstream members. Brun and Castelli (2008) dissect the supply chain of three Italian fashion luxury brands to show the impact of three segmentation variables (i.e., product, distribution channel, and brand) on the correct definition of a “focused” supply chain strategy. Caniato et al. (2011) conduct a case study with 15 Italian luxury companies and classify different types of the luxury supply chain by using company size, selling volume, product complexity, product fashionableness, and brand reputation. Tereyağoğlu and Veeraraghavan (2012) analytically examine the impacts of conspicuous consumption on the production and sourcing for luxury products. They develop a model in which pricing and production decisions are interplayed using a rational expectation framework. Their results recommend that luxury firms should adopt a scarcity strategy to improve profits. Shen et al. (2017) develop an analytical model and evaluate the impact of demand changes on a luxury fashion supply chain with social influences. They find that if the effect of social influences is more significant in luxury fashion, then the supply chain will provide better services to the fashion leader group of consumers than to the follower group.

Recently, several studies on logistics and supply chain management in the luxury industry have focused on exploring the value of supply chain information and visibility. For instance, Choi (2019) uses blockchain to address the transparency issue. He develops an analytical model to evaluate the impacts of “blockchain technology-supported platforms” for diamond authentication and certification. He finds that reducing the cost of the blockchain technology platform can improve supply chain efficiency and diamond authentication in the luxury supply chain. Karaosman et al. (2020) examine the importance of sustainability in luxury fashion supply chains. They conduct a “qualitative in-depth interview approach” with 10 luxury fashion firms and find that transparency is a critical area that is not well explored in the literature. Shen et al. (2020a) examine the impact of updating demand information obtained from pre-orders on the supply chain performance in a luxury fashion context characterized by conspicuous consumption. They find that updating of pre-ordering information may not be beneficial to the retailer because of the increased wholesale price.

Emerging operations models are also analyzed in literature. Brun et al. (2016) describe a new operations model called “See Now, Buy Now” (SNBN) and discuss the requirements for its applicability in the luxury fashion industry. Shen et al. (2020b) compare the impact of social media exposure between SNBN and the conventional operations model “See Now, Buy Later” (SNBL). They propose that some luxury fashion brands such as Gucci should consider selling the classic products without social media exposure by SNBL, whereas some other luxury fashion brands such as Burberry should actively explore the options of selling the low holding cost products by SNBN.

## 2. Insights on LSCM in the luxury industry

This special issue publishes original research on LSCM in the luxury industry. We have selected nine research articles to be included in this special issue. They are introduced in the following.

Hou et al. (2020) analytically explore whether it is effective to adopt a fighter brand as the luxury manufacturer’s deterrence strategy in combating the copycat product. By using the game theory approach, the authors consider a luxury brand manufacturer that sells an original product and explore a market which includes a manufacturer and a potential copycat firm. The copycat firm decides to enter the marketplace and the manufacturer reacts by deciding to use a fighter brand to deter copycat entry. The results indicate that a fighter brand should be launched when the copycat product has low resemblance to the manufacturer’s original product. If the manufacturer adopts a fighter brand, then the copycat has a lower likelihood to enter the market.

Wang et al. (2020) conduct a systematic literature review on the phenomena of gray market and the issue of counterfeiting. The authors examine the approaches in analytical and empirical research on gray market and counterfeiting. Their findings reveal that most existing analytical research on gray market and counterfeiting explores how a single manufacturer decides on pricing in the presence of gray market/counterfeiting. Most existing empirical research on counterfeiting examines the purchase intention of consumer for luxury products, and most existing empirical research on gray market focuses on a few industries only.

Zhang et al. (2020) consider a luxury supply chain in which there are one manufacturer and one retailer selling luxury products to final consumers. Consumers are categorized as “snobs” or “conformists”. There is an uncertainty about the consumers’ preferences toward the products. The manufacturer can get a signal privately according to the consumers’ preference, but not the retailer. The authors construct a signaling game to study how the social influences and information program affect the decisions on price setting and “market-targeting” strategy. They find that the retailer always prefers the “manufacturer’s information sharing” scenario. However, the manufacturer may be better off from either the scenario without information, the scenario with private information, or the scenario with information-sharing which is dependent of its “market-targeting” strategy.

Wei and Li (2020) examine the distribution channel strategy of luxury firms and its impact on consumers’ behavior and firms’

operational decisions. They develop a stylized model with a luxury firm offering a fashion product and classify consumers into “store-only” and omni-channel preferences. The conspicuousness attitude of consumers is modeled as a negative externality and linear to the expected total demand in the marketplace. The firm’s operational decisions (i.e., price, stock level, and availability rate) are reduced with the omni-channel selling mode when comparing with those decisions with the “store-only” selling mode.

Choi and Liu (2019) conduct an analytical study on the “optimal advertisement budget allocation” strategy and examine how to coordinate the channel when the brand provides high-end and low-end products. They find that irrespective of risk attitudes of the luxury fashion brand, the “optimal advertisement budget allocation” is a polarized strategy. The risk attitude of the luxury fashion brand is a critical factor when coping with the coordination problem with both high-end and low-end products.

Niu et al. (2020) theoretically examine the production outsourcing decisions of multinational luxury brands by formulating the trade-off between low cost and consumers’ strong “country of origin” preferences. They find that if one luxury brand outsources its production to a manufacturer in developed countries, when the “country of origin” preference of the consumer is not significant and downstream competition is intense, then it is better for its competitor to outsource production to a manufacturer located in developing countries.

Feng et al. (2020b) develop a conceptual framework of sustainable practices and stock performance among luxury firms by using the event study approach. The authors identify three moderating factors at both institutional and firm levels, including amplifying institutional norm, firm size, and profitability. They find that the stock market negatively responds to luxury firms’ disclosure of sustainable practices adoption. The amplified institutional norm of sustainability weakens the decreased stock performance of sustainable practices among luxury firms. Luxury firms with small firm size and high profitability suffer less from the stock performance after disclosing the “sustainable practices adoption”.

Feng et al. (2020a) develop a stylized model with a luxury fashion brand firm, a rental platform, and a continuum of consumers. They study how the business-to-consumer product sharing affects the judgement of the luxury fashion brand firm and investigate the optimal contract preference between the brand firm and the platform. Results demonstrate that under either a wholesale pricing contract or an agency contract, the “market expansion effect” caused by the existence of a rental platform dominates the “cannibalization effect”. As a result, the brand firm can benefit from the emergence of the rental market.

Asian et al. (2020) investigate a novel “flexible contractual mechanism” by coupling the basic trade credit with the “minimum order quantity contract” between a supplier and a loss averse wholesaler under trade disruption. They analytically examine the separate and joint impacts of social influence and loss-aversion on the optimal decisions. In addition, they study the mechanism for “win-win coordination” within a luxury sporting goods supply chain. The results find that channel coordination is more likely to be achieved when both social influence and behavioral bias factors are considered.

## CRedit authorship contribution statement

**Bin Shen:** Writing - original draft. **Stefan Minner:** . **Hau-Ling Chan:** Writing - review & editing. **Alessandro Brun:** .

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