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Author(s): Maya F. Farah, Zahy Ramadan, Wissam Sammouri & Patricia Tawk

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# Digital Luxury Fashion Shows: Leveraging Interactive Marketing Opportunities through Social Media Sentiment Analysis

**Maya F. Farah\***

Adnan Kassar School of Business, Lebanese American University, [mfarah@lau.edu.lb](mailto:mfarah@lau.edu.lb)  
Professor of Marketing

**Zahy Ramadan**

Adnan Kassar School of Business, Lebanese American University, [zahy.ramadan@lau.edu.lb](mailto:zahy.ramadan@lau.edu.lb)  
Associate Professor of Marketing,

**Wissam Sammouri**

Adnan Kassar School of Business, Lebanese American University,  
[wissam.sammouri@lau.edu.lb](mailto:wissam.sammouri@lau.edu.lb)  
Assistant Professor of Marketing,

**Patricia Tawk**

Olayan School of Business, American University of Beirut, [pmt01@mail.aub.edu](mailto:pmt01@mail.aub.edu)  
Graduate Student

## Abstract

Luxury brands have been hesitant to embrace social media to a full extent; yet, the COVID-19 pandemic prompted many companies to accelerate their adoption of digital strategies. For the first time, fashion show presentations of new collections were reinvented to be virtually streamed. This innovative shift entails an urgent examination of consumers' sentiment vis-à-vis digital fashion show videos streamed on each of the main social media platforms, namely: YouTube, Instagram, and Facebook. Sentiment analysis using supervised machine learning and lexicon-based were employed to test and identify the classification of 21,424 comments conveyed towards the different types of fashion shows. Five different types emerged from the examination of all scraped comments; (a) show configuration, (b) emotional connection, (c) geographical tagging, (d) referral/tagging, and (e) collection related. This paper is amongst the first to examine consumers' sentiment towards digital fashion shows. The literature related to digital strategies based on the sentiment analysis conveyed towards luxury fashion shows is still nascent. This study fills a considerable gap in the literature regarding marketing strategies to be adapted per digital channel for luxury fashion runways.

**Keywords:** Luxury brands; digital fashion shows; social media; sentiment analysis

## 1. Introduction

Luxury fashion brands have always resorted to shows to present their collections in a way that guarantees an enjoyable experience to their customers. These shows are typically expected to reinforce the bond with the brand's audience. Brands set their runways in a way that reflects emotions, heritage, craftsmanship and uniqueness. The COVID-19 pandemic forced luxury brands to change their approach to adapt to the new digital normal. This represented a turning point for luxury brands which found themselves with the conundrum of replicating the bond that they had with consumers in real-life catwalks to the digital environment. Luxury brand managers can no longer control consumer perceptions (Granot *et al.*, 2013) due to the very dynamic nature of digital platforms that are empowering consumers to freely share their opinions through open consumer-to-consumer communication. As a counteractive measure, luxury brands have to adopt digital marketing strategies that would effectively showcase the collections through the proper digital channels (Ramadan & Nsouli, 2021).

To the best of the researchers' knowledge, this paper is amongst the first to examine consumers' sentiment towards digital fashion shows. The literature related to digital strategies based on the sentiment analysis conveyed towards luxury fashion shows is still nascent. Accordingly, this study fills a considerable gap in the literature regarding marketing strategies to be adapted per digital channel for luxury fashion runways. Therefore, the aim of this study is to assess the sentiment conveyed by audiences towards digital luxury runways and propose a relevant set of strategies per digital channel to be adopted by luxury fashion brands. The objective of this work is hence to assess the audience sentiment vis-à-vis digital fashion show videos streamed on each of the main social media platforms, namely: *YouTube*, *Instagram*, and *Facebook*. This research is expected to expand the current scope of the digital marketing strategy related to digital luxury runways.

## 2. Literature Review

The advent of fashion ushered in a modern era in which a need for innovation, coupled with rapid shifts in taste, upended a long history of well-established dressing habits and the value placed on clothing. Before the introduction of social media, designers and fashion houses were the ones who determined what was shared to the public, always reinforcing the exclusivity aspect of fashion shows (Wang *et al.*, 2022). The attendance of these shows was limited to an elite society whose members received exclusive invitations. The acceleration in internet penetration and social media usage allowed fashion designers to expand their visibility and reach to a wider and more international audience base (Zhao & Min, 2019). With digital fashion shows, the emotional connection with the brand became amplified, with customers having the opportunity to feel immersed in the entire journey (Farah *et al.*, 2022).

### ***2.1 Fashion brands' digital strategy***

Fashion shows represent a powerful marketing communication tool for luxury brands because of their effective and relevant content. Their effect is amplified by digital platforms that are expected to drive luxury brands' market opportunities. Luxury fashion brands have lately been adopting digital strategies in order to keep up with the growing pace of the ever-evolving market (Jelinek, 2018). Brands have been adapting to shifts in customer needs without jeopardizing the unique craftsmanship and individualization of the luxury item. The COVID-19 pandemic was the turning point for many brands to adopt digital strategies (Ramadan *et al.*, 2023b). For example, Louis Vuitton entertained quarantined customers by taking them on a journey of virtual cultural exhibitions, such as 1980s photos of the French photographer Jean Larivière. Their embrace of digital means depicted their aim to combine physical and digital customer experiences into what is labelled as phygital for the long run (Engle-Warnick Laszlo & Sayour, 2020).

### ***2.2 Engagement with video-content related posts on social media***

Consumer engagement refers to the interaction between consumers and brands in terms of cognition, affection, and activation (Ramadan *et al.*, 2023a). Providing the right social media content can drive customer loyalty, trust, and satisfaction, eventually increasing brand growth and performance (Ramadan *et al.*, 2023c). Online videos tend to be the most engaging type of social media posts for they grab the attention of users five times more than a still post. Fashion brands are increasingly using videos posted on social media in order to connect with their customers who showed an increasing need to forge an emotional connection with the company (Atwal & Williams, 2017). Such an emotional marketing approach drives brand loyalty, which is described as a long-term, and dedicated relationship between the consumer and the brand (Fournier, 1998). Videos related to luxury fashion shows have seen great customer engagement. For instance, the Hermès Men's Winter 2021 collection had more than 121,000 views, 136 comments on Instagram, and roughly 30,500 views on YouTube. Another reason for customer engagement is the post's quality especially when it comes to attractive and creative content (Ramadan *et al.*, 2023d). Consumer engagement towards the social media posts made by luxury fashion brands provides insights on customers' interests and brand loyalty (Kim, 2019). This reflects the importance of investigating the content of the reviews in order to set relevant marketing strategies.

## **3. Data**

### ***3.1. Dataset***

When luxury brands have streamed the collection through online venues, audiences interacted with the videos, posting their preferences and dislikes on those platforms. This study aimed at examining consumers' sentiment through the posted comments that were made in relation to the streamed digital fashion shows across Facebook, YouTube, and Instagram. The research tackled major luxury brands, such as Hermès, Dior, Chanel, Valentino, Gucci, and Louis Vuitton. Our dataset consisted

of 21,242 comments, that were scraped from 23 digital fashion runways videos streamed on Facebook, Instagram and YouTube using Python.

### 3.2. Examination of digital fashion shows

Luxury brands' online shows have depicted different themes. After examining the video posts (in terms of form and setup) of the different fashion brands, they were classified under three thematic subcategories:

- **Normal runways with special configuration:** Normal runways are the typical, most well-known form of fashion shows, where models walk dressed in the clothing created by the designer yet this time it is streamed digitally. Special setups and themes were adopted, helping the audience to dive into the thematic inspiration behind the launched collection.
- **Artistic shows:** Collections during artistic shows are presented in the form of a short film where designers reinvent their ways of presenting fashion, by incorporating surreal, abstract, and metaphysical themes.
- **Performance shows:** Performance shows are developed by luxury brands, which collaborate with singers and musicians to present their digital collection accompanied with live music performances.

### 3.3. Comments classification

Five different types emerged from the examination of all scraped comments:

- a. **Show configuration:** Comments highlighting feedback towards the theme of the observed show and various details used in the runway configuration. It represents a technical connotation.
- b. **Emotional connection:** Comments showing the emotional connection towards the video/brand without targeting a specific criterion in the show. It represents an emotional connection towards the brand.
- c. **Geographical tagging:** While the video is streamed live, people highlight their geographical location while watching the show.
- d. **Referral/Tagging:** Comments of people tagging and referring the show to others, therefore increasing brand visibility across channels.
- e. **Collection:** Comments conveyed to express the perception of the audience related either to the collection or to specific items.

An analysis of sentiment and valence in texts necessitates a manual approach, especially when potential issues in textual analysis such as irony, sarcasm, punctuation, or the use of emojis and GIFs were taken into account. The dataset comments were manually labelled and were each attributed one of the following sentiments: *positive, negative, or neutral*. These datasets enable to train supervised machine learning classifiers for sentiment analysis and to evaluate their accuracy.

## 4. Methodology

### 4.1. Approaches for sentiment analysis

Two different approaches were compared in this study:

- a. **Supervised Machine Learning approach:** On the labeled dataset, several classification algorithms, including logistic regression, support vector machine, Naive Bayes, and Random Forest were tested. The dataset showed a high imbalance, with 995 negative comments out of the 21,424 extracted and 2,595 neutral comments. The imbalance problem was tackled to improve the learning of the supervised algorithm. Subsequently, proper features that are able to reflect sentiment, negation, shifts and intensity were computed. TF-IDF was used to determine and assign a weight to each word, reflecting its importance in the document. This allowed the conversion of the comment text into a Vector Space Model (VSM).
- b. **Lexicon-based approach:** Words to emotions were mapped with the help of lexicons or dictionary of sentiment. Valence Aware Dictionary for Sentiment Reasoning (VADER), which is commonly utilized to analyze social media data, was used. VADER is a rule-based algorithm that employs a sentiment lexicon developed using a combination of qualitative and quantitative methods and is designed specifically for microblog-like content.

#### 4.2. Evaluation metrics

When assessing classification true positives, false positives, and false negatives were computed. The following metrics were used when assessing the results:

$$\text{Precision} = \frac{TP}{TP+FP}; \quad \text{Recall} = \frac{TP}{TP+FN}; \quad \text{F1 Score} = 2 \frac{\text{Recall} \cdot \text{Precision}}{\text{Recall} + \text{Precision}}$$

## 5. Results

The classification results of both approaches, the machine learning approach and lexicon-based approach, are represented in Table 1. Support Vector Machine (with RBF kernel) gave the best classification performance among all supervised learning approaches with 91.70% Precision, 90.69% Recall and 91.19% F<sub>1</sub> scores. The lexicon-based algorithm, VADER, yielded 85.36% precision, 74.36% recall and 79.48% F<sub>1</sub> scores. The support vector machine algorithm has hence largely outperformed the lexicon-based algorithm VADER.

**Table 1:** Classification results of each sentiment analysis approach

Algorithm	Precision	Recall	F <sub>1</sub> Score
<b>Logistic Regression</b>	90.81%	89.99%	90.40%
<b>Multinomial Naïve Bayes Classifier</b>	90.66%	60.18%	72.34%
<b>Random Forest</b>	89.90%	90.41%	90.15%
<b>Support Vector Machine</b>	<b>91.70%</b>	<b>90.69%</b>	<b>91.19%</b>
<b>VADER Lexicon</b>	85.36%	74.36%	79.48%

The hyper-parameters of the SVM (RBF) model were then tuned using grid-search, which allowed the improvement of the model's performance. Precision, Recall, and F<sub>1</sub> scores have slightly increased to 92.06%, 90.97% and 91.51% respectively.

## **6. Analysis and findings**

The analysis provided the distribution of conveyed sentiment for each of the digital runway themes across YouTube, Facebook and Instagram. The positive, negative, and neutral feedback were also segregated by comment type.

### ***6.1. Normal runway with special configuration***

All brands under study have launched at least one digital normal runway show with a special configuration. The Normal Runway shared on Instagram showed the highest positive feedback (96% of the comments are positive). Out of this positive feedback, the emotional connection comments that are taste-dependent were the most frequent (51% of all comments), followed by collection-related comments (42%), while the show configuration comments only represented around 3% of the positive comments. The negative and neutral feedback were rare (1% and 2% respectively). On YouTube, 78% of comments were positive. The collection-related comments were the most frequent (42%) followed by Emotional (22%), then Show Configuration-related (14%) comments. For this show type the negative comments were the highest (19%) on YouTube, with collection-related comments being the most frequent (12%). As for Facebook, 62% of the comments related to normal runway shows with a special configuration were positive, most being related to the collection presented (35%). The neutral feedback for such shows on Facebook were high (34%) comprising referrals where people tagged each other as a form of notification of the event and geographical tagging.

### ***6.2. Artistic shows***

In artistic shows, collections are presented through a short film embedding artistic-like themes. Dior was the only luxury brand that streamed a form of Artistic Runway. This type of shows is received in the same manner by the audiences of all three platforms; indeed, the variation in opinions across all three platforms was extremely minimalistic for this type of fashion show. These two videos received positive-sentiment in 91% of the total comments analyzed on Instagram, with no negative feedback detected. Most of these positive comments were emotional connection-related ones (81%). Positive comments related to artistic shows on YouTube were the highest across all other platforms and types of shows, with the two mentioned videos amassing a positive feedback share of 98% of total input. Most of the comments were related to the show configuration (81%). On Facebook, 76% of the comments related to artistic shows were positive. The emotional connection-related comments accounted for 67% of all comments. Facebook generated the highest percentage of neutral feedback, with 23% of the comments, similar to comments related to the normal runway with special configuration shows. A key observation is that the entirety of the neutral comments for the Artistic Runways on Facebook were in the form of people tagging others (22%).

### 6.3. Performance shows

All major luxury brands incorporated some sort of musical performance along their show, with the most notable ones being Valentino and Louis Vuitton. This type of digital shows is received in different ways across the various social media platforms. On Instagram, 96% of the comments were positive, with the majority relating to the collection (61%). Similarly, 87% of the comments on YouTube were positive, with 65 % of the comments tackling the collection (65%). Most of the negative comments (12%) were also on the collection (9%). Facebook had the lowest percentage of positive comments with only 42%. Most of those comments were emotion connection-related ones. Interestingly, neutral comments constituted 56% of all comments (38% geographical tagging and 18% referrals).

## 7. Recommended digital strategies for luxury fashion brands

This investigative customer-centric perspective expands the scope of the digital marketing strategy related to digital luxury runways to reach a more integrated marketing approach. Based on the findings, the following strategies are suggested:

**a. Focus on, leverage, and address the negative feedback:** The received negative feedback could underscore the ineffectiveness of a specific aspect of the digital show, pinpointing the inconsistencies observed by the viewers. Luxury brands should harness the power of negative feedback to enhance their digital marketing strategy. A key recommendation to luxury brands intending to broadcast fashion shows virtually is the careful usage of the YouTube platform as it showed to have the highest negative sentiment in two out of the three runway themes (normal runways with special configuration and performance shows). This finding represents a high-risk factor to luxury brands using YouTube as previous studies have shown that emotional connections with customers typically lead to a positive impact on brand equity, which is an effective strategy for a brand's long-term success. Hence, luxury fashion brands are recommended to favor artistic runway types when adopting YouTube in their marketing strategy.

**b. Adopt a multi-show approach:** The artistic runway type of show is received in the same manner by the audiences of all three platforms, generating a very high positive sentiment across channels, with a minimalistic level of negative feedback. Dior, the only luxury brand streaming artistic runways succeeded in promoting this digital fashion show, increasing its exposure and amplifying its visibility across all three studied channels. Adding creativity has a positive impact on attention, attitude toward the brand and message, online sharing behavior, and purchase intentions.

**c. Leverage neutral feedback:** Neutral feedback collected has served as an amplifier of brand visibility, as it originated from referral and geographical tagging comments. Referral tagging helps companies to increase brand visibility, while geo-tagging helps them identify the spread of their audience during the streaming of the digital fashion show. Marketing teams are recommended to write codes to collect referrals and tags when developing targeted promotions.



## 8. Conclusion

The findings of this study have shed light on how luxury brands should (1) address and harness negative sentiments, (2) adopt a multi-show digital fashion show strategy across various media channels, and (3) leverage the neutral feedback for data-driven targeted marketing. It highlights that not all digital fashion show themes are effective across an array of audiences and platforms; yet, the proposed managerial recommendations provide relevant and suitable strategies to address this key challenge. The study is not without limitations due to its focus on three specific platforms and a selection of luxury brands. Additional fashion show types and other social media platforms can be studied. The range of brands studied can also be expanded to examine a wider scope of luxury fashion companies. Future studies could assess the effectiveness of each suggested digital strategy.

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