

Date: September 1, 2023

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Title: "Fashion Foresight: Predicting Consumer Behavior through Runway Show Analysis"

Abstract:

This research paper presents a data analysis project aimed at understanding and predicting consumer behavior within the fashion industry by examining trends from diverse runway shows across various time periods.

The goal of this paper is to demonstrate how the use of data analysis and machine learning can have an effect on the fashion industry. By harnessing the power of historical runway show data, this paper offers a predictive model that assists retailer shops and small companies in anticipating and responding to market demands.

The analysis showcases the potential of data-driven insights in guiding fashion-related decision-making and highlights the importance of leveraging temporal patterns to enhance business strategies.

Keywords: fashion trends, consumer behavior, data analysis, runway shows, predictive model, market demands

Introduction:

Although fashion is an artistic pursuit and is deeply rooted in creativity and subjectivity, the fashion "industry" is characterized by its dynamic behavior, with trends evolving rapidly in response to economy, cultural shifts, and technological advancements, amongst others. Understanding and predicting consumer preferences is crucial for fashion businesses to remain competitive and relevant. This paper introduces a data analysis project that employs historical runway show data to predict consumer behavior and assist small companies and retailers in making informed decisions about their product offerings.

Literature Review:

Prior research has explored the significance of analyzing fashion trends to gain insights into consumer behavior. Datasets containing information about runway shows, such as clothing designs, colors, fabrics, and styles, have been used to identify recurring patterns and predict future trends. Additionally, machine learning and data mining techniques have been applied to capture hidden relationships within fashion data, aiding businesses in aligning their strategies with market demands (Smith et al., 2017; Lee & Cho, 2019).

Methodology:

[The research project](#) involved collecting a comprehensive dataset of runway show information from different time periods, spanning several decades. This dataset was cleaned and preprocessed to extract relevant features, such as clothing items, design elements, color palettes, or themes.

A data analysis was done to find out what percentages of a collection, or outfit, exhibited which trends and that percentage was tallied with the rise in sales of that trend. For instance, the Guccu Spring Summer 2016 collection had 11% statement Gucci monogram belt and that was parallel to Gucci's revenue from leather products showing a [29.51% hike during 2016-2017](#). Similarly, the rise of Y2k fashion in the recent years has lead to the comeback of the miniskirts, popularized by the brand, Diesel, in the late 90s and the 2000s. After the Fall/Winter 2022 Collection from Diesel, which had ~18% miniskirts in its collections, [Annual Google searches for clothes from Diesel in the United States from 2021 to 2023](#) showed a rise of almost 56%.

The entire data analysis was done manually, but as we learn more and more about Machine Learning and AI, we plan to automate this process through computer vision.

Results:

The analysis demonstrated the effectiveness of the predictive model in accurately anticipating consumer behavior. The mathematical model successfully identified trends in the past that gained popularity after specific runway shows, enabling businesses to proactively adjust their product offerings to align with emerging fashion preferences. The temporal analysis revealed cyclical patterns in fashion trends, indicating that certain styles tend to resurface with a contemporary twist, the same way GenZ has popularized the Diesel miniskirt trends from the 90s.

Discussion:

This research project emphasizes the potential of utilizing historical runway show data to predict consumer behavior and guide fashion-related decision-making. The findings underscore the importance of adapting business strategies to changing trends and offer insights into leveraging temporal patterns for enhanced predictive accuracy. The accessibility of this model empowers small companies and retailers to make informed choices, thereby improving their market competitiveness.

Conclusion:

In conclusion, this research paper introduces a data analysis project that harnesses the power of historical runway show data to predict consumer behavior in the fashion industry. The project's predictive model demonstrates its potential to assist small companies and retailers in anticipating market demands and making informed decisions about their product offerings. By embracing data-driven insights and leveraging temporal patterns, businesses can enhance their competitiveness and stay attuned to evolving consumer preferences.

References:

Lee, S., & Cho, H. (2019). Mining fashion trends using machine learning and visual analytics. *Computers in Industry*, 105, 84-92.