

The predictive power of social media data in fashion forecasting

August 23 2023



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Fashion and social media are both ever evolving. So why not put the two together? New research in *Manufacturing & Service Operations Management* says utilizing social media to predict sales of apparel and

footwear items based on social media posts and interactions about color is possible and successful.

"We partner with three multinational retailers—two apparel and one footwear—and combine their data sets with publicly available data on Twitter and the Google Search Volume Index. We implement a variety of models to develop forecasts that can be used in setting the initial shipment quantity for an item, arguably the most important decision for fashion retailers," says Youran Fu of Amazon, one of the study authors.

Despite challenges like short product lifetimes, long manufacturing lead times and constant innovation of fashion products, [social media](#) information can enable efficiency and increased revenue.

"Our findings show that fine-grained social media information has significant predictive power in forecasting color and fit demands months in advance of the sales season, and therefore greatly helps in making the initial shipment quantity decision," says Marshall Fisher of the University of Pennsylvania.

"The predictive power of including social media features, measured by the improvement of the out-of-sample mean absolute deviation over current practice, ranges from 24% to 57%," Fisher continues.

The paper, "The Value of Social Media Data in Fashion Forecasting," proves consistent results across all three retailers. The researchers demonstrate the robustness of the findings over market and geographic heterogeneity, and different forecast horizons.

The researchers note, "Changes in fashion demand are driven more by 'bottom-up' changes in consumer preferences than by 'top-down' influence from the [fashion industry](#)."

More information: Youran Fu et al, The Value of Social Media Data in Fashion Forecasting, *Manufacturing & Service Operations Management* (2023). [DOI: 10.1287/msom.2023.1193](https://doi.org/10.1287/msom.2023.1193)

Provided by Institute for Operations Research and the Management Sciences

Citation: The predictive power of social media data in fashion forecasting (2023, August 23) retrieved 29 April 2024 from <https://phys.org/news/2023-08-power-social-media-fashion.html>

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