The Strategic Value of Weather Changes in Social Media and Sales Analytics

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Cite as:
Akçura M. Tolga, Büdeyri Turan Işıl (2022), The Strategic Value of Weather Changes in Social Media and Sales Analytics. *Proceedings of the European Marketing Academy*, 51st, (107745)

Paper from the 51st Annual EMAC Conference, Budapest, May 24-27, 2022

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Abstract

Changes in weather help explain variations in consumer behaviour. This paper focuses on the impact of temperature changes to emphasize the necessity of incorporating weather into social media and sales analytics with attention to user-generated contents and category-level sales. The preliminary autoregressive analyses run at country-level with monthly data, and city-level with weekly data show that one Celsius-degree increase in temperature explains one percent of beer sales from one year to another. Extreme temperature variations lead a potential gain of 2.2% to 3.5% (changes per city), and a potential loss of 2.5% to 2.9% on annual sales. A dynamic model is built further to investigate temperature's impact on sales-social interaction. The findings suggest that sales-social model leads biased estimates if temperature is not included in the model. The study provides delicate managerial and theoretical implications on sales-social management using a rich dataset with advanced modelling.

Keywords: *Econometric modelling; social media; sales*

Track: Methods, Modelling & Marketing Analytics