

Understanding the Vegetable Oil Debate and its Implications for Sustainability through Social Media

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The global production and consumption of vegetable oils have sparked several discussions on sustainable development. This study delves into this discourse by analyzing a dataset comprising over 20 million tweets related to vegetable oils. Our findings reveal that discussions on social media predominantly revolve around coconut, olive, and palm oils, although not proportionate to their global production volumes. Notably, the discourse surrounding olive and palm oils shows a positive correlation with Twitter's growth, while coconut oil experiences more pronounced spikes in activity. An examination of the thematic content indicates that conversations about coconut and olive oils predominantly emphasize health, beauty, and culinary aspects, whereas discussions concerning palm oil draw attention to pressing environmental concerns. Virality in this context is notably associated with environmental issues and carries negative connotations. In the broader context of the United Nations' Sustainable Development Goals, this study underscores the intricate and multifaceted nature of the vegetable oil debate, revealing a disconnection between public discourse and scientific discussions. The research emphasizes the influential role of social media in shaping public perceptions, offering valuable insights into sustainable development strategies.

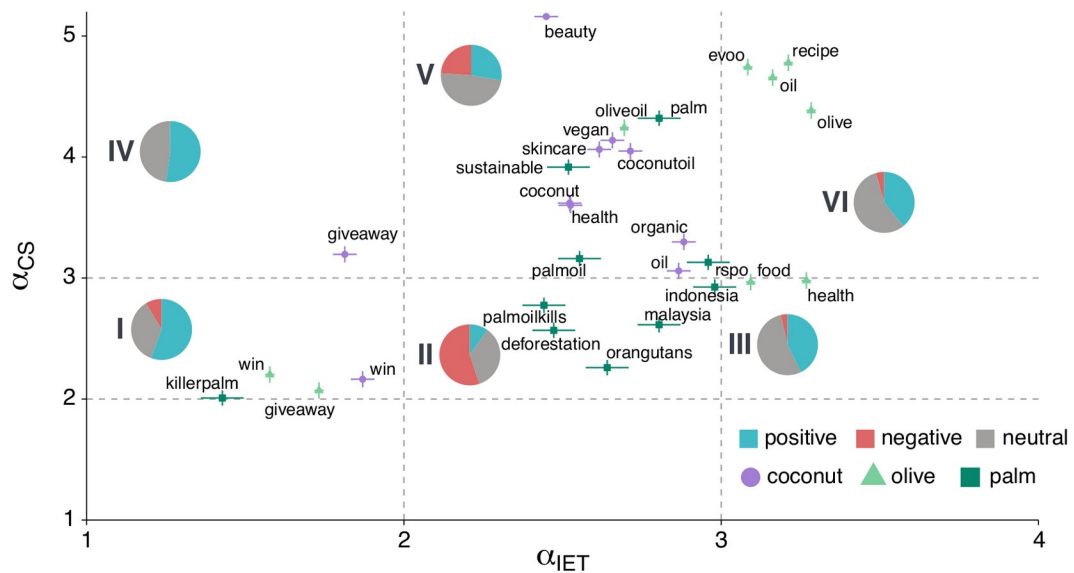


Figure 1, **Virality phase diagram**: Each point represents one of the 10 most common hashtags in the coconut (orange circles), olive (blue triangles) and palm (green squares) datasets. The spatial coordinates are the scaling exponents of the interevent time (x-axis) and the cascade size (y-axis) distributions. Gray lines delimit the areas defined by the critical exponents (see Methods). Pie charts show the distribution of positive, neutral and negative tweets with at least one hashtag in each of these areas.