From Words to Likes: A Textual Analysis of Firm-Generated Instagram Content in Reusable Water Bottle Sustainability Communication

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Abstract

This study examines how thematic content and sentiment in firm-generated social media posts influence consumer engagement, measured by likes and comments, in the context of reusable water bottle brands. Using text analysis of 1,296 social media posts from eight brands, we apply sentiment analysis and Latent Dirichlet Allocation (LDA) topic modelling. Sentiment scores and topic probabilities are linked to engagement ratios using correlations. The results show that sustainability-related themes are positively associated with likes but not comments. Giveaway and collection topics also increase engagement, while several lifestyle-oriented themes are negatively related to engagement. Although posts are predominantly positive in tone, higher positive sentiment is negatively correlated with likes. By combining sentiment analysis and topic modelling, this study shows that thematic content, particularly sustainability, plays a critical role in driving social media engagement beyond structural post characteristics.

Keywords: text analysis; sustainability communication; social media engagement; FGC