Consumer Data Research Centre

An ESRC Data Investment

SHOP DIRECT

# The Effects of Social Media on Trading Outcomes: A Company Case Study

Emma Branagan[1], Francisco Rowe[1] and Tony Birch[2]
[1]University of Liverpool, [2]Shop Direct

**Project Background**

Over recent years, the usage of social network sites has grown exponentially to 3.03 billion active social media users in 2018 (Smith, 2018). This increase in individuals and activity on social media has led to businesses using sites like Facebook to benefit their company via communication and marketing. Out of the growing volumes of literature on the topic of social media, only a small number of studies have explored the effects social media marketing has on the trading outcomes of companies. A detailed quantitative analysis which models the relationship between social media activities of a company and the associated trading effects is elusive due to the necessary data being inaccessible to researchers.

**Data and Methods**

The data used were supplied from social media APIs and the Facebook business manager platform. The variables acquired from this were daily summary variables around the overall use of social media for the company as well as daily variables regarding specific paid campaigns. The trading outcomes were downloaded from the company database and consisted of visits, orders and gross demand. The overall trading variables were used first, as part of the overall macro model using the overall daily summary social media variables as explanatory variables. Trading variables pertaining to the products within each campaign were used in the micro models for individual social media campaigns alongside the social media metrics relating to that campaign.

Using an autoregressive integrated moving average (ARIMA) model and its multivariant (ARIMAX) and seasonal (SARIMAX) extension, the precise relationship between daily trading outcomes and social media variables on an overall macro level and individual campaign level were analysed. Three trading variable models were estimated on an overall scale and individual ARIMAX models were estimated for each social media metric relating to three different campaigns for two identified trading variables.

**Key Findings**

This study has three key findings. First, although all three trading variables are affected by social media metrics to varying degrees, no single trading variable stands out as being particularly strongly influenced by these metrics. The extent to which social media metrics impact trading outcomes differs for each trading variable. Second, it was proven that product and brand specific social media campaigns do influence trading variables; however, the extent to which this influence extends changes depending on the brand and product advertised in the campaign. Third, the type of product mediates the influence of social media campaigns, as more expensive, complex products that take more consideration before purchasing drive demand over cheaper, simpler products.

**Value of the Research**

Both the company and research community will benefit from this study as it contributes the first robust quantitative analysis to assess the effects of social media marketing strategies on trading outcomes, offering a unique insight into a large retail company. This study is also beneficial for the company, as it will help to better target social media campaigns and allocate resources on the more complex product campaigns.