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EXPLORING THE USE OF TWITTER OPINION MINING (TOM) IN MARKETING COURSES

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POSITION PAPER

This paper discusses the use of social media mining (and more specifically, Twitter opinion mining) in marketing courses in order to help students understand current marketing events or phenomena. Social media mining refers to "the use of basic concepts and principal algorithms suitable for investigating massive social media data; it discusses theories and methodologies from different disciplines and encompasses the tools to formally represent, measure, model, and mine meaningful patterns from large-scale social media data" (Zafarani et al. 2014, p. 16). Social media sites such as Facebook, Twitter and Instagram provide opportunities to explore consumer preferences, opinions and behaviors through the examination of user-generated content (UGC). In a business world dominated by the Internet and social media, it becomes relevant to marketing educators to prepare students in the exploration, analysis and understanding of consumer insights through social media mining, and how to translate such insights into actionable intelligence that increases the effectiveness of a firm's marketing efforts.

As an educational tool, social media mining can be used in most undergraduate and graduate marketing courses but is particularly useful in courses that include a research component, such as marketing research, digital marketing, social media marketing, qualitative analysis or marketing analytics. For the purposes of this research, the method was implemented in an undergraduate social media marketing course, and the social media platform selected for the analysis was Twitter, which can be described as a real-time, microblogging site that allows users to post short status updates or tweets (Russell 2013). Twitter represents a valuable tool in terms of gathering intelligence because, unlike instant messages that disappear when the user closes the application, tweets are also posted on the Twitter website. They are permanent, they are searchable and they are public. This makes Twitter a suitable social media platform to gain current consumer insights about a firm, brand, and/or product.

The social media mining method used to analyze Twitter data was adapted from He et al. (2013) and includes three main steps: (1) tweets pre-processing, (2) tweets processing and analysis, and (3) interpretation of results and recommendations. Students were organized in groups and each group was required to select a company or brand that was experiencing some negative publicity (as the lecture topic was online reputation management). Some of the companies chosen by students included Chipotle, Target, Wal-Mart, Abercrombie & Fitch, GAP and Adidas, among others. After their topics selection, students followed the three steps of the social media mining process explained by the professor:

Step 1. For tweet collection, students used the Data Pipeline online tool, which is a search engine that collects all tweets including the #hashtag specified by the researcher. Data Pipeline exports the retrieved tweets to an Excel file for further analysis. Students searched for the most recent tweets using #company or #brand as the main search keyword. Due to the limitations of the free trial, students were able to export a maximum of 1000 tweets.

Step 2. For tweet analysis, students used Semantria for Excel, which is a tool that calculates the sentiment for textual data and extracts the most relevant words (i.e. keywords) expressing sentiment. Students ran the analysis on their 1000 tweets which resulted in a table showing sentiment values (i.e. positive, negative or neutral) for each tweet and a word cloud showing the main themes extracted from the overall tweets. The word cloud depicts the positive themes (or keyword phrases) in green, the negative themes in red and the neutral themes in gray.

Step 3. For the interpretation of results, students calculated the frequency of positive, negative and neutral tweets in the sample. For instance, the team running the analysis for Chipotle, found that 67% of tweets were negative, 25% of tweets were positive and 8% of tweets were neutral. Next, students analyzed the word clouds, explained their findings and provided recommendations on how to address the negative issues and how to capitalize on the positive items uncovered in the analysis.

The main challenge faced by students during the implementation of the methodology was the interpretation of their results and, more specifically, the explanation of the word cloud generated by Semantria. Students found somewhat difficult to explain the themes uncovered and provide recommendations. A few rounds of analysis using different examples (i.e. companies) were needed to clarify this step for students. Regarding the limitations of the study, a sample of 1000 tweets was used in this research, which represents a very small sample size considering the large amount of tweets generated for these brands or companies every day. A larger sample size, including tweets posted over a wider time frame, could provide more significant consumer insights for researchers.

The social media mining process explained in this study represents a useful tool to understand consumers' opinions about a company, brand or marketing phenomenon. However, the nature of this research is mainly exploratory. Further research may use this method to identify the main themes or variables discussed by consumers in social media and follow up with a second study using focus groups, interviews, surveys or other descriptive/causal research methods.

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