Is Really No PR Bad PR? Debunking the Myth

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ABSTRACT

Communication in product promotion is no longer one way. Now, customers, or even non-customers can express their opinion about any ad through social media. Recently, some advertisements have faced public backlash in social media. For example, Dove ran a commercial where a black woman turns into a white woman or Gap Inc. had a commercial where a black child wore a sweatshirt that said 'Coolest Monkey in the Jungle'. For Dove, this was not the first time they were accused of airing controversial ads. The "Dove Visible Care" ad of 2011 was also accused of being racist. Is it intentional? Does it conform to the myth that 'No PR is bad PR'?

In this paper, we examined a number of controversial ads from 2017 and analyzed public sentiment for those ads expressed in YouTube comments posted during the quarter when the ad was first published or the event took place to see if there was a correlation between negative public sentiment and a company's performance during the same time-period. A firm's performance was measured by quarterly reported revenue and closing stock prices for the firm accused of the controversial ad.

A sentiment analysis was conducted to identify the sentiment from YouTube comments. A web scrapper was built using Selenium package for Python and approximately 1,000 comments from each post was scrapped in CSV format.

For this study, ads from three different companies (Pepsi, Dove, and Adidas) and a highly publicized incident (United Airlines) were examined using SAS Viya®.

INTRODUCTION

With the emergence of social media, the landscape of marketing communication in promotional campaigns has changed dramatically. In addition to traditional media like TV, radio, newspaper, and magazine, companies are engaging on social media to promote their products and services. Today, there is no single communication channel exclusively used by companies. Even a campaign that has been aired on TV has exposure on the internet and social media. Both customers and non-customers can actively engage in discussion about that campaign on social media outlets such as Facebook, Twitter, and video-sharing websites like YouTube. Most of the time, the discussions are beyond the control of the company that started the campaign. This lack of control over marketing communication poses some risk on brand image. However, there is a myth saying no publicity is bad publicity. As long as people are talking, whether positive or negative, about a brand or a company, the brand or company is having exposure and this helps the brand stay on top of the minds of customers which is a good thing for the company.

In this paper, we selected three ads (Pepsi ad, Dove ad, and Adidas ad) and one incident (United Airlines) that took place in 2017 and analyzed the public sentiment for those ads and event as expressed in YouTube comments by responding users. Next, we analyzed the firm's performance in the respective financial quarter when the events took place. A firm's performance was measured by quarterly reported revenue and closing stock prices for the firm accused of the controversial ad.

DATA DESCRIPTION

The ads and event selected for analysis are described briefly in the below section.

1. Pepsi Kendall Jenner ad: For this ad, Pepsi has been accused of appropriating the Black Lives Matter movement following a police shooting of African Americans.
2. Dove ad: This Dove commercial features three women removing their shirts to reveal the next one sequentially. However, the transition from a black woman to white woman has not been accepted positively in social media.
3. Adidas, Original is Never Finished 3 ad: This ad, featuring celebrities from the world of music, art, sport, style and art, has received mixed responses.
4. United Airlines' passenger dragged off incident: A passenger was forcibly dragged from an overbooked flight. The passenger resisted and he was hurt while being removed. The incident was recorded on phones by other passengers. United Airlines faced major public backlash and many people called for a boycott of United Airlines.

All the videos and associated comments of these ads and event are available in YouTube. A comment scrapper was built using python package Selenium and user comments from these videos were scrapped in CSV format. The files were read and saved in sas7bdat format using a DATA step statement using SAS® 9.4.

Figure 1 shows the number of comments that have been scrapped for the time-period between the air date of the ads or occurrence of the incident and next 90 days.
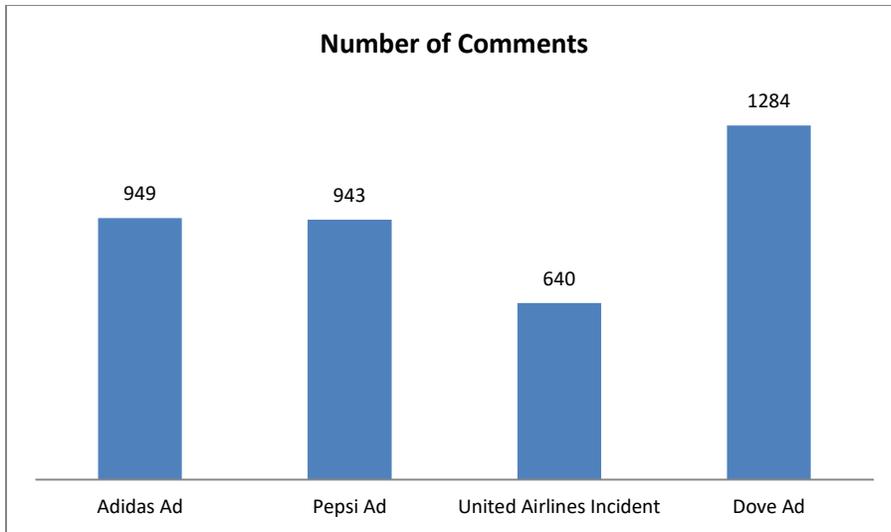
Figure 1: Number of Scrapped Comments from Each YouTube post

Closing stock prices of the selected firms were collected from Yahoo! Finance for a period from one week prior to the post date and 90 days after the event date. This data was downloaded in CSV format and was read using a DATA step statement using SAS® 9.4.

METHODOLOGY

SAS® Viya provides a very easy to use and interactive environment for sentiment analysis. The process of sentiment analysis can be completed in less than 15 clicks. The data was imported in the server using the *Data* tab. *Text Topics* object was dropped in the visualization pane.
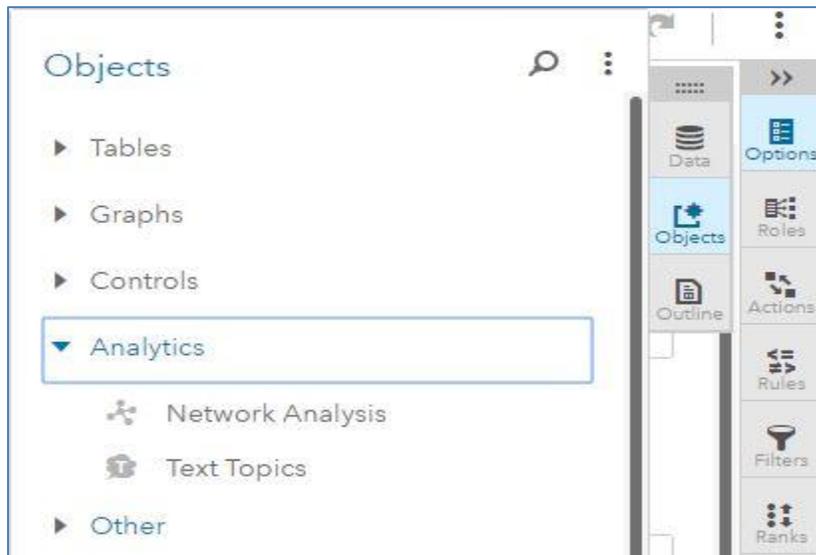

Display 1: Selecting Text Topics Tab

Next, the comments were assigned to *Document collection* role and IDs were assigned to *Unique identifier* role from the *Roles* tab.
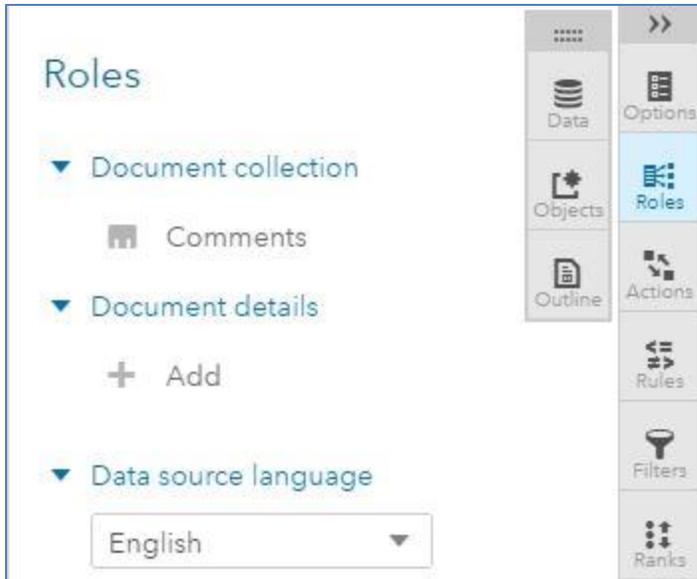
Display 2: Assigning Roles

Analyze document sentiment and *Identify term roles* boxes were checked and *Maximum topics* was set to 5. The *Advanced* tab was used with default option and it automatically includes parts of speech tagging, noun group extractions, entity extraction, stemming and uses stop words to clean and preprocess the data for sentiment analysis.
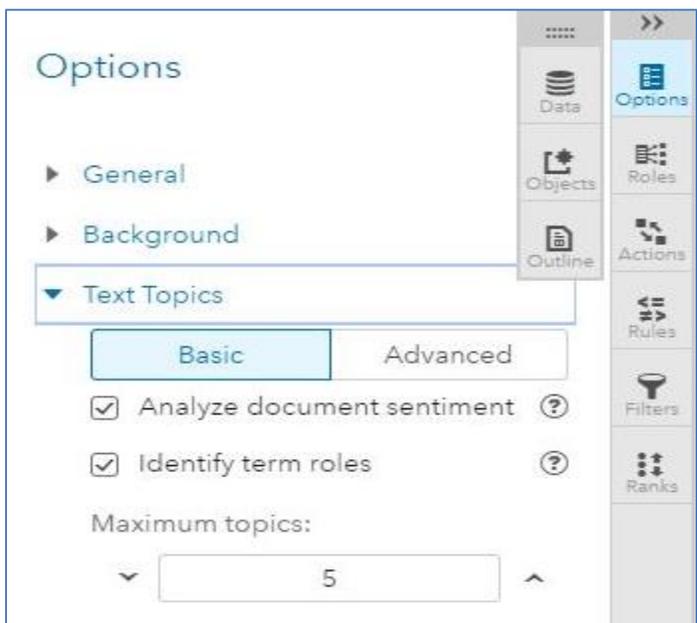
**Display 3: Selecting Maximum Topics**

To see whether the sentiment had any impact on the firm's financial performance, Pearson correlation coefficients of closing stock prices among the respective company, one of its closest competitors, and their respective stock exchange index were calculated using a PROC CORR statement in SAS® 9.4.

RESULTS AND DISCUSSION

SENTIMENT ANALYSIS

The output from SAS® Viya *Text Topics* and Sentiment Analysis displays five topics that are discussed in the comments and includes the number of positive, neutral and negative sentiment within each topic. Each topic shows four words extracted from comments based on the significance of those words to the topic. Each comment is assigned to a sentiment score from 0 to 1. A sentiment score greater than or equal to 0.6 is assigned a positive sentiment, less than or equal to 0.4 is assigned a negative sentiment, a score less than 0.6 and greater than 0.4 is assigned a neutral sentiment.

Adidas: In the first topic the associated words to that topic are shoe, people, adidas, and not. The comments that are assigned to this topic has a relevance score from 0 to 1, 1 being most relevant to this topic. For example, "I thought this was about shoes. Opps! wrong video" – this comment has a relevance score of 0.9847, which indicates this comment is highly relevant to this topic. Within this topic, 43% of the documents have a negative sentiment, 47% have neutral sentiment and the rest 10% have positive sentiment. Among all the comments for this ad, 36% have negative sentiment, 47% have neutral sentiment and the rest 17% have positive sentiment.
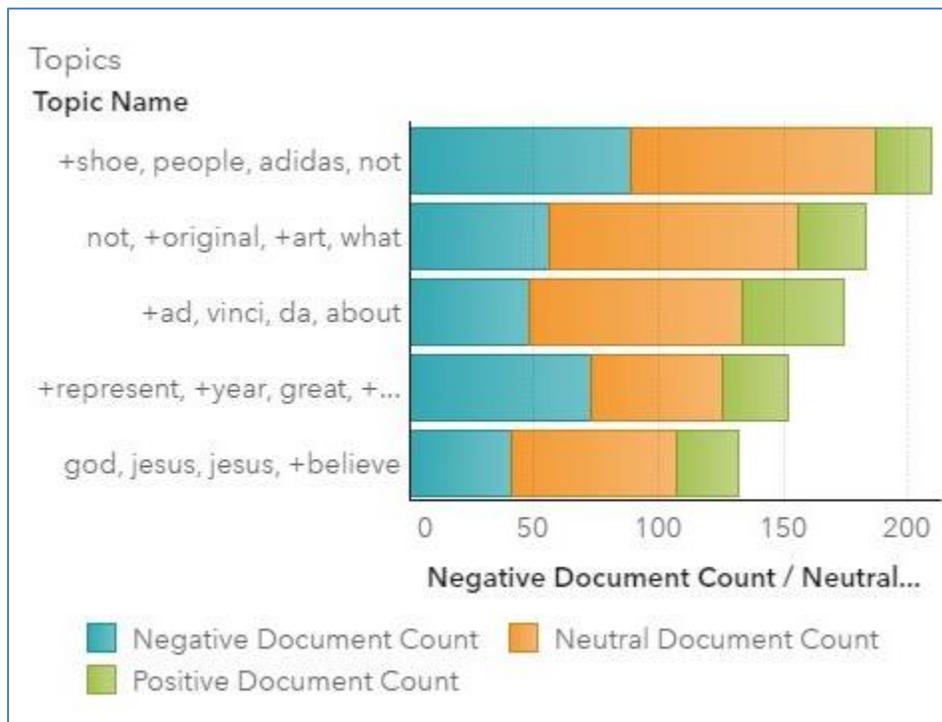
Display 4: Topics and Sentiment for Adidas Ad Comments

FIRM'S FINANCIAL PERFORMANCE ANALYSIS

The Adidas ad was added to YouTube on 08/10/2017 and figure 6 shows movement in Adidas' closing stock prices compared with Nike's closing prices and NYSE's closing index point from 08/01/2017 to 10/31/2017. There is no significant correlation found among these three variables. However, from the chart it is evident that the stock price was most likely not affected by the sentiment since movement in Adidas's closing stock price is more related to NYSE index point than the closing stock prices for Nike, which decreased in the same period.
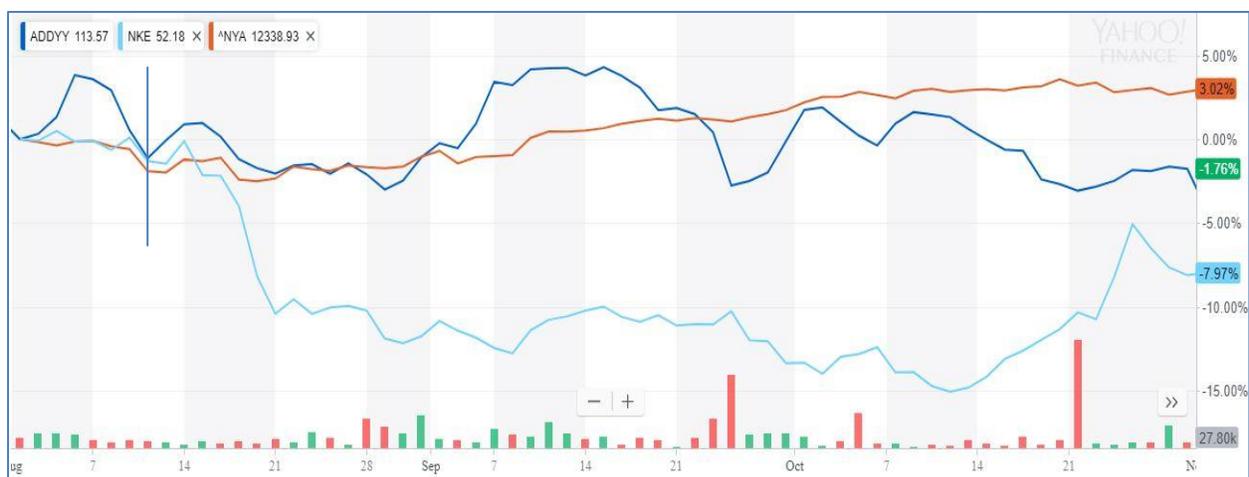
Figure 2: Closing price comparison between Adidas and Nike, and NYSE closing index

Similar analyses for the remaining three companies were conducted and a brief summary of the aggregated analysis is discussed in the below section.
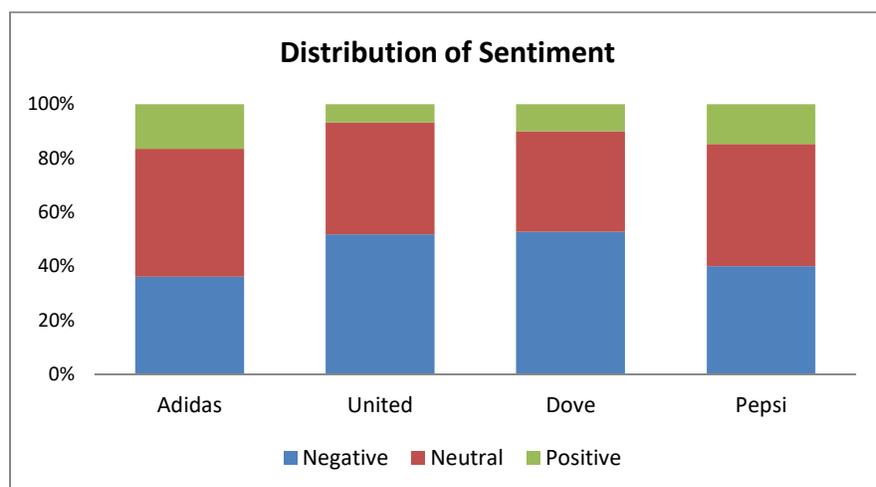

Figure 3: Distribution of Sentiment for the Ads

From figure 7, the percentage of positive sentiment is very low for all four companies with 7% being lowest for United Airlines and 17% being highest for Adidas. On the other hand, negative sentiments varied from 36% for Adidas ad to 53% for Dove ad. In general, all these events had large negative sentiment for the period discussed.

The Adidas closing stock price was compared to Nike's closing price and the NYSE closing index. The closing price for Unilever, Dove's parent company, was compared to Proctor & Gamble's closing price and the NYSE closing index. Pepsi's closing price was compared to Coke's closing price and the NASDAQ closing index. United Airlines' closing price was compared to American Airlines' closing price and the NYSE closing index.

Company	Correlation Coefficient with Respective Stock Exchange	Correlation Coefficient with Closest Competitor
Adidas	-0.0342	0.0587
United	0.7187*	0.8135*
Unilever	-0.0298**	0.5309*
Pepsi	0.7983*	0.9125*

*Significant at α=0.01. **Significant at α=0.02

Table 1: Pearson Correlation Coefficients of Closing Stock Price and Closing Index

The variations in closing prices of United Airlines and Pepsi are strongly correlated with the competitor's closing price and stock exchange closing point. During this period, 52% of the comments for United Airlines and 40% of the comments for Pepsi had negative sentiments. Despite having a negative sentiment, all the firms exceeded investors estimated earnings per share (EPS) and achieved revenue growth during the period when the ads were aired or the event took place. United Airline's revenue in 2nd quarter of 2017 increased by 6.43% from the 2nd quarter of 2016 and Pepsi's revenue increased by 2.05%

Company	Quarter	Increase in revenue from same quarter of previous year	Estimated EPS	Actual EPS
Adidas	3	8.71%	2.55*	2.57*
United Airlines	2	6.43%	2.67	2.75
Unilever	4	5.82%	2.21*	2.24*
Pepsi	2	2.05%	1.40	1.50

*Currency in Euro

Table 2: Percentage Increase in Quarterly Revenue and Expected Versus Actual EPS

CONCLUSION

From the discussion above, we can conclude that none of the four firms were negatively impacted by the negative sentiment in the short term. All the four firms achieved revenue growth and exceeded investors' forecasted EPS despite having a negative public sentiment. However, these four companies have huge revenue bases and operations around the globe. As a result, the impact of negative public sentiment may not be evident at the top or bottom line of financial statements. If financial statements and sales reports at more granular level were available, there might have been some visible impact on firm's performance due to the negative sentiment. Moreover, for this study we have analyzed ads which supposedly had negative sentiment and the sentiment in these ads were not compared to any other ads , hence it cannot be said for sure that the companies analyzed had more negative sentiment compared to other ads. It may well be that people tend to comment more on social media when they feel something is wrong compared to when something is right.

ACKNOWLEDGMENTS

RECOMMENDED READING

- *Text Mining and Analysis: Practical Methods, Examples, and Case Studies Using SAS®*

CONTACT INFORMATION

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