The Impact of Terrorism on Consumer Sentiment: Evidence from Twitter Data

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Introduction

Computerized text analysis can often pick up linguistic features better than humans can. This project utilizes sentiment analysis/opinion mining to enable us to better understand the relationship between linguistics and terrorist attacks. There has been significant research in determining the aftereffects of terrorism on GDP and the stock market but current literature is lacking in a qualitative look at the emotional stance of the driving force behind the markets, the consumers. The impact of the attacks is analyzed through the lens of the people, which provides insight to potential impairment of consumer confidence. In this research I conduct a sentiment analysis on textual data surrounding terrorist attacks, primarily collected from the social media platform, Twitter. The questions asked are:

-Can we track a broad based emotional stance of the public?
-Can social media predict or determine a numbing effect / desensitization?

Methods

Rapid Miner was used to conduct a sentiment analysis on tweets collected from 12 different terrorist attacks over the course of 2011 – 2018. Data on the attacks was collected from the Global Terrorism Database for those that occurred from 2011-2016, and from various news sources for those after. The research was performed in four parts.

1. The affective state of the sentences is determined on through topic sentiment analysis
2. Frequency tracking to determine the most used keywords and hashtags
3. Text clustering to determine the central point of the conversations
4. A mapping of the changes in polarity over time

Results

The Charlottesville Unite the Right Rally is used as an example attack. The sentiment of the tweets was majorly negative (4) with most tweets mentioning Charlottesville, Trump, and White (as it was an alt-right rally). The clusters of conversation also surrounded Trump's response.

Most people were tweeting in the early hours of the morning, with a substantial decline around 5 – 6 pm. The number of tweets increased into the days after the attacks, with the most tweets occurring on 8/19/17, 8 days after the attack occurred.

Some of the messages were positive, but overwhelmingly the messages contained negative information, which makes sense regarding the context of the attack. That could be anything from negativity about the president, about the event, or negativity surrounding the people hosting the event.

Conclusion

This study contributed to the existing literature on sentiment analysis by using it to examine a more qualitative effect of terrorism. There are keywords that become a centroid of conversation, and enable continued discussion. People are still tweeting about the attacks days afterwards, and bringing up key topics of conversation. Social media has enabled us to determine the people’s response to attacks, and the subsequent numbing effect that occurs, as the polarity diminishes over time as people adjust to the news. There is an ongoing process of desensitization, evidenced in both the markets and across social media platforms.

References