The Impacts of Trendy Ads on Companies

May 25, 2023

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Project Overview:

Investigating the Influence of Trends on Company Ads and Public Engagement

In this project, our objective is to examine the impact of viral trends on the content and effectiveness of company advertisements. Specifically, we aim to investigate how trends influence the public's response to these ads, as well as the level of engagement generated. By analyzing sentiment and interaction metrics derived from comments on company posts, we seek to determine the effects of trends on public perception and engagement.

Over the years, there has been a notable shift in advertising strategies, with companies moving away from conventional approaches and embracing trends to appeal to a broader audience. For instance, Taco Bell has transitioned from focusing solely on making their food look appetizing to featuring ads that portray a more modern environment, showcasing young adults participating in trending dances while enjoying Taco Bell products.

To guide our research, we have developed the following key questions: Will certain trends generate higher engagement from the public? If so, what is the nature of these responses, positive or negative? Are certain trends more effective for specific companies than others? Lastly, will the adoption of more "modern" ads have a positive impact on companies compared to their more traditional advertising counterparts?

When we refer to higher engagement from the public, we mean an increased level of interaction and involvement with the advertisements. This could include metrics such as likes, comments, shares, retweets, or other relevant measures depending on the social media platform used. By measuring these engagement indicators, we can assess the effectiveness of trends in capturing and retaining audience attention.

Regarding the impact on the company, we aim to evaluate the overall effect of trend-oriented ads compared to more traditional approaches. This impact can be measured through various means, such as changes in brand perception, customer sentiment, sales figures, or brand awareness metrics. By analyzing these factors, we can determine the extent to which the incorporation of trends positively influences a company's marketing efforts.

To conduct our analysis, we will collect data from different social media platforms, including Twitter, TikTok, Instagram, and others. The specific data points we will gather depend on the platform, such as likes, replies, retweets, and comments. By employing sentiment analysis techniques, we will examine the engagement levels of ads incorporating trends compared to more traditional ads employed by companies. In this context, trends refer to actions or sayings that have garnered hundreds of thousands of views across multiple platforms.

To collect the necessary data, we will utilize APIs provided by social media platforms, enabling us to extract information from platforms such as Twitter, TikTok, and Instagram. We will focus on selected companies that have demonstrated participation in trends, contrasting their engagement data with companies that have not embraced such trends.
Through this project, we aim to gain insights into the effects of trends on company advertisements and their subsequent impact on public engagement. By understanding the dynamics between trends, ad content, and audience response, we can provide valuable recommendations to companies seeking to enhance their advertising strategies in an ever-evolving landscape of viral trends.

Data and Resources Used

To conduct our analysis, we utilized various data sources and scraping tools to gather relevant information and insights. The following data sources and figures were instrumental in our analysis:

- ➢ Twitter API:
  - We accessed data from Twitter using the official Twitter API.
  - Specifically, we pulled tweets related to Wendy's and Chipotle, prominent fast-food chains, and Netflix, a show streaming website.
  - We calculated the interaction metrics on the posts, such as share count, comment count, and views.
- ➢ Apify.com:
  - We employed the Twitter Scraper, Instagram Scraper, and TikTok Scraper modules from Apify.com, a web scraping platform.
  - These modules allowed us to collect data from Twitter, Instagram, and TikTok, respectively, focusing on Wendy's, Netflix, and Chipotle.
- ➢ Wendy's, Netflix, and Chipotle:
  - We leveraged data from these companies to analyze their advertising strategies and public engagement.
- ➢ Sentiment Analysis:
  - We conducted sentiment analysis on the collected tweets involving Wendy's to gain insights into the public sentiment towards the brand.
  - The sentiment analysis provided us with sentiment scores for the comments, which we utilized for further analysis.

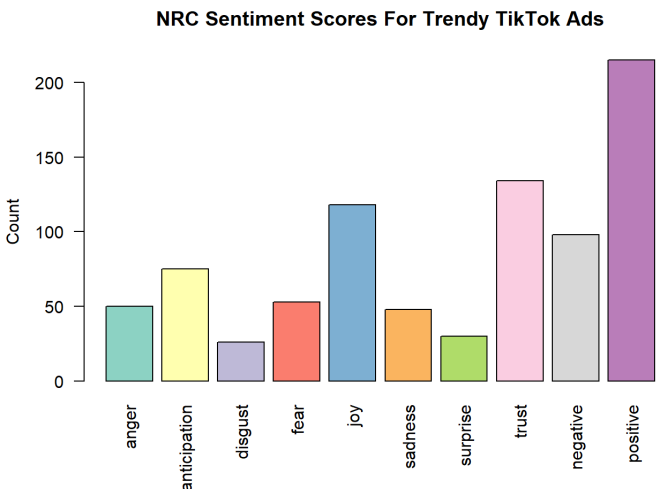

Figure 1: Sentiment bar plot for Trendy TikTok ads

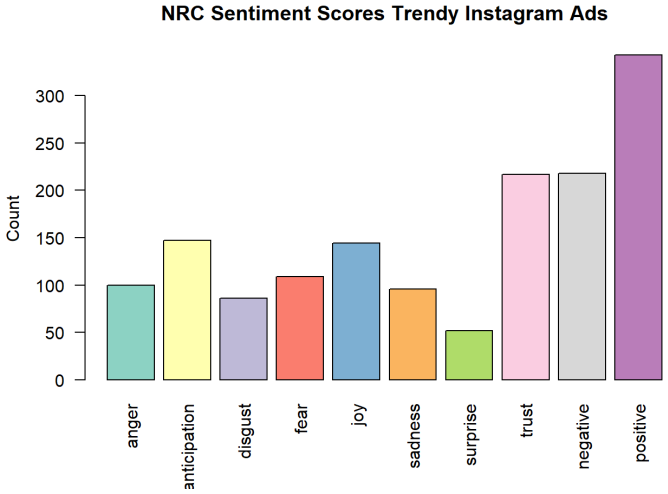

Figure 2: Sentiment bar plot for Trendy Instagram ads

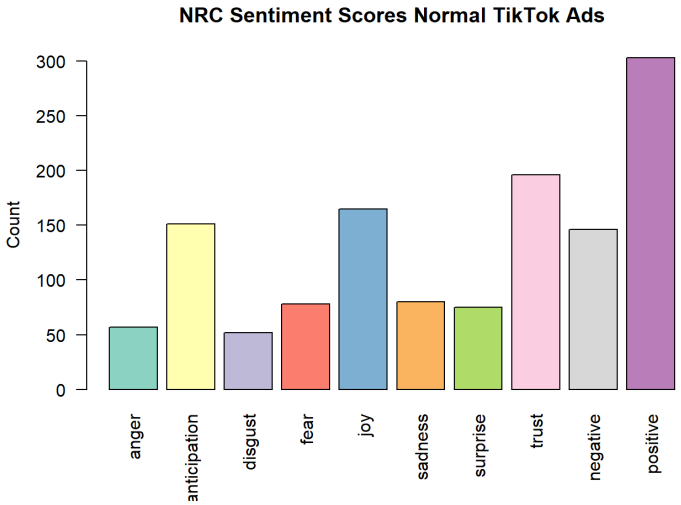

Figure 3: *Sentiment bar plot for Normal TikTok ads*

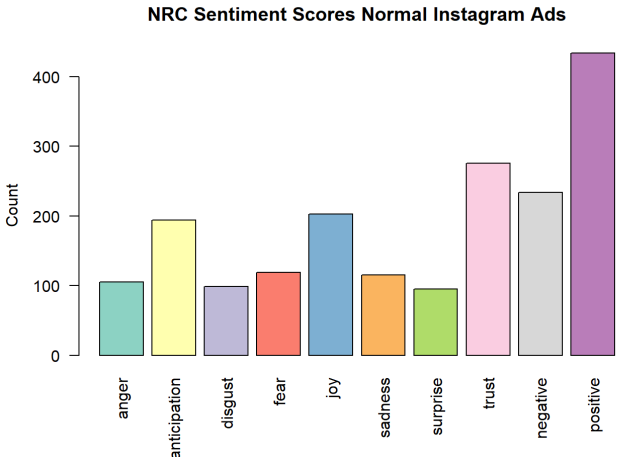

Figure 4: *Sentiment bar plot for Trendy Instagram ads*

Figures 1-4 shows the combined interactions between posts of the three listed companies and compares the sentimental content in these interactions. Bar under a category, lets say negative in a normal Tik Tok ad, means that the sum of negative interactions between these three companies' traditional ad is about 150.

We utilized various variables in our analysis, focusing on those relevant to capturing user engagement and sentiment. Here are the key variables and their data types:

1. Share count: Numerical
    - It represents the number of times a post was shared or retweeted.
    - This variable indicates the level of engagement and the reach of the posts.
2. Comment count: Numerical
    - It represents the number of comments or replies received on a post.
    - This variable measures the level of interaction and public engagement.
3. Comment content: Categorical
    - It includes the textual content of the comments left on the posts.
    - This variable allows us to analyze the sentiment and topics discussed in the comments.
4. Views: Numerical
    - It represents the number of views a post received on platforms like TikTok and Instagram.
    - This variable indicates the reach and popularity of the posts.

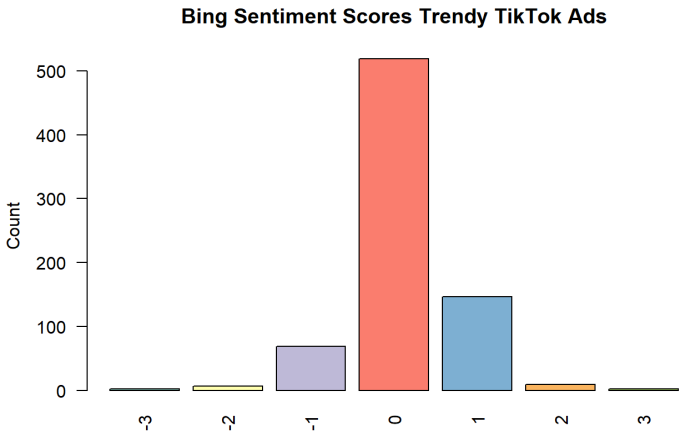

Figure 5: Bing Sentiment bar plot for trendy Tik Tok ads

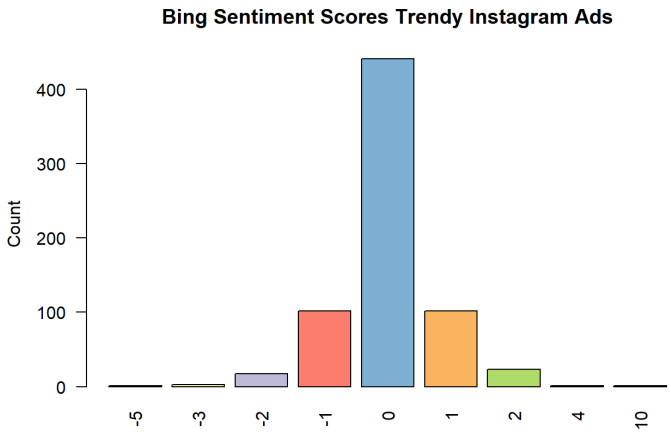

Figure 6: Bing Sentiment bar plot for trendy Tik Tok ads

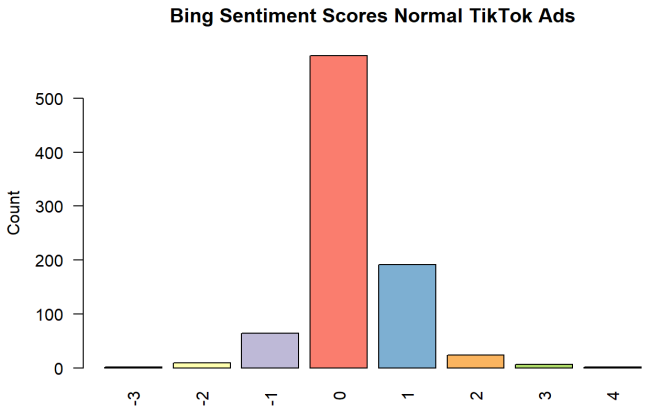

Figure 7: Bing Sentiment bar plot for normal Tik Tok ads

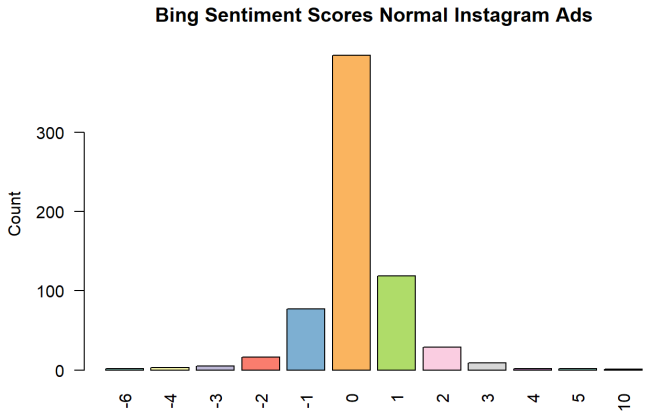

Figure 8: Bing Sentiment bar plot for normal Tik Tok ads

In Figures 5-8 shows the Bing Sentiment Bar plots of the three companies listed. In the x-axis the negative values mean negative interaction while a positive value is a positive interaction. For example , the Bing Sentiment Score for a Normal Instagram Ads, the distribution is more positive than negative because the sum of positive interactions are higher than negative.

Category	Amount Averaged
Likes for Trendy Ads	171044.6
Likes for Normal Ads	61278.4
Comments for Trendy Ads	1442.5
Comments for Normal Ads	902.3

Figure 9: Chart of average interactions

The chart on the left shows the average amount of interactions on posts for all the companies combined. In other words the companies Chipotle, Netflix, and Wendy have an average of 171,044 interactions on their trendy ads and 61,278.4 averaged interactions on their traditional ads.

To present the ranges and distributions of the important variables, we have included relevant plots and tables in the corresponding sections of the report. These visual representations provide insights into the distributions and variations in sentiment, engagement, and topic discussed within the user-generated content.

It is important to note that we conducted data cleaning and preprocessing to ensure the accuracy and relevance of the collected data. Cleaning steps involved removing duplicate entries, filtering out irrelevant content, and handling missing data.

For detailed information about the data sources used, please refer to the References section at the end of the document. The section includes links to the respective data sources, providing further context and access to the data used in this project.

Analysis

The methods we used to help answer our questions were different forms of sentiment analysis. The first form of sentiment analysis we used is NRC sentiment analysis which is an emotion lexicon which has thousands of English words associated with basic emotions: anger, anticipation, disgust, fear, joy, sadness, surprise, and trust, and two sentiments: positive and negative. The second form of sentiment analysis is a sentiment lexicon which categorizes words as positive or negative binary. The smaller the value the more negative the total comment is, and the larger the value the more positive the total comment is. For our analysis we took the comments/text from multiple posts from Wendy's, Netflix, and Chipotle and split it into trendy and normal datasets from TikTok and Instagram. The dataset was then put through R with the code for the analysis and the results were kept on a new dataframe. The information from that dataframe was then taken and plotted on a bar plot. For the NRC analysis that data is shown as a bar plot with the different emotions/sentiments on the x-axis and the amount of comments that contain those emotions on the y-axis.

The first plot "NRC Sentiment Scores For Trendy TikTok Ads" has more positive comments than negative and has higher values of anticipation, joy and trust. The second plot "NRC Sentiment Scores Trendy Instagram Ads" again has more positive comments than negative ones, and higher values of trust, anticipation, and joy. It does have a higher amount of positive and negative comments than the first plot. The third plot "NRC Sentiment Scores Normal TikTok Ads" has more positive than negative comments and higher values in trust, joy, and anticipation. It has less negative comments than the second plot. The fourth plot "NRC Sentiment Scores Normal Instagram Ads" has more positive than negative comments and higher values of trust, joy, and anticipation. The negative comments are higher than the first or the third plot. The highest amount of positive comments comes from the normal ads from Instagram, it also had the highest amount of negative comments. The plot with the highest amount of joyful comments is also the normal ads from Instagram. The plots with the highest amount of angry comments are normal ads from Instagram and trendy Instagram ads.

The bing analysis is also a bar plot with values ranging from -10 to 10 (-10 being the most extreme negative comments from the set and 10 being the most positive comments from the set. Some of the plots don't reach as high or low as -10/10) on the x-axis and the amount of comments that have that negative or positive value on the y-axis. For all of the plots, 0 is the highest value and more substantial than the other values. For the first plot "Bing Sentiment Scores Trendy TikTok Ads" the amount of positive comments is higher than the negative comments. For the second plot "Bing Sentiment Scores Trendy Instagram Ads" there's an even amount of positive and negative comments for the slightly negative and positive comments (-1/1). The value for positive comments goes up to 10 and -5 for negative comments. For the third plot there are more positive comments than negative, and the threshold goes higher for the positive side than the negative one. For the fourth plot there are more positive comments than negative and the positive threshold is higher than the negative side. The second plot has the highest amount of negative comments. The third plot has the highest amount of positive comments.

Another way we analyzed the data was looking at the amount of engagement these posts received. We took the average of the amount of likes and comments from the trendy posts from both platforms and the normal posts from both platforms and put those into a table. Both the average amount of likes and comments for trendy posts were higher than the average likes and comments for the normal ads.

Summary and Conclusions:

Through our comprehensive data analysis, we have observed the range of emotions elicited by different types of ads, as well as the level of engagement they receive. Our findings reveal that trendier ads tend to generate higher engagement. However, when considering the emotional data derived from sentiment analysis (NRC and Bing), the most significant emotional responses were associated with normal ads on Instagram (NRC analysis) and normal ads on TikTok (Bing analysis). The second most significant emotional responses were observed for trendy ads on Instagram (NRC analysis) and trendy ads on TikTok (Bing analysis). This suggests that while people engage more with trendier ads, they tend to express more meaningful sentiments towards normal ads.

Across all the plots, the overall responses leaned more towards the positive side, indicating that commenters did not exhibit significant outrage or dissatisfaction with any specific type of ad. Upon analyzing the data holistically, the sentiment scores from both analyses closely aligned with each other, without any outliers or extreme deviations (except for the 0 scores in the Bing analysis). Therefore, if companies solely focus on numerical engagement metrics, they should prioritize creating ads that align with current trends. However, if they seek deeper emotional engagement and more significant responses to their ads, they may benefit from sticking to traditional ad formats.

It is essential to acknowledge potential threats to the validity of this analysis. One such threat is the algorithm of the social media platforms, which may prioritize certain posts over others for various reasons. Additionally, the algorithm might hide posts if it detects any irregularities. Consequently, when targeting users with ads, the algorithm may not evenly distribute them or display certain ads to groups that may be more or less inclined to engage with them. Another potential threat is the sentiment analysis itself. The internet is constantly evolving, particularly in terms of language and slang usage. The lexicons used in sentiment analysis may not be up-to-date with current slang or may not recognize certain words, potentially affecting the accuracy of sentiment scores.It is important to consider these limitations when interpreting the results and recommendations derived from this analysis.

References

1) https://apify.com
2) https://www.tiktok.com/en/
3) https://www.instagram.com
4) https://bookdown.org/rdpeng/exdata/plotting-and-color-in-r.html
5) https://rdrr.io/cran/syuzhet/man/get_nrc_sentiment.html
6) https://www.tidytextmining.com/sentiment.html