POPEYES

CHICKEN SANDWICH

Team 6
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Introduction

Company Profile

Popeyes Chicken was founded just outside of New Orleans by Al Copland with the name "Chicken on the Run" in 1972. The original founder had a goal of competing with KFC in the area. The restaurant failed after a few months and then reopened as Popeyes Chicken. By 1985 the company had over 500 restaurants across the United States and Canada. By 1990, Popeyes Chicken had over $390 million in unpaid debts, primarily due to the acquisition of Church's Chicken. As a result, Popeyes defaulted on this debt and was purchased by creditors. A parent company named America's Favorite Chicken Company was created while the name Popeyes was retained. [1] To this day Popeyes remains under the control of AFC and in 2020 had sales of $5.143 billion. In 2019, they were $4.397 billion which shows the continued growth of the chain. [2]

Popeyes has had several highly successful marketing campaigns throughout their lifetime. One such example is from 2009 when AFC launched a major new marketing and rebranding campaign where Popeyes featured "...a real-life, no-nonsense mad truth speaker – a fictional Popeyes chef named Annie." [3] This campaign was launched as a way to exemplify their company's profile: Pure Lousianna fried chicken. The CMO and marketing team were very happy with the marketing campaign and as a result Popeyes saw a sales increase in 2010 of 5.1 percent, compared to a 1.8 percent increase in 2009 proving the success of their new advertising campaign. Popeyes continued this advertising and marketing approach for years to come. [4]

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[1] https://www.popeyes.com/our-story
[2] https://www.qsrmagazine.com/fast-food/thanks-chicken-sandwich-popeyes-making-400k-more-restaurant
[3] https://web.archive.org/web/20090527031232/http://www.popeyes.com/article.php?articleno=MTAz
[4] https://www.businesswire.com/news/home/20110309006995/en/AFC-Reports-Fiscal-2010-Financial-Results-Provides-Fiscal-2011-Guidance

The popularity of the chicken sandwich launch in 2019 propelled Popeyes to sales revenue and levels they had not seen in their history. This project will focus on the launch of the chicken sandwich, the media storm that followed, and the various events that occurred during the launch period. Popeyes marketed the chicken sandwich very well and many restaurants followed suit throughout the course of the year. Popeyes continues to work towards their mission each and every day which states: "to increase franchisee success in every facet of the business. Profitability and service excellence are achieved with a focus on five strategic pillars that guide every business decision." These five pillars are: Build a distinctive brand, Create memorable experiences, Grow restaurant profits, Accelerate quality restaurants and Develop servant leaders." [5]

SWOT Analysis

Strengths- When Popeye's launched their chicken sandwich in 2019 they successfully changed their social media approach. They began to take a more active role in communication with other brands. On Twitter, Popeyes, Wendy's, Chick-Fil-A, and other restaurants all went to war over their chicken sandwiches. Popeye's stayed active against these brands and raised their social media presence to a previously unmatched level. Popeye's did a great job posting entertaining social media posts, especially when competing against Chick-Fil-a. Popeye's has also done a great job staying authentic and has provided an honest approach to their social media accounts.

Weaknesses- Popeye's can do a better job communicating with their followers. Popeye's social media program has improved recently, but they have mainly focused on talking with other brands. Looking at Popeye's Twitter, they don't often retweet their followers. Instead, they

[5] https://www.snagajob.com/company/popeyes

focus mainly on entertaining and promotional posts. Popeye's could benefit from a more engaged social media presence. Popeye's also showed they had a surprisingly small amount of tweets during the end of the chicken sandwich craze. Popeye's needs to continue to tweet more regularly to create more engagement.

Opportunities- The biggest opportunity Popeye's missed was to use their social media team as customer support and service during the chicken sandwich craze. There was a string of violence and their team could have alleviated some concerns. Popeye's also needs to begin to communicate more with their consumers rather than just against other brands.

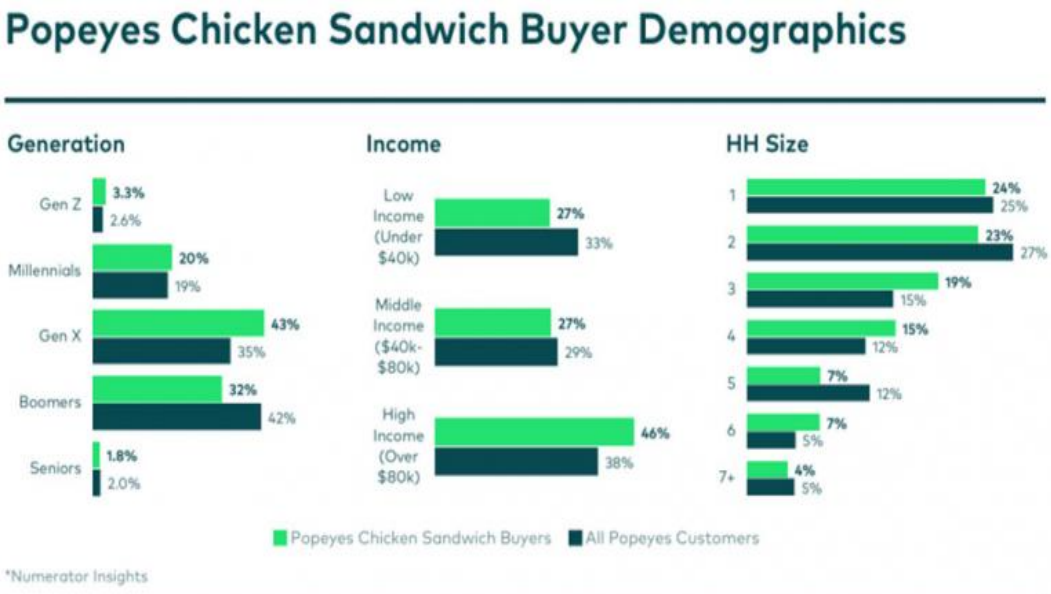
Threats- Competitors like Chick-fil-a, KFC, and Bojangles. Product reviews are also a threat. During the sandwich craze, reviews for the food were positive, while a lot of negative attention was given to wait times and violence.

Competitive Analysis

The biggest competitor for the Popeyes chicken sandwich at the time was the Chick-Fil-a. Chick-Fil-a at the time had around 1.1 million followers on twitter compared to Popeyes who only had around 107,000 followers on Twitter, (CNBC). Along with this Popeyes just didn't utilize Twitter enough, they didn't make many posts, and they didn't interact with their followers. Things have changed now but at the time when the Popeyes Chicken Sandwich came out Chick-Fil-a was more active on Twitter. Since Chick-Fil-a was more active they had more active followers leading to more engagement. While Popeyes was dealing with the issues of running out of ingredients for the chicken sandwich, this led their feed to focus more on that than the positives of the sandwich.

Target Audience

We saw that our target audience were fast food consumers, Gen X, median income status, and smaller households. As seen on the chart these groups of people are more likely to buy chicken sandwiches from Popeyes more frequently. During the time of the Popeyes Chicken Sandwich we saw a big boost in Gen Z because the rivalry between Popeyes and Chick-Fil-A was mainly on social media and this enticed Gen Z. We advise Popeyes to keep their current target audience. We also believe they'll be able to dip into a new market, which is Gen Z, if they use their social media platforms to their advantage.



Social Media Audit

While reviewing Popeyes social media presence we saw that before the chicken sandwich their social media presence was very minimal. Even during the time of the chicken sandwich Popeyes didn't post as much as one would think, with their highest post count being 11 in the month of December. We also saw that their posts only centered around their products and when the chicken sandwich was out of stock and when it came back. Their competitors' social media

pages showcased happy customers and employees along with their products. We believe that Popeyes should focus more on how their customers feel about their products or about the brand in general. Posting more content consistently will also put their page on their followers feed more often.

Megaphone

Overall Content Strategy

Overall Popeye's content was primarily focused on promoting their sandwich. They didn't always use media in their posts and relied sometimes on just posting text, which could be viewed as a mistake since they are trying to promote a new product and pictures, especially of food, help entice customers in buying. One unexpected piece of content that drove up their retweets was when Chick-fil-a tweeted to Popeyes that they were the original chicken sandwich. Popeyes responded simply with "Y'all good?" and that was retweeted over 86,000 and that brought on a chicken sandwich debate where people gave their opinions through to which sandwich they thought was better and even other competitors got into the action. Wendy's posted humorous tweets as they normally do and that kept the conversation going. Popeye's was primarily using mostly TV media to promote the sandwich originally, but once they saw how much engagement there was on Twitter from the "chicken war" they put a lot of their paid media toward social media and shifted away from TV almost entirely for the relaunch of the chicken sandwich. So it could be seen as Popeyes seeing the true value and power of social media during their campaign and learning that they should have made more of an investment in it from the beginning

(https://www.warc.com/newsandopinion/news/popeyes-chicken-reflects-on-its-social-media-success/en-gb/42976).

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Data

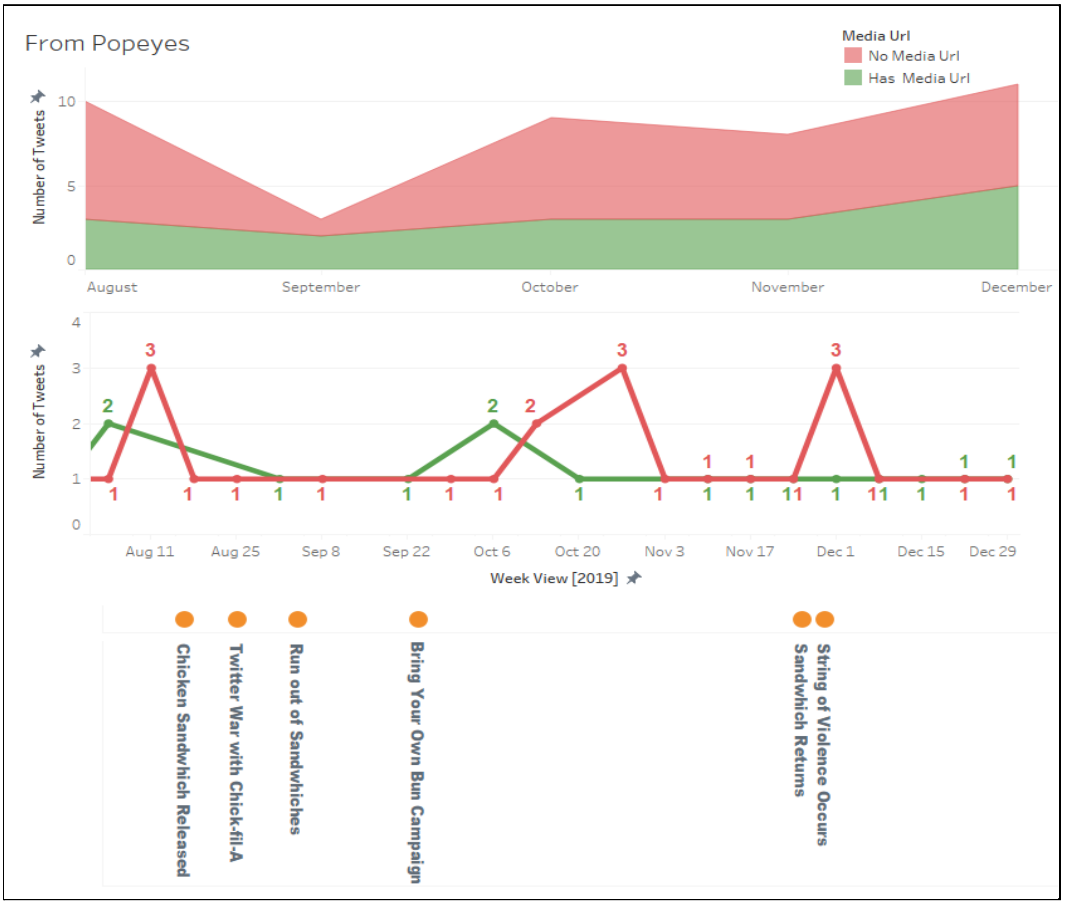
From the data gathered from Popeyes Twitter account we saw that they didn't utilize Twitter in the best way for them. Firstly, Popeyes didn't post enough by any means, they only posted a total of 69 times, between the months we studied from June to December. Their highest number of posts by month was in December coming in at 11 posts. Compared to other fast food chains that also use Twitter, Popeyes was somewhat inactive when it came to creating/uploading their own content. When they did upload content it was mostly about the chicken sandwich returning to stores than anything else. Unlike other brands Popeye's had tunnel vision on this specific topic of content, while other brands showcased their products, along with customers and customer testimonials, and even employees.

Analysis

Volume of Tweets over Time

With the data that we collected from them, we can see both the monthly view and weekly view of the number of their tweets, as well as the major events that occurred at the bottom. One interesting point is that the week of the sandwich release they posted more frequently, but the next week (August 25th) they didn't capitalize and continue with more posting as the sandwich was getting more popular. One thought is that maybe they had an indication after the first week of how popular the sandwich was and that they were quickly going to run out of the sandwich so they didn't want to overpromote. As we can see there posting flat lines from that week and starts to rise again only after the bring your own bun campaign is launched. The final spike we see occurs when the sandwich is rereleased. One other observation is that when they do post, most of the time they do not have any media attached. It would be beneficial to attach images to the sandwiches you are trying to promote as much as you can to drive sales and get people into the

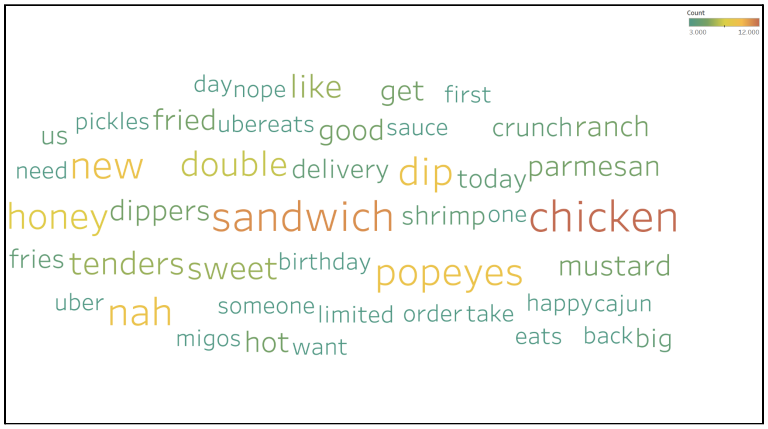
stores. People tend to eat with their eyes first so being able to showcase your product in an image or capturing a video of a happy customer after eating your sandwich can go a long way.

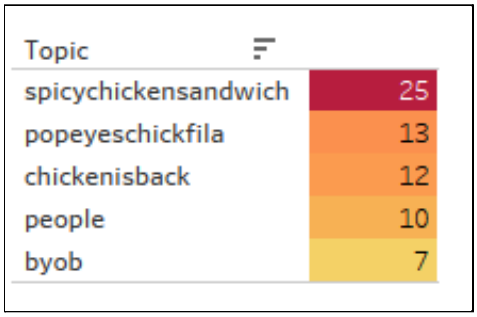


Word Cloud of Tweets

When they posted the least it occurred when they ran out of sandwiches, with the exception of the Bring Your Own Bun campaign, we wanted to try and get some indication as to what they were tweeting about. From the topic modeling results below we can see that most of their tweets were linked to a topic about the chicken sandwich\spicy chicken sandwich We also decided to do a word cloud to see if that gives any indication of what their posts are about. When looking at top words from their tweets in the word cloud below, they appear to be talking a lot about promotional information, because there is a lot of talk about the sandwich and chicken,

but they also mention other menu and food items such as dippers, fries, shrimp, tenders and even a mention of UberEats. We feel Popeyes missed an opportunity, where they could have reacted better to the different events that may have been hurting their brand, such as running out of the sandwich and being linked to the violence that occured. Social media could be used as a tool for customer service and rather than react, they stayed silent and went into hiding.





Linear Regression

A linear regression was performed to see if any information could be drawn on the effect of like counts from what Popeye's posted. Unfortunately due to the low sample of tweets there were only two significant features. One was that having emojis in the tweets increased the log of likes by .318 compared to those that don't have emojis. The second was that an increase in the log of retweets will increase the log of likes by .903. The regression output can be found in the Appendix under **Monitor Linear Regression of Like Count**.

Monitor

Data

To monitor what topics and conversations people were having when they talked about Popeyes, we collected data covering major events that occurred during the Popeyes Chicken

Craze. Our main dataset was focused on the tweets about the Popeye's Chicken Sandwich itself, but we also collected data regarding other events that took place during the Popeyes Chicken Sandwich event. Events include the Chicken Sandwich Wars, reaction to Popeyes being sold out of the sandwich, Popeyes fights or shootings that occurred related to the sandwich and also references to the Popeyes Bring Your Own Bun campaign (BYOB) which was a response when Popeyes ran out of sandwiches. We felt it is important to cover as many areas as we could because monitoring involves listening to the different topics that consumers are talking about because they may not always directly include the company in the conversation when they tweet. We used this data for different types of analysis, such as analyzing hashtag mentions, topic modeling and sentiment analysis. In our analysis section we will discuss our findings using this data.

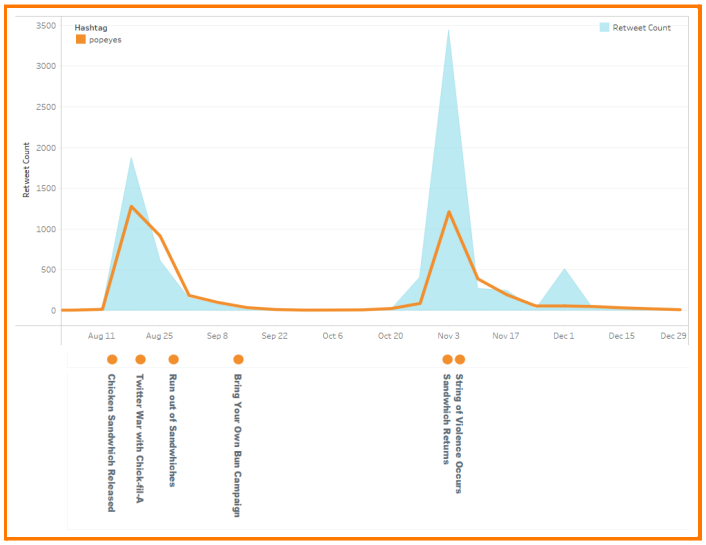
Analysis

Hashtag Analysis

The most popular hashtags used in the data collected were #popeyes and #popeyeschickensandwich which represent the company and campaigns respectively. Hashtags are used to make it easier for your customers to find information about your company, product or campaign. This can lead to more engagement with the content you post which will hopefully lead to an increase in sales. Hashtags are more flexible and can allow you to label certain events or campaigns tied to the company.

Analyzing both the hashtags of the company (#popeyes) in orange below and the campaign (#popeyeschickensandwich) in red below, show a big spike after the sandwich is released and also continues upward when Twitter War with Chick-fil-a occurs. Soon after there

is a decrease in the volume of both hashtags as a result of the sandwich being sold out across the country. The Bring Your Own Bun campaign started in mid September and a few weeks after the decline of hashtag usage we see the usage reverse course back upwards. An interesting discovery when overlaying the retweet counts is that while the volume of both hashtags show a similar rise and fall over time, the second spike of retweets in blue is significantly higher than the first as seen in the visualization below. Looking at the events that occurred at that time we see that the major event is that the sandwich was rereleased and soon after there was a lot of violence that occurred from people trying to get the sandwich because of the anticipation and demand that the first wave caused. To examine this further we decided to perform topic modeling and use that in a regression analysis to understand the effect of retweets and what content drives retweets up.



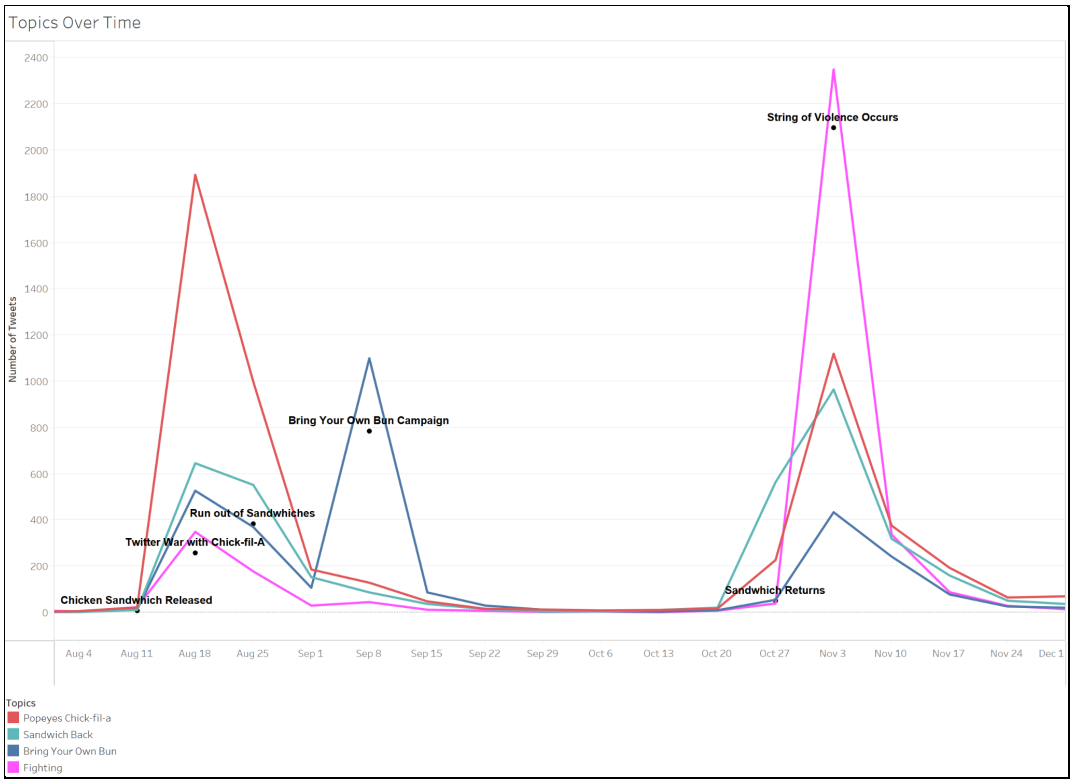
Topic Analysis

To understand what topics were talked about in the data that was pulled from the Twitter API we performed LDA topic modeling using the cleaned text that we developed in R. Using the topic model function we were able to identify six topics from the analysis which are

identified in the image below. The tweet records were then assigned one of the six topics. The topics tend to revolve around some of the events mentioned in the hashtag analysis. The first topics talk about both Popeyes and Chick-fil-a which references the Twitter War that occurred soon after the sandwich was released. The second topic was the most vague of the six and mentions the people/customers and if we had to interpret this, our best interpretation would be that it is talking about the actions of the people such as how long they are waiting in line. The third topic mentioned is the chicken sandwich but also has spicy as a key word so this appears to be about the Spicy Chicken Sandwich. The fourth topic mentions two keywords "go" and "back" so our assumption is that this is referring to the rerelease of the sandwich being back in stores. The fifth topic references the Bring Your Own Bun campaign, which is the response from Popeyes being sold out. Lastly are the mentions of "fight" and "stabbed" which is clearly about the fighting and violence that occured around the chicken sandwich release.

By linking the topics to each tweet, we wanted to see when certain topics spiked over time and see how that was correlated around when the different events occurred. In the visualization below we have some of the topics from the topic analysis. We can see the Popeyes Chick-fil-a topic spikes around the time of when the Twitter Chicken Sandwich war starts. We can see it spike a second time soon after the sandwich is rereleased but it doesn't have nearly as many tweets the second time around. An interesting point about the Twitter War is that it was started with Chick-fil-a and Popeyes, but it took on a life of its own with customers mostly weighing in and even other competitors like Wendy's getting in on the action and capitalizing with their humorous responses.

We see the Sandwich Back topic spike around when the sandwich returns for the second time but there is also a smaller spike in the beginning of the sandwiches release. The Bring Your Own Bun topic spikes during the release of that campaign, but soon drops after that as a lot of the topics do during the period of them running out of the sandwiches. Finally we see the largest spike with the Fighting topic falling in line with the time when the most violence occurred. All the topic's major spikes happen when the event occurred, which can validate the results of our topic analysis.



Linear Regression

With the second wave of retweets being so much higher than the first in our hashtag analysis it seems like the rerelease was more popular than the original release. Now that we have a list of topics generated we wanted to use this and our other data to study what affected the increase in the number of retweets the most. The numerical data was converted to a logarithmic scale to better fit the assumptions needed for linear regression. The regression output can be found in **Monitor Linear Regression of Retweet Count** of the Appendix and from the results we were able to gain some understanding about what contributes the most to gaining more retweets in the posts about the Popeyes Chicken Sandwich.

We found tweets that have emojis or media links have a positive impact on getting more retweets. Going back to the Megaphone section we saw that Popeyes didn't use as many media links, so this shows that using media links would improve their chances of their posts getting

retweets and reaching a wider audience. Sentiment scores varied between the different sentiment measures that were captured, but the most significant field (SentimentGI) shows positive sentiment has a higher effect on increase in log of retweets though the impact is somewhat small.

Next, examining the topics from the analysis we did in the previous section, the data shows that the "fighting" topic has the highest impact on the increase in the log of retweets compared to tweets that weren't associated with any topic. Interestingly enough the second highest was the topic "sandwich back" which references the rerelease of the sandwich. Going back to the hashtag analysis when comparing the higher second spike of retweets they occurred around the time when the sandwich was rereleased and a string of violence occurred. Therefore, the linear regression explains why there were so many more retweets during the second spike with both events happening so close to one another.

Other findings show more mentions lead to an increase in the log of retweets while more hashtags having the opposite effect. Also, regarding the emotions, anticipation, fear and anger has a positive impact on increasing the impact on retweet count. These emotions can also represent different parts of the Popeyes craze that people were talking about. Anger can be from the sandwich being sold out, anticipation from waiting for the rerelease and anger from the fighting and violence.

We also looked at the effect on the like counts, which can be found in **Monitor Linear Regression of Like Count** of the Appendix and while there were a lot of similarities between the regression done on the retweet count one difference was the topics. The topic that had the most positive impact on likes was about the chicken sandwich being back compared to tweets without a topic

Network Analysis

From the regression we found that people tend to get more retweets when the topic is about fighting. We wanted to understand who was being mentioned and the effect it had in gaining popularity on Twitter and how fights soon went viral using a network analysis. We focused on tweets that mentioned both "popeyes" and "fight" and out of those tweets only considered those that had mentions to other user accounts. Using this information we built a network and ran a degree centrality analysis. The visualization of the network can be found in **Network Visualization of Popeyes Fight Mentions** of the Appendix. The results show that the number of connections range from 0 to 105 and that the average node is made up of an average of 1.745 connections. This tells us that there are some disconnected nodes and a lot of users may tweet about fights but not mention many user accounts when they do so.

All Connections					
Min	1st Qtr	Median	Mean	3rd Qtr	Max
0	1	1	1.745	1	105

Examining the differences between the indegree and outdegree centrality there are nodes with more outdegree connections than indegree connections as the maximum number of outdegree connections for a node is 105 and for an indegree node it is only 10. Outdegree refers to how many users an account can reach when they post content to so it is a very important measure regarding the spread of information and how something can get retweeted.

Outgoing Connections					
Min	1st Qtr	Median	Mean	3rd Qtr	Max
0	0	0	.8724	1	105

Incoming Connections					
Min	1st Qtr	Median	Mean	3rd Qtr	Max
0	0	1	.8724	1	10

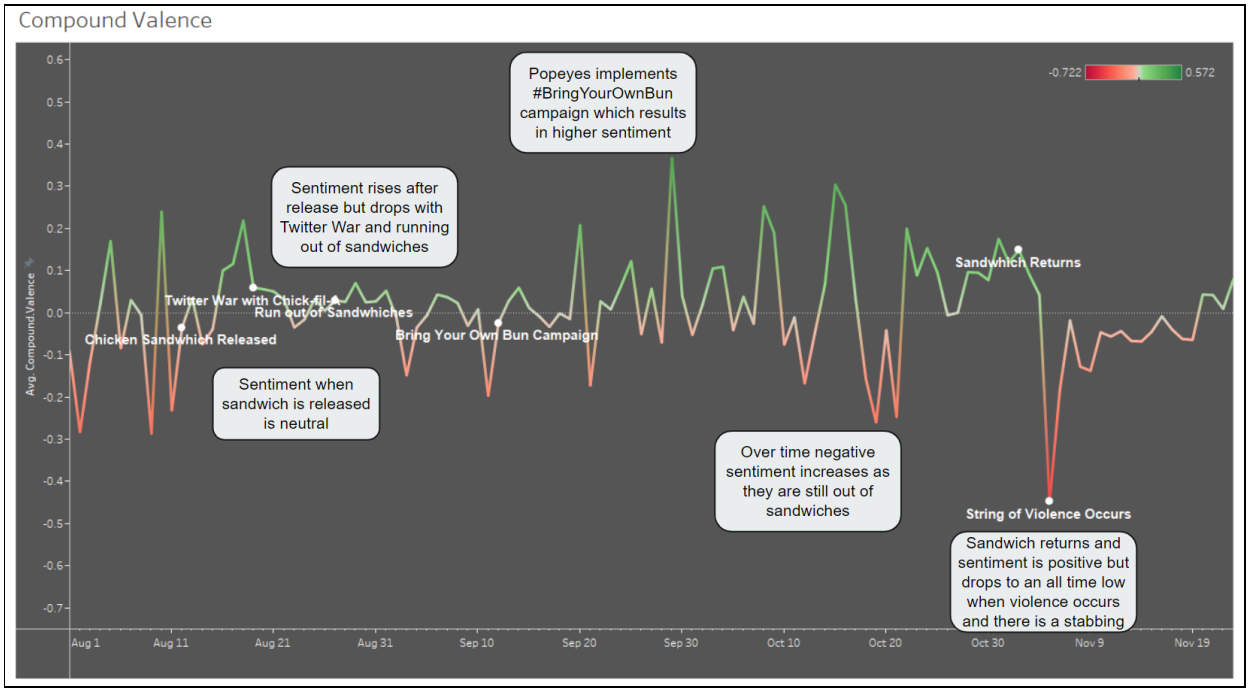
Examining which nodes had the highest outdegree after Popeyes we see that there are a lot of news organizations such as the NBC News, Daily Mail Online, TMZ and Google News. This shows that there was a lot of media reporting on the violence that was occurring at Popeyes after they re-released their sandwich. The violence being linked to Popeyes could damage their brand by having violence linked to their company. As discussed in the Megaphone section Popeyes didn't respond to the violence and this can be seen as a miss opportunity to do damage control. Chick-fil-a is also mentioned in the outdegree and this could be from people fighting on Twitter about which sandwich is better. Lastly we also observed that media sites YouTube and WorldStar were among the nodes with outgoing connections. This can be from the majority of the Popeyes fights being hosted on these platforms and contributing to how fast the videos spread, leading it to go viral.

user.id	user_username	degree.all	degree.out
6021	popeyeschicken	105	105
3771	nbcnews	55	55
5818	youtube	53	53
5823	chickfila	49	49
5239	tmz	44	44
6032	mailonline	36	36
5858	googlenews	31	31
3911	nypost	24	24
5431	usatoday	23	23
6005	worldstar	14	14

Sentiment Analysis

With significant emotions such as anticipation, anger and fear being highlighted in the regression and how much a factor fighting was after the rerelease of the sandwich, the Popeye's sandwich craze went through a range of emotions at different times. We wanted to highlight this by providing a visualization of sentiment analysis highlighting certain areas when different events occurred over time and showing the average compound valence over time.

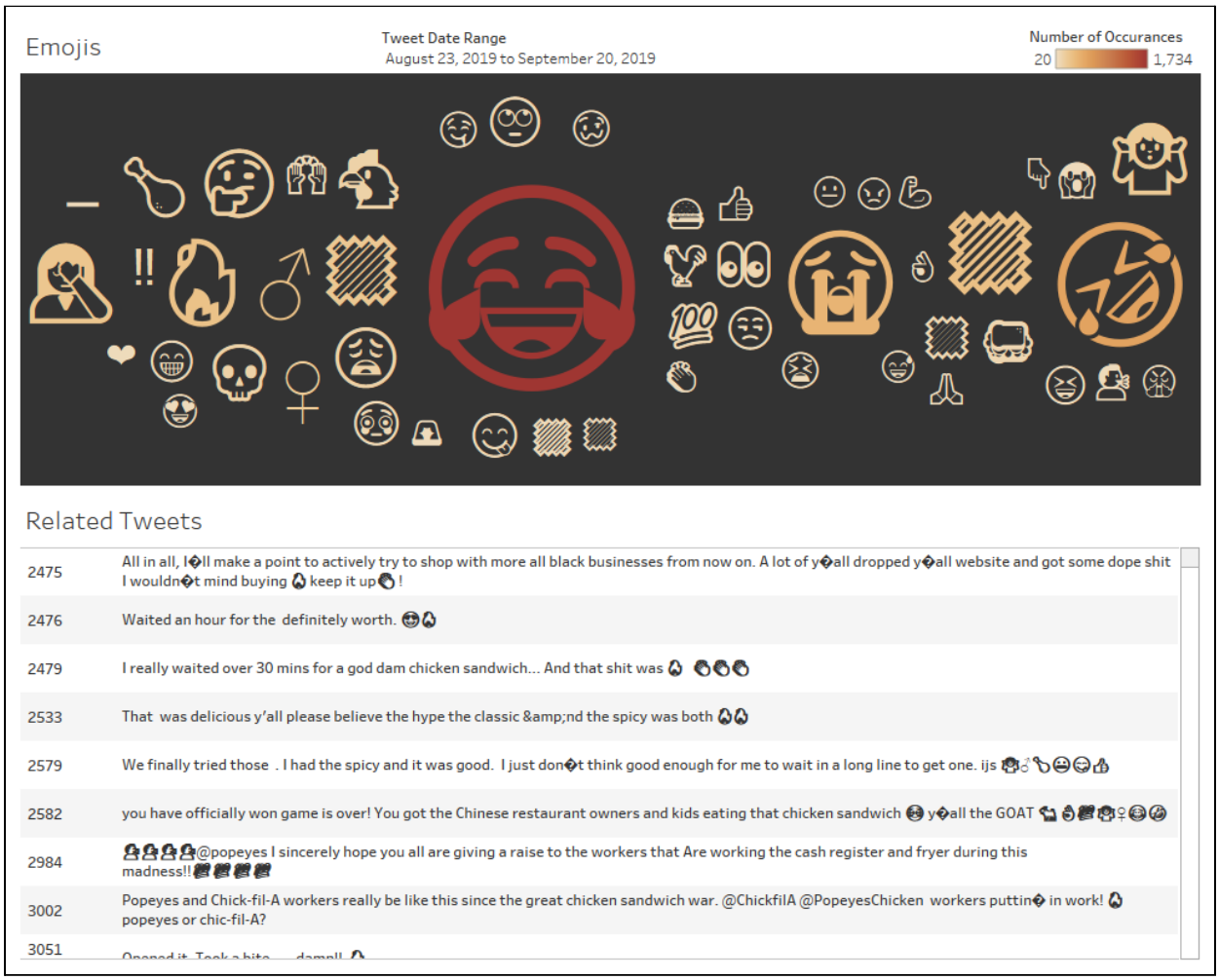
The green represents positive sentiment (> 0) and the red negative (< 0). When the sandwich is released it starts out close to 0 which is neutral. The days after the sandwich is released it starts to trend upward to more positive sentiment. People start discussing their opinions of whether this sandwich is better than Chick-fil-a where a sort of Twitter Wars occurs mostly between the consumers giving their opinions and it results in driving down the sentiment. Soon after they run out of sandwiches it leads to some red spikes of negative sentiment. Popeye's to their credit came up with a Bring Your Own Bun campaign as a solution to not having the sandwiches available. We can see green spikes of positive sentiment soon after, so it appears that people are reacting positively to the campaign. We can see it has been about a month and a half since they ran out of sandwiches and negative sentiment spikes appear again. Eventually as they begin to get more sandwiches in stores the sentiment shifts back to positive. Unfortunately, soon after there was a lot of hype and demand for the sandwich so this led to a string of violence, where on November 5th the most negative sentiment score occurred when a man was fatally stabbed in Popeyes restaurant in Maryland. In the Appendix under **Word Clouds of Sentiment** we can see the words about what people were talking about during different times that contributed to the sentiment scores.



Emoji Analysis

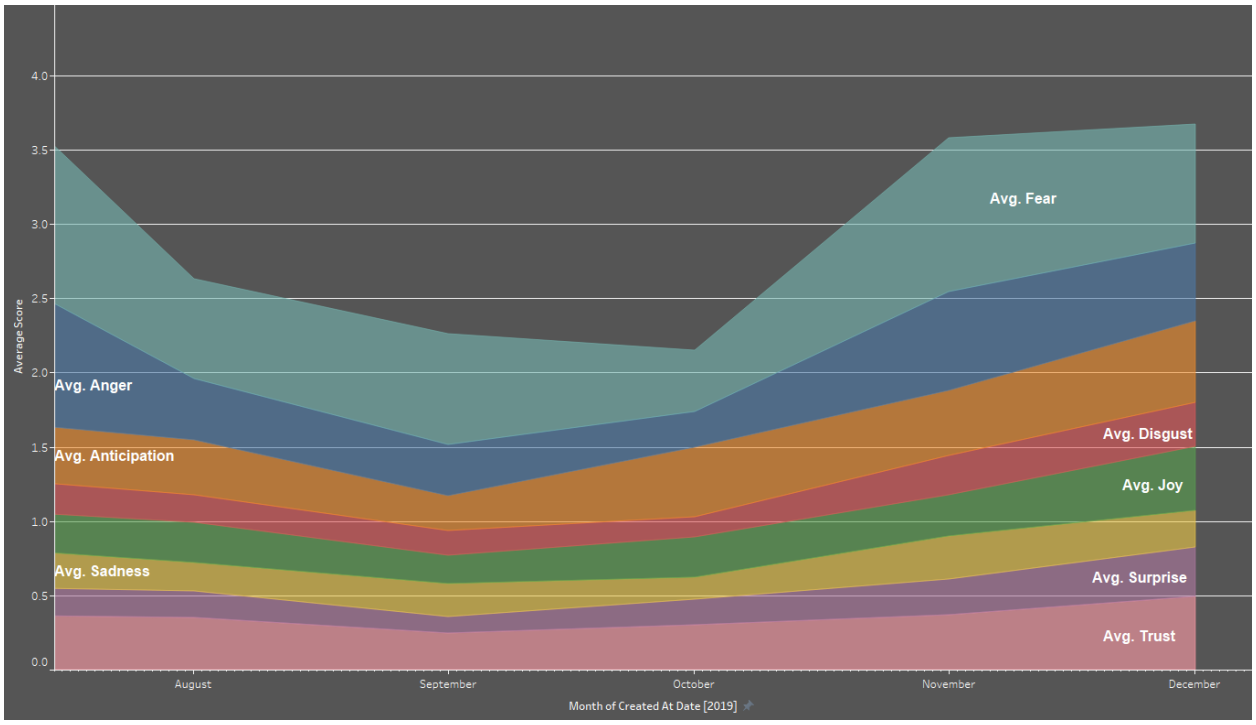
From the sentiment analysis we can see that there were dramatic shifts in emotion from negative to positive over time. To better understand the emotions behind this we did some analysis on the emojis that users used in their tweets. We collected all the unicode characters from the tweets and then captured how frequently they occurred every day in our study period. From there we are able to see which emotions were high for a given day or range of days. We chose the time period of August 23rd to September 20th when they started running out of sandwiches. Our reasoning for selecting this date is that it represents a range of different emotions. We can see in the visualization below there is **positivity** shown in the following emojis 😍🔥💯👍❤️ when people describe how good the sandwich is, **sadness** seen in these emojis 🤣😭😩😒😂 when they are selling out of the sandwiches and can't find any and **shock & disbelief** 🤷🤦🙏😱 about how long people are waiting for the sandwich and the fighting. In order to see what the users were actually talking about we show the related tweets below. This emoji cloud shows that overall there was a wide range of emotions being talked about when

they started running out of sandwiches. Popeyes could use this visualization to capture what emotions are being talked about for a certain day and listen to what consumers are saying. They can identify the negative emotions and use that to quickly identify potential issues and respond.



We also used the "get_nrc_sentiment" function to capture if the tweet captures emotions such as anger, fear, joy or anticipation. If it does contain that emotion it is given a value 1 in the emotion field. We created the following visualization of average emotion scores from August to December. This data shows which emotions change over time and what stays the same. Some noticeable observations when looking at the emotions, we see fear gets bigger toward August to September when the sandwich runs out. Fear and anger also get larger in November to December

when the most violence occurs. Anticipation is larger leading up to August and the release of the sandwich, it gets smaller in September when they run out of sandwiches and increases the following months leading up to the rerelease. Trust takes a dip in September when they run out of sandwiches, it is worth noting that this was Popeyes lowest month of tweeting and they could have been more responsive in order to keep the trust. It does however build back up over the next few months and in December their trust score is higher than it was back in August. Disgust, Joy, Sadness and Surprise remain pretty steady throughout the months however one observation is that their scores get a little bigger towards the end of the study in December.



Cluster Analysis

For the cluster analysis we decided to use the following variables: ***user followers count, user_tweet_count, and Number of tweets.***

Pictures below show the result of running a K-means clustering analysis.

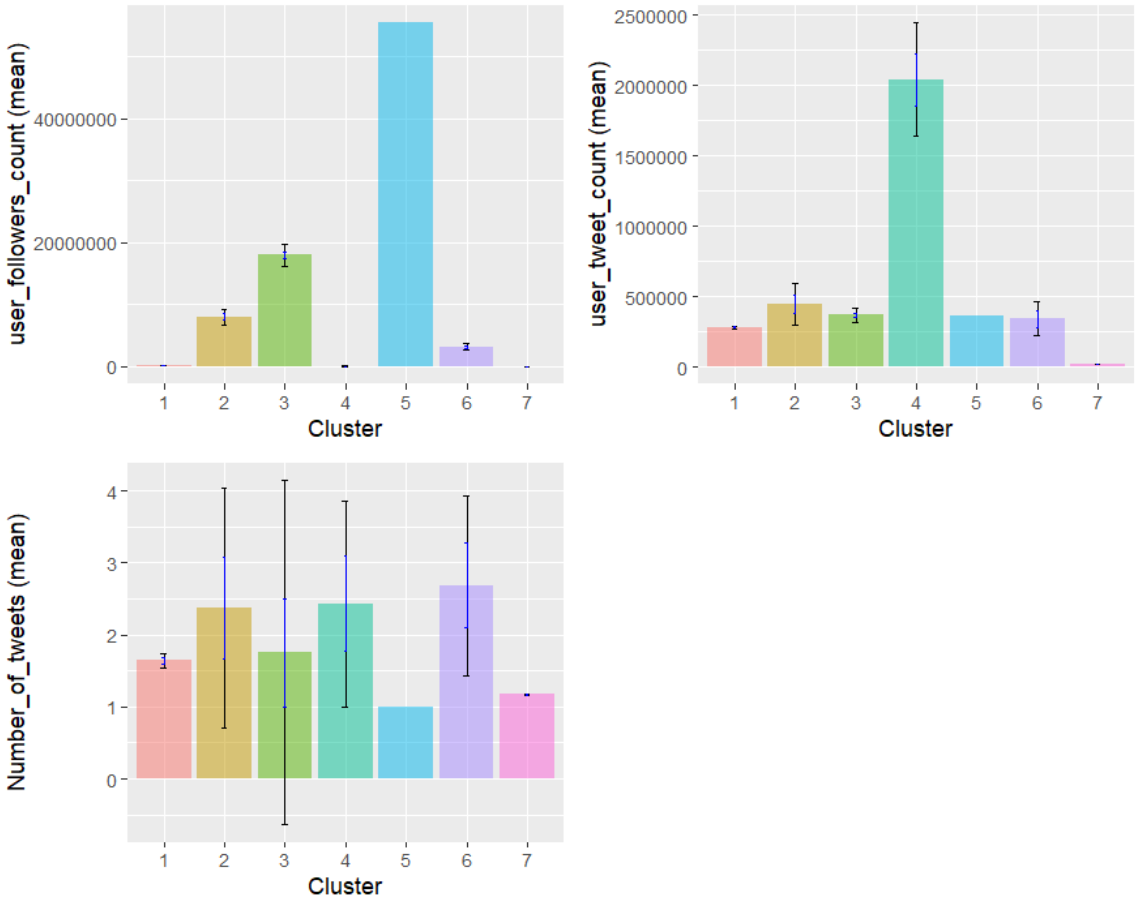
```
K-means cluster analysis
Data         : sentanalysis_twitter_data_cleaned_user_data_for_cluster_analysis
Variables    : user_followers_count, user_tweet_count, Number_of_tweets
Clustering by: K-means
Standardize  : FALSE
Observations : 21,856
Generated    : 7 clusters of sizes 924 | 8 | 4 | 14 | 1 | 19 | 20,886
```

Cluster means:

	user_followers_count	user_tweet_count	Number_of_tweets
Cluster 1	107,286.95	282,863.46	1.64
Cluster 2	7,989,308.38	443,887.25	2.38
Cluster 3	17,965,418.00	367,315.50	1.75
Cluster 4	53,762.07	2,043,728.71	2.43
Cluster 5	55,428,276.00	358,563.00	1.00
Cluster 6	3,196,061.53	339,832.58	2.68
Cluster 7	2,437.15	21,359.17	1.17

Percentage of within cluster heterogeneity accounted for by each cluster:

```
Cluster 1 51.03%
Cluster 2 11.22%
Cluster 3  2.57%
Cluster 4  4.90%
Cluster 5  0.00%
Cluster 6 13.70%
Cluster 7 16.58%

Between cluster heterogeneity accounts for 97.47% of the
total heterogeneity in the data (higher is better)
```



Per the results above, we can see that **cluster 7** accounted for almost 96% of the total and **cluster 5** represents **one** macro influencer (CNN) with over 55 million followers. Other macro influencers are in **cluster 3** such as: Forbes, ABC News, Washington Post, and Wall Street Journal. A cluster that got our attention was **cluster 4** that without having a large number of followers, has a high number in ***user_tweet_count*** and ***number_of_tweets.*** In a further analysis, we saw, that a dominant number of new tweets (8) by two users *Chris_1791* and *the_news_DIVA* showed us that they were not only replying but putting in there new content to drive conversation, example below:

Chris @Chris_1791 · Aug 30, 2019 ...
Man threatens to sue Popeyes after he wasted time and fell for a scam in futile attempt to obtain a chicken sandwich dlvr.it/RC9vTF
#Chickensandwich #Lawsuit via @theblaze

Magnet

Data

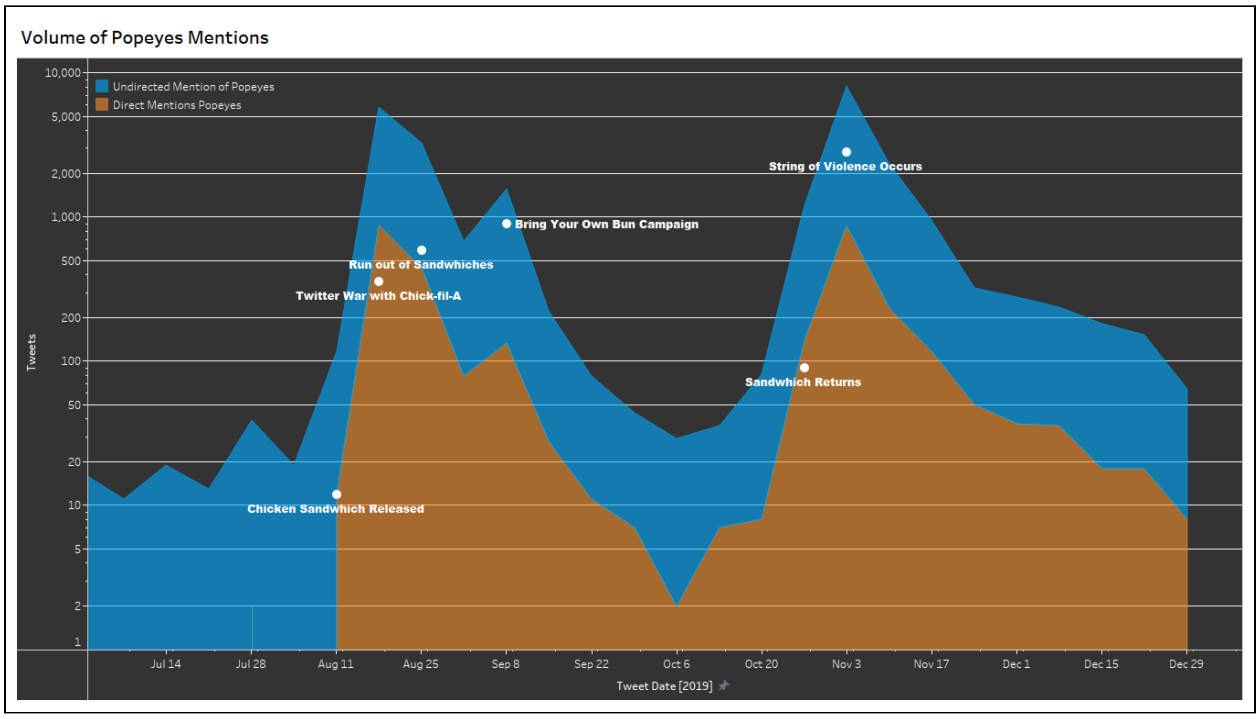
People can post tweets talking about your company and directly mention other accounts such as friends, followers and even competitors, but still decide to keep the company out of the conversation and not directly mention them. This area of social media is very important because companies can get honest feedback about what customers think about your business, it represents customers letting the business in on the conversation, and it allows the business an opportunity to build a relationship or take an action to help the customer address their issues. The magnet analysis data we collected represents consumers directly talking to Popeyes through direct mentions of their account @Popeyes or mentions of the PopeyesChickenSandwich. We also looked into capturing the replies but we found only 10 in the entire dataset.

Analysis

Volume of Directed and Undirected Mentions Over Time

In the visualization below we compared the volume of both the directed mentions and undirected mentions from keywords surrounding different events such as when the sandwiches were released and re-released, the Twitter War with Chick-fil-a, the Bring your Own Bun Campaign and the violence that occurred over time. We can see that before the sandwich was released there weren't many direct mentions (orange) of Popeyes and it was mostly undirected (blue). After the sandwich was released there is a dramatic spike in volume for both directed and undirected mentions. They soon run out of sandwiches and we see the numbers plummet, only to rise again soon after the sandwich is rereleased. The rerelease of the sandwich helped the mentions reach the same volume it did during the first wave. It can be interpreted that Popeyes gained increased brand awareness when they released the sandwich and that it got a lot of people

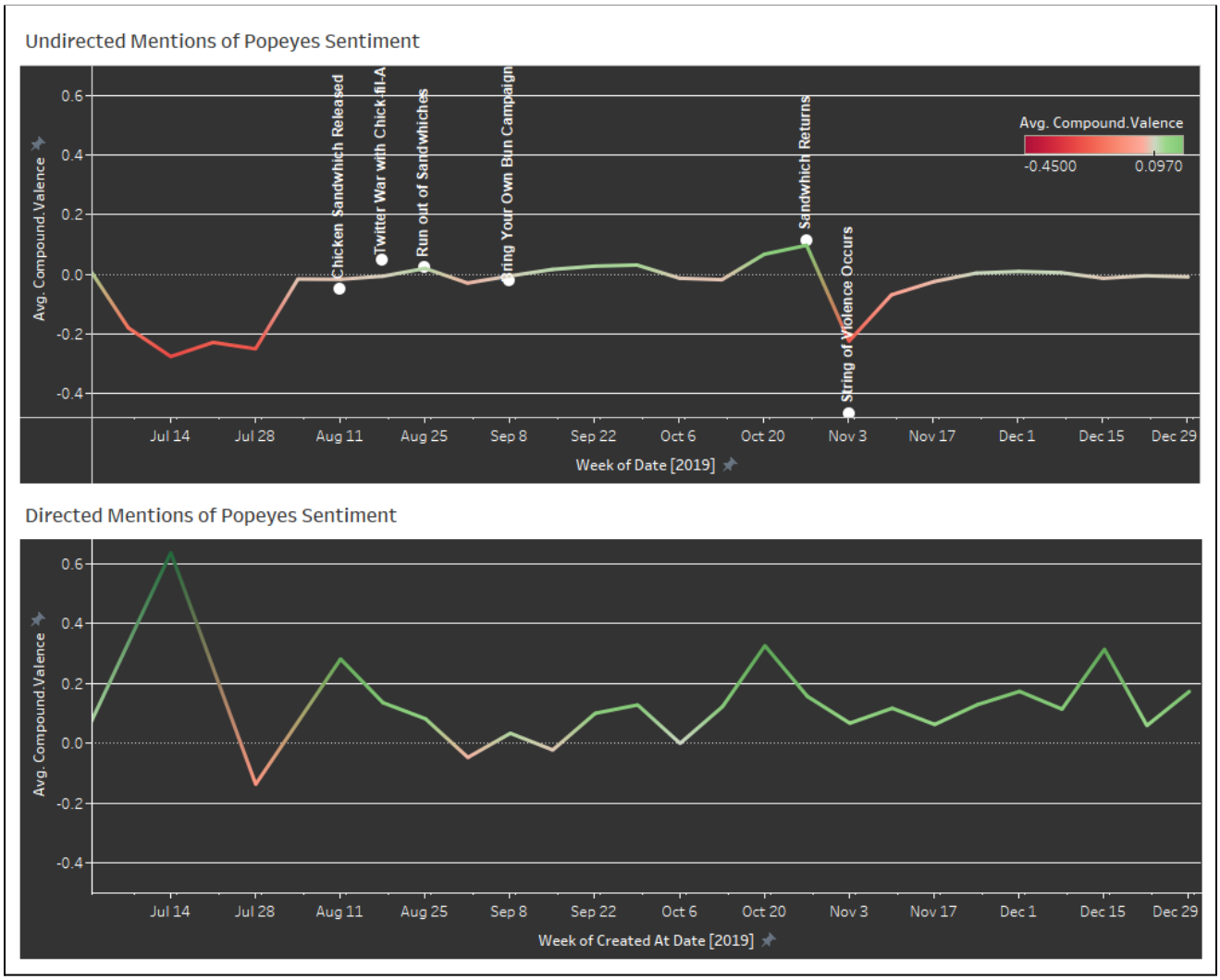
talking which helped increase the demand for chicken sandwiches. They were on a rising trajectory, but running out the sandwiches put them back at the starting line where they had to get the sandwich re-released as soon as possible in order to try to sustain that momentum they had in the first wave. This is why they implemented measures like the Bring Your Own Bun campaign.



Sentiment Analysis of Directed and Undirected Mentions Over Time

We compared the sentiment to see if there was a difference in scores based on whether they were directly mentioning Popeyes or not. We examined the average compound valence over time. The first visualization below shows the undirected mentions about Popeyes. We observed that for undirected mentions the average compound valence for the most part remains neutral over time with a positive spike when the sandwich returns and a negative spike around the most violence. In the second visualization for direct mentions, even though they represent less volume they have higher average sentiment and there is not as much negative sentiment in these mentions and it remains positive for the most part. One observation we noticed is during

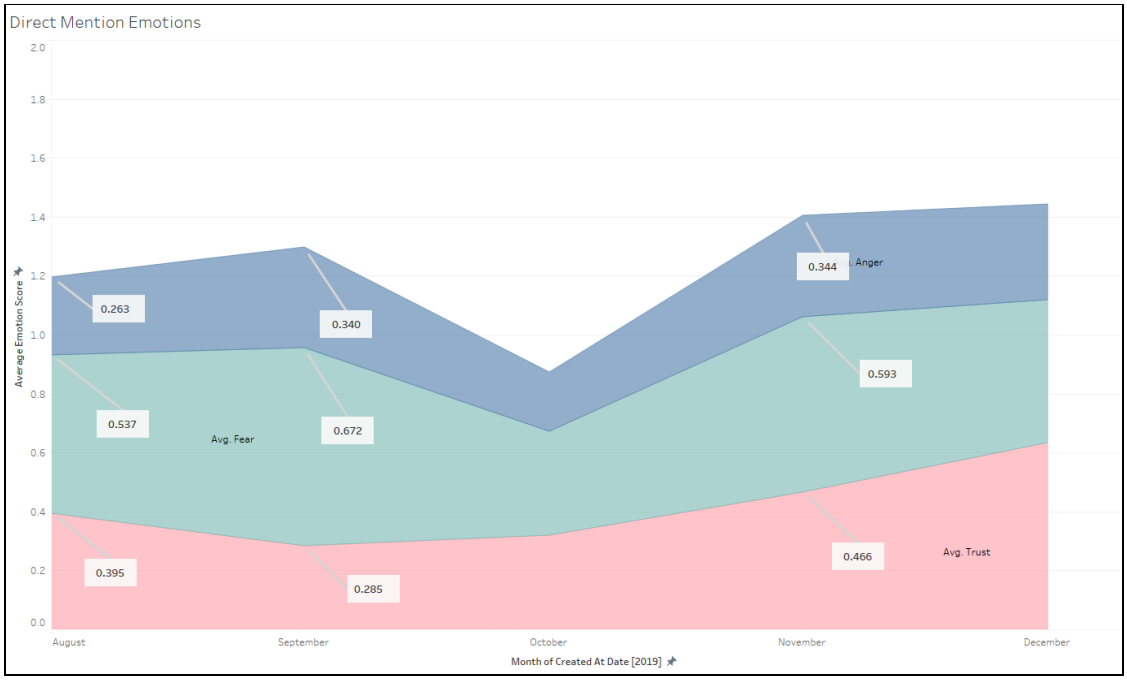
the negative spike around November 3rd of undirected mentions the same day the directed mentions were slightly positive and didn't dip below 0. This can be interpreted as people having more negative things to say consumer to consumer, but when directly mentioning Popeyes it is more favorable. This highlights the importance of studying undirected mentions as well, because if Popeyes only looks at the tweets they are directly mentioned in and sees everything positive, it can tell a slightly different story when they are not directly included in the conversation.



Emotion of Directed Mentions Over Time

Given the sentiment of directed mentions was on average positive, we wanted to dig deeper and see if we can draw any conclusions from the emotions captured over time and see if we can identify any possible issues that were trying to be addressed to Popeyes. Below is a visualization highlighting 3 emotions, Anger, Fear and Trust and their average emotion scores. If we look at the Anger and Fear they get wider entering the September month, when they run out of sandwiches. Fear remains pretty high throughout dipping in October but rising again in November for the re-release and when the chaos ensued for a second time.

Looking at Trust we see it shrink slightly from August to September. This could be interpreted as customers losing trust in Popeyes because they ran out of sandwiches. This is an important emotion to track because as a company you need to work hard to gain the trust of your customers, because there are plenty of other places they can take their business. I highlight that anger and fear rose and trust got smaller in September because of Popeyes response or lack thereof on Twitter to address customer concerns.



Linear Regression

We analyzed the effect on the log of retweets related to tweets that directly mentioned Popeyes. The results show that if a user is verified it has a .706 increase in the log of retweets than users that aren't verified. So if a person\business is verified their tweets are more likely to be retweeted, these tweets have a lot of reach because if a user is verified they most likely have a rather influential network, so tweets directly mentioning Popeyes must be carefully monitored because if no action is taken it can have a far reaching impact. Other observations from the analysis show having media in the tweet is more likely to be retweeted then those that don't. The more mentions in the tweet, increase the log of retweets by 11.9%, so if other user accounts other than just Popeyes are mentioned it will increase the number of retweets. Lastly regarding emotion, an increase in the log of disgust will decrease the log of retweets, while an increase in the log of trust will increase the number of retweets. The output of the regression analysis can be found in the **Magnet Direct Mentions of Popeye's Linear Regression of Retweet Count** section of the Appendix.

Overall Reporting

Overall impact of the event

Hugely successful. Popeye's saw major spikes in attention on social media and saw their overall revenue increase of 37.9 percent in quarter 4 sales compared to 2018 after the launch of the chicken sandwich. All restaurants were hit hard by the 2020 pandemic, but Popeye's fared very well. Popeyes' Q1 comps were up 26.2 percent compared to 2019. When Q2 hit in March, Popeye's sales remained flat compared to 2019. By the end of the year, Popeye's saw an 18%

increase in revenue. Combined with their 2019 success, Popeye's saw a two-year view of +36.2 percent. Not only did Popeye's enjoy fiscal success, their social media team was also very successful during this event. Popeye's saw huge spikes in undirected and directed mentions. The hashtag #popeyeschickensandwich became hugely popular. A sentiment analysis of emojis showed that Popeye's had lots of mentions with positive emojis and a spike in sadness emojis due to the fact consumers couldn't get the product as it was out of stock. Popeye's saw huge positivity towards the chicken sandwich and had a massive boost in sales, proving the event was wildly successful. [6]

Overlapping 3M's Together

In our analysis we found some overlap between the megaphone, monitor, and magnet aspect of the campaign. The main overlap that we saw is the increase of conversation, mentions, and activity on twitter once the sandwich campaign was launched. Prior to the launch of the campaign Popeye's did not use social media frequently but the sandwich launch gave them an opportunity to promote a new product in a different way. In all three aspects of the megaphone, monitor, and magnet segments of this campaign we saw a positive increase in traffic which is a good sign for a new product launch. Overall the overlap of the 3M's is one of the main reasons why the campaign was successful.

Winning Strategies

There are three winning strategies that we can identify after analyzing the Popeyes Chicken Sandwich campaign. First Popeye's social media team was very effective using hashtags

6 https://www.qsrmagazine.com/fast-food/thanks-chicken-sandwich-popeyes-making-400k-more-restaurant#:~:text=Popeyes'%202020%20systemwide%20sales%20increased,restaurant%20growth%20of%204%20percent

to extend their reach by using #popeyeschickensandwich and #bringyourownbun. Second they used jabs effectively with competitor tweets to drive engagement, reach, and impressions. They responded to competitor post quickly that led to an amplification and over increase in conversation which ultimately led to #ChickenWars with multiple fast food chains. The third winning strategy that Popeye's used was compelling content with storytelling. The content and images they used throughout the campaign was native and the images they used compelled consumers to try the new chicken sandwich. Overall we believe these winning strategies played a huge part in the success of the campaign. We also believe they learned a valuable lesson of how important social media is when the Twitter War with Chick-fil-a started, so much that they redirected a lot of their paid media budget towards social media and less towards TV during the relaunch.

Recommendations

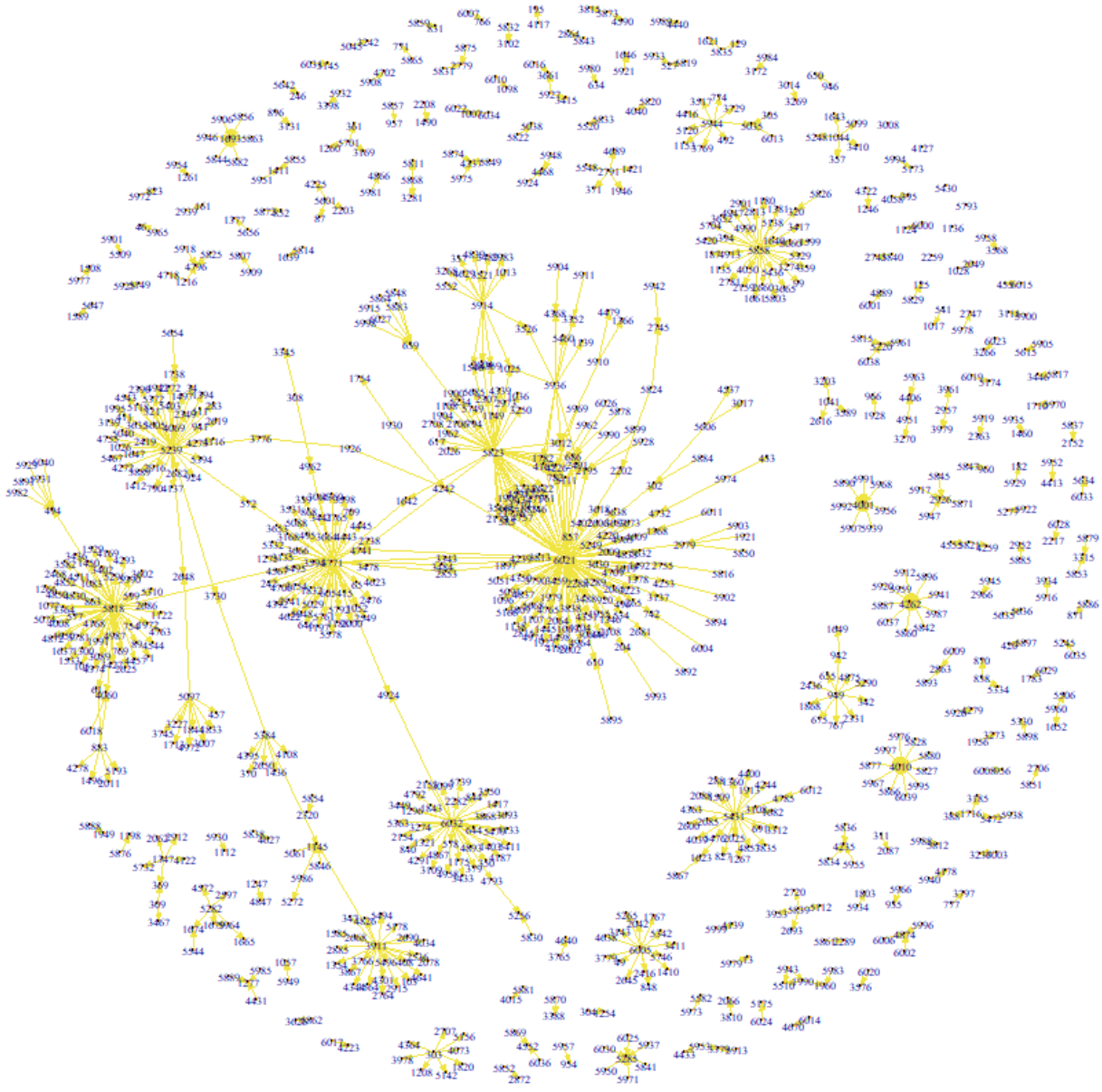
In our analysis we were able to develop three recommendations that we believe would have contributed to the success of the overall campaign. The first recommendation that we have is that Popeye's could have posted more often to their followers. We found the highest number of tweets that came from their official twitter account was in December when they tweeted eleven times. On average the account posted 8 times per month, which is low for a new product promotion. Ultimately with this recommendation Popeye's would have been able to drive more conversation, create more engagement, and increase reach if they would have posted more. The second recommendation that we have for Popeye's for this campaign would be to include more links in their social media post driving traffic to information on the chicken sandwich launch. We would recommend including links to store locations, dietary information, or sales promotions

to help customers find out more about the chicken sandwich. We found links were not used and believe it contributed to some of the issues that ultimately happened during the product launch. The final recommendation that we would make is to use their platforms more often for a customer service tool and not just a way to drive sales. The sandwich ultimately was popular and in high demand. When violence took place at some store locations they could have quickly communicated and encouraged people to avoid conflict. We found that the social media team was not vety proactive with customer service relations and it might have contributed to some of the violence that took place.

Overall the Popeye's Chicken sandwich campaign was very successful but we ultimately believe that our recommendations of posting more often, including more links in social media posts, and using social platforms as a customer service tool would have helped contribute to the success of their campaign.

Appendix

Network Visualization of Popeyes Fight Mentions



Megaphone Linear Regression of Like Count

```
Linear regression (OLS)
Data     : regression_from_popeyes
Response variable    : retweet_count_log
Explanatory variables: has_emoji, SentimentGI, has_media, topic, like_cour
Null hyp.: the effect of x on retweet_count_log is zero
Alt. hyp.: the effect of x on retweet_count_log is not zero

                          coefficient std.error t.value p.value
(Intercept)                    -2.251     0.474  -4.745  < .001 ***
has_emoji|True                 -0.298     0.158  -1.888   0.065 .
SentimentGI                    -0.001     0.431  -0.003   0.997
has_media|True                  0.036     0.148   0.245   0.807
topic|byob                     -0.132     0.457  -0.290   0.773
topic|chickenisback             0.320     0.419   0.765   0.448
topic|people                    0.190     0.424   0.449   0.655
topic|popeyeschickfila          0.255     0.420   0.606   0.547
topic|spicychickensandwich     -0.028     0.406  -0.069   0.946
like_count_log                  1.035     0.038  27.237  < .001 ***
mentions_count_log              0.542     0.333   1.625   0.110
hashtags_count_log              0.030     0.210   0.145   0.885
anger_log                       0.098     0.263   0.371   0.712
fear_log                        0.014     0.245   0.058   0.954
sadness_log                     0.275     0.344   0.797   0.429
surprise_log                   -0.009     0.237  -0.038   0.969
trust_log                      -0.026     0.221  -0.115   0.909

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

R-squared: 0.946,  Adjusted R-squared: 0.929
F-statistic: 56.91 df(16,52), p.value < .001
Nr obs: 69
```

Monitor Linear Regression of Retweet Count

```
Linear regression (OLS)
Data     : regression
Response variable    : retweet_count_log
Explanatory variables: has_emoji, SentimentGI, SentimentHE, SentimentLM, SentimentQDAP
Null hyp.: the effect of x on retweet_count_log is zero
Alt. hyp.: the effect of x on retweet_count_log is not zero

                        coefficient std.error t.value p.value
(Intercept)                  -0.085     0.102  -0.832   0.406
has_emoji|True                0.039     0.009   4.536  < .001 ***
SentimentGI                   0.067     0.033   2.055   0.040 *
SentimentHE                  -0.181     0.099  -1.824   0.068 .
SentimentLM                  -0.024     0.069  -0.347   0.729
SentimentQDAP                -0.022     0.040  -0.560   0.576
compound.valence              0.005     0.012   0.434   0.664
has_media|True                0.149     0.009  17.068  < .001 ***
topic|byob                    0.171     0.103   1.662   0.096 .
topic|chickenisback           0.205     0.102   2.009   0.045 *
topic|fighting                0.213     0.104   2.053   0.040 *
topic|people                  0.139     0.102   1.364   0.173
topic|popeyeschickfila        0.149     0.102   1.460   0.144
topic|spicychickensandwich    0.101     0.102   0.993   0.321
mentions_count_log            0.089     0.010   8.637  < .001 ***
hashtags_count_log           -0.024     0.008  -2.910   0.004 **
anger_log                     0.034     0.017   2.016   0.044 *
anticipation_log              0.029     0.013   2.205   0.027 *
disgust_log                  -0.060     0.017  -3.458  < .001 ***
fear_log                      0.030     0.012   2.574   0.010 *
joy_log                      -0.030     0.019  -1.634   0.102
sadness_log                   0.005     0.017   0.303   0.762
surprise_log                 -0.023     0.018  -1.287   0.198
trust_log                     0.024     0.015   1.545   0.122
```

Monitor Linear Regression of Like Count

```
Linear regression (OLS)
Data     : regression
Response variable    : like_count_log
Explanatory variables: has_emoji, SentimentGI, SentimentHE, SentimentLM
Null hyp.: the effect of x on like_count_log is zero
Alt. hyp.: the effect of x on like_count_log is not zero

                          coefficient std.error t.value p.value
(Intercept)                     0.213     0.171   1.242   0.214
has_emoji|True                  0.058     0.014   4.032  < .001 ***
SentimentGI                     0.069     0.055   1.243   0.214
SentimentHE                    -0.420     0.167  -2.518   0.012 *
SentimentLM                    -0.033     0.116  -0.281   0.778
SentimentQDAP                   0.054     0.067   0.806   0.420
compound.valence                0.058     0.021   2.768   0.006 **
has_media|True                  0.284     0.015  19.361  < .001 ***
topic|byob                      0.297     0.173   1.723   0.085 .
topic|chickenisback             0.361     0.172   2.106   0.035 *
topic|fighting                  0.293     0.174   1.679   0.093 .
topic|people                    0.265     0.172   1.542   0.123
topic|popeyeschickfila          0.342     0.171   1.996   0.046 *
topic|spicychickensandwich      0.336     0.171   1.958   0.050 .
mentions_count_log              0.125     0.017   7.180  < .001 ***
hashtags_count_log             -0.187     0.014 -13.405  < .001 ***
anger_log                       0.057     0.028   2.013   0.044 *
anticipation_log                0.062     0.022   2.839   0.005 **
disgust_log                    -0.038     0.029  -1.310   0.190
fear_log                        0.034     0.019   1.770   0.077 .
joy_log                        -0.037     0.031  -1.170   0.242
sadness_log                    -0.036     0.028  -1.284   0.199
surprise_log                    0.008     0.030   0.264   0.791
trust_log                       0.040     0.026   1.532   0.126
```

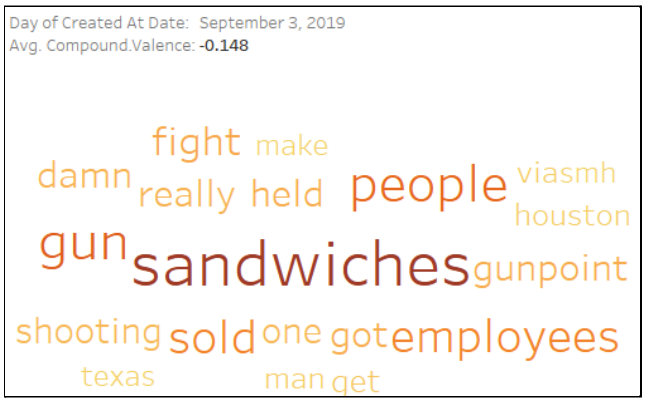
Magnet Direct Mentions of Popeye's Linear Regression of Retweet Count

```
Linear regression (OLS)
Data     : regression_mentions_popeyes
Response variable    : retweet_count_log
Explanatory variables: user_verified, has_emoji, SentimentGI, SentimentHE
Null hyp.: the effect of x on retweet_count_log is zero
Alt. hyp.: the effect of x on retweet_count_log is not zero

                          coefficient std.error t.value p.value
(Intercept)                    -0.238     0.166  -1.430   0.153
user_verified|True              0.706     0.044  16.112  < .001 ***
has_emoji|True                  0.024     0.021   1.172   0.241
SentimentGI                     0.007     0.088   0.078   0.938
SentimentHE                    -0.304     0.264  -1.152   0.250
SentimentLM                     0.130     0.180   0.726   0.468
SentimentQDAP                   0.014     0.109   0.128   0.898
compound.valence               -0.026     0.030  -0.850   0.395
has_media|True                  0.143     0.022   6.635  < .001 ***
topic|byob                      0.177     0.166   1.064   0.287
topic|chickenisback             0.217     0.165   1.315   0.189
topic|fighting                  0.267     0.170   1.572   0.116
topic|people                    0.194     0.165   1.176   0.240
topic|popeyeschickfila          0.149     0.164   0.903   0.367
topic|spicychickensandwich      0.150     0.164   0.911   0.362
mentions_count_log              0.119     0.037   3.193   0.001 **
hashtags_count_log              0.024     0.020   1.182   0.237
anger_log                       0.052     0.039   1.357   0.175
anticipation_log                0.011     0.031   0.365   0.715
disgust_log                    -0.104     0.041  -2.521   0.012 *
fear_log                        0.038     0.027   1.388   0.165
joy_log                        -0.037     0.044  -0.842   0.400
sadness_log                    -0.046     0.042  -1.111   0.267
surprise_log                   -0.066     0.042  -1.565   0.118
trust_log                       0.070     0.037   1.910   0.056 .

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

R-squared: 0.116,  Adjusted R-squared: 0.109
F-statistic: 17.107 df(24,3135), p.value < .001
Nr obs: 3,160
```

Word Clouds of Sentiment

Reaction after sandwich released

When sandwich is sold out



After the Bring Your Own Bun Campaign

When sandwich start to return

Spikes of Negative Sent. Before Rerelease

Lowest Spike of Negative Sent.