Marketing 445: Final Report
Group 4

Industry Introduction

Being the most popular alcoholic drink in the world, and the third most popular drink behind water and tea, there is certainly no shortage of beer companies in the United States and internationally. More specifically, in 2022 174 million barrels of beer were produced in the United States alone (Statista, 2022). The beverage also holds a notable cultural and social significance for many, being the center of celebrations, holidays, and festivals. From local breweries to billion-dollar companies the industry can become very competitive, especially around popular sporting events. Because of this, companies are forced to craft unique advertising campaigns to separate themselves from the competition.

Before the “Dilly Dilly” campaign ever ran, Bud Light was already a prominent and strong competitor in the U.S. beer industry. The campaign was launched in 2017 and their key competitors at the time were Coors Light, Miller Lite, and Budweiser who all brought their own unique features to the competitive market. According to Statista's 2017 data (Statista, 2017), Bud Light led the market with an 18.4% share, while Coors Light followed closely with a 9.6% share, Miller Lite held an 8.1% share, and Budweiser maintained a 6.5% share. These statistics highlight the competitive nature of the industry and the challenge Bud Light faced in maintaining its leadership position. Many of these competitors have had very successful marketing campaigns in the past like Coors Light, known for its "Silver Bullet" campaign, and Miller Lite’s “Great Taste, Less Filling" slogan. Bud Light knew that in order to stay ahead of their competitors they needed to adapt to the new demands of their consumers and innovate a new marketing campaign to help reach their goals and so the “Dilly Dilly” campaign was created.

In 2018, 54% of Bud Light drinkers were between the ages of 18-29 (Statista, 2018), placing them in the Gen Z category. Born during the explosion of the internet, they are tech-savvy digital natives that make up about a third of users on Twitter/X (Emarketer, 2023). However, a rise in sober or sober-curious Gen Z members could drastically change their impact on the alcohol industry. Unlike their parents or grandparents, Gen Z is more concerned about the negative effects of alcohol, and many are consciously choosing to reduce the amount they drink (McKinsey, 2023). Bud Light also faces increased competition from new alcoholic beverages in the category like seltzers, flavored beers, ciders, and more. It is becoming increasingly more difficult to stand out in this category, especially with a long-standing product.

With the extensive growth in the population of Gen Z, Budweiser, and other brewers, will face challenges in capturing as much of the growing market as possible, especially with the growing popularity of sober and sober-curious people. In addition there are a plethora of substitutes to beer with new seltzers and ready to drink cocktails consistently coming out which

has led brewers to release their own versions such as the Bud Light Hard Sodas. In fact, in 2018 there were only 10 hard seltzer brands compared to an astonishing more than 65 different hard seltzer brands in 2020 (Toptal). With these challenges that are faced by brewers their history of consistent success may change in the coming years. Anheuser-Busch saw revenue grow by 2.76% at the end of 2023 compared to the previous year, but a 1.32% decline in revenue for the final quarter of 2023 (Macrotrends). This decline could be attributed to the rising popularity of sober and sober-curious consumers in Gen Z as well as the rising popularity and increased variety of hard seltzers and ready to drink cocktails. For this project we will be analyzing the past success of the "Dilly Dilly" campaign and determining if it would be helpful to bring back similar campaigns or new versions in order to capture more of the growing Gen Z market.

Event Introduction

As briefly mentioned in the industry report the company the event pertains to is Bud Light and their marketing campaign "Dilly Dilly" that was launched in 2017. Bud Light noticed a slight decline in overall sales due to the shift in their customer base. Generation Z was increasingly becoming sober curious as well as participating in trends like "Dry January". These factors hurt Bud Light's profits, so they decided to launch a marketing campaign that was a unique crossover of medieval/Game of Thrones theme and the Super Bowl. The action plan was to create a marketing campaign to rejuvenate Bud Light's brand name that is comical, stay in touch with consumers, and create a cultural moment. The campaign consisted of various themed advertisements of medieval characters saying the catchy phrase, "Dilly Dilly". Overall Bud Light aimed to rejuvenate the brand's image and appeal to a younger audience, increase brand engagement and drive sales, stay relevant during cultural moments like "Dry January", and build brand loyalty through storytelling and humor.

The firms that may be affected with this campaign are other beer companies such as Coors Light and Miller Lite. The success of this campaign may lead to more competition in the beer industry and inspire other companies to make innovative marketing campaigns.Another firm that may be affected with this campaign is media outlets. With the high traffic and attention of the Dilly DIlly campaign. Media outlets have to analyze why this campaign may be successful in the industry and what that says about the consumers within it.

When doing this analysis of the event, we took a look at the tweets before and after the campaign. Before the campaign, it seemed to have more negative/ mixed emotions towards the company. Some examples are, "I only drink bud light if it's free", "There is so much bud light in this back yard. You would NEVER catch me drinking that trash". Then after the campaign this is what is said, "I consider myself pretty lucky to have a group of best friends that love bud light and Jesus", and "Do you have any specials?" "Yea! $4 Bud Light" "No I said specials". Again the tweets before and after the campaign have mixed emotions. It shows that either people are very devoted fans of Bud Light or they do not enjoy it and like something else.

Once the campaign was launched, media outlets began to write about the Bud Light movement. Ad week wrote an article called, "Bud Light Unveils a Second 'Dilly Dilly' Ad and Likens the Campaign to 'Whassup'" mainly talking about the impact this campaign had and it is a movement being continued. Sports Illustrated said, "Maybe 'Dilly Dilly' Is What America Needs in 2018" explaining how the campaign could have a great impact on Bud Light sales during the Super Bowl campaign because it might be what consumers were waiting for. Another news outlet, Fast Company, says, " Miller Lite mocked Dilly Dilly this morning with a new ad but Bud Light already has a response–and you can see it here" discussing how the Dilly Dilly campaign caused tensions between their competitors which may lead to stories like this showing rivalry.

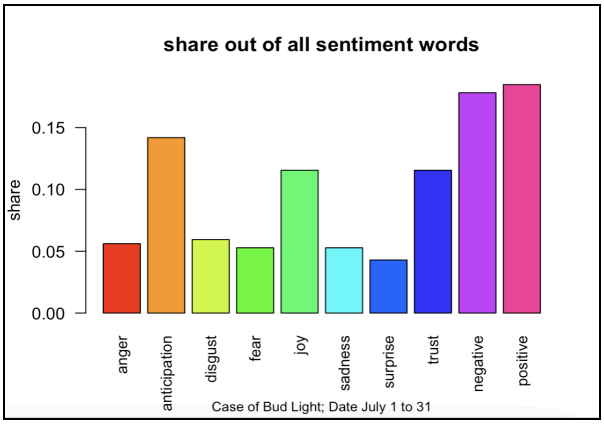
Event Study

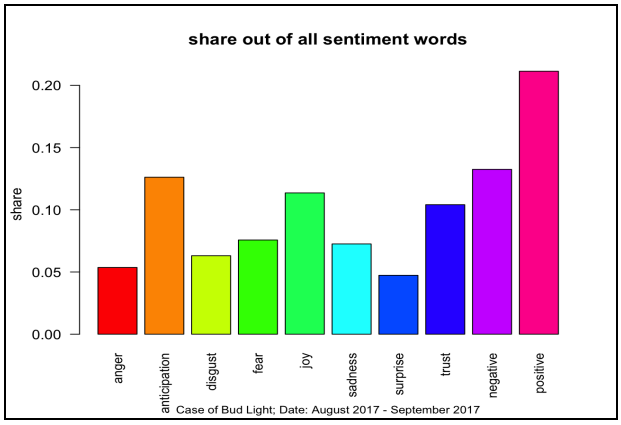
Sentimental Analysis

Word Cloud

The word cloud on the left represents the most used words when "Bud Light" is mentioned before the event, and the word cloud on the right represents the same metric after the campaign. Before, the most used words are "just" "drinking" and "drink," after the campaign they are "just" "beer" and "can." Words before the campaign are also quite negative, including "gross" and "never." The frequency of these words shrinks after the campaign, which is a positive result. Additionally, "The word "drink" does not even appear in the most used words after the campaign. Instead, words such as "bar" "tailgate" and "lights" take its place. So, the conclusion of the word cloud analysis is that tweets before the campaign were centered around the actual act of drinking Bud Light, while the words after revolved around aspects that are typically associated with beer in general, like tailgating.

Share of All Sentimental Words

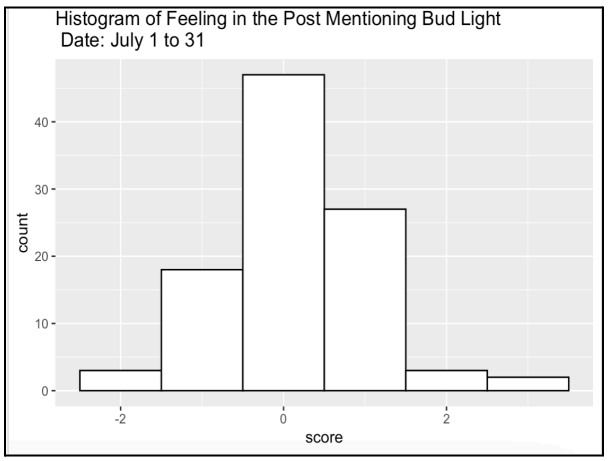




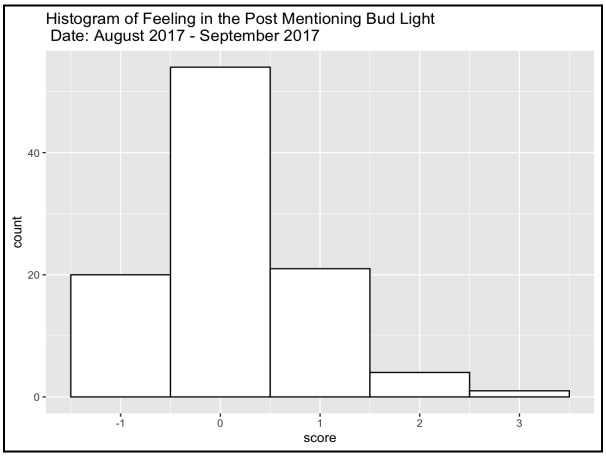
The graph on the left is the share of sentimental words before the campaign, and the graph on the left is the share after the campaign. The most notable result of this analysis is how much feelings of positivity increased after the campaign when "Bud Light" was mentioned in tweets. This result is a great success for the campaign because if consumers think highly of the brand and associate it with positive feelings, they are more likely to purchase. Additionally, negative feelings decreased, which is another success for the campaign. This impact is especially meaningful because beer consumers often have stark feelings about brands. They tend to love Bud Light or hate it, so the decrease in negative feelings is a great positive impact. Finally, the last implication here is that feelings of trust stayed the same. This is surprising because of how large the campaign is. It could be expected that if you are more familiar with the brand because of seeing it through the campaign these feelings would increase, but this was not the case.

Histogram of Feelings

Mean = 0.20



Mean = 0.14



The graph on the left represents a histogram of feelings before the campaign, and the graph on the right shows feelings after the campaign. Before the campaign, a fair amount of users had

strongly positive, or negative feelings towards Bud Light, represented by scores of -2, and +3. Both of these categories shrunk after the campaign and were replaced by a larger amount of neutral feelings, represented by a score of 0. The implication of this is difficult to uncover, and is up to Bud Light executives to decide if they would rather have consumers feeling neutral about them, or strongly liking - or disliking the product. This is also shown by the mean score decreasing from 0.20 to 0.14 after the campaign. Because we only measured the campaign for a month, an overall increase in feelings can be expected for a larger testing window.

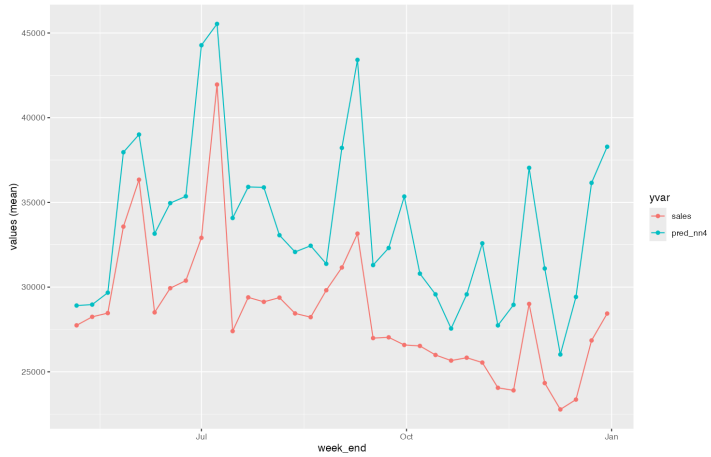
Counterfactual

To analyze the effectiveness of the "Dilly Dilly" campaign we conducted a counterfactual analysis to compare actual sales during the campaign period to a prediction of what sales would have been like without the campaign. To construct this artificial period we used a neural network to simulate predicted sales on a set of training data and evaluated the predicted results when compared to actual sales figures.

Decay = 0.5	Training Data MAE	Test Data MAE
Size = 1	4,623.6	4,725.89
Size = 2	3,185.9	3,297.11
Size = 3	3,012.49	3,223.49
Size = 4	2,905.47	3,128.18
Size = 5	2,898.057	3,130.59
Size = 6	2,911.69	3,179.27

As shown in the above table we ran the neural network with a decay level of 0.50 and a range of sizes from one to six. We identified that a neural network with a size of four was the most ideal to construct our model with as it had the lowest mean average error out of the other sizes. Had we decided to keep increasing the size further it would have led to a higher mean average error and would have run the risk of overfitting. By calculating the mean average error percentage we found that the model had a 10.22% mean average error percentage indicating that it would be a reliable model for comparison.

Given the proven veracity of our model we then applied it to the out sample data set, which included the period of when our campaign initially started which was at the beginning of

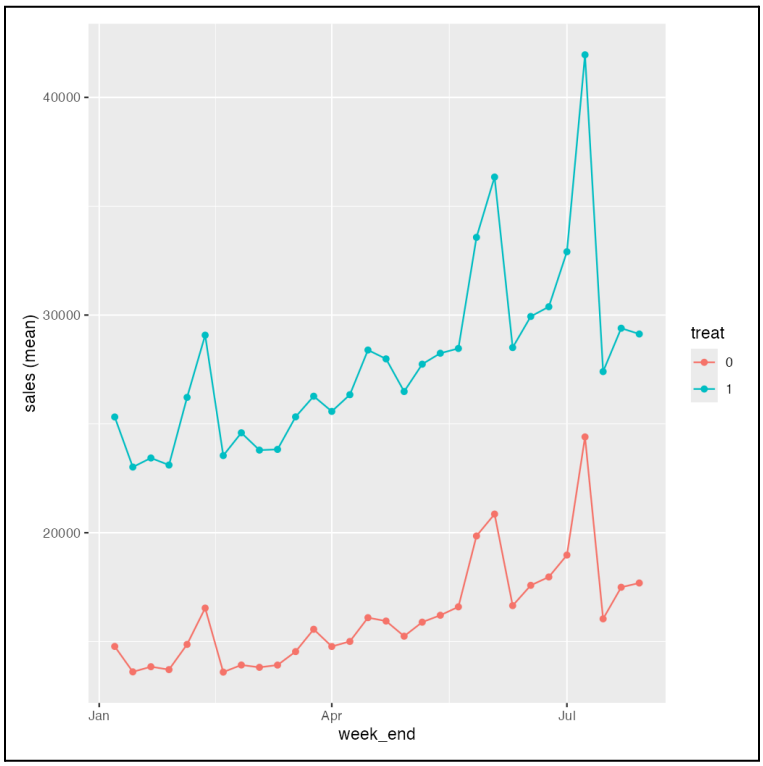


August 2017. As seen in the line graph our model consistently overpredicted the actual sales values over the out sample period. Notably during the campaign period, the month of August, the average difference in sales was a difference of about three thousand dollars with actual sales being lower than predicted. This difference is marked by an increase in sales for Bud Light products however we cannot be sure that this was due to the campaign being aired or if another factor such as seasonality might have been responsible for the change.

Difference in Difference

The sales of Bud Light were studied in comparison to a control group of Busch Light, Coors Light, and Miller Light. To establish that this was a strong control group, the period before the campaign was analyzed and showed the sales trends followed a similar pattern between both groups.

Comparison of Control Group vs. Target Company



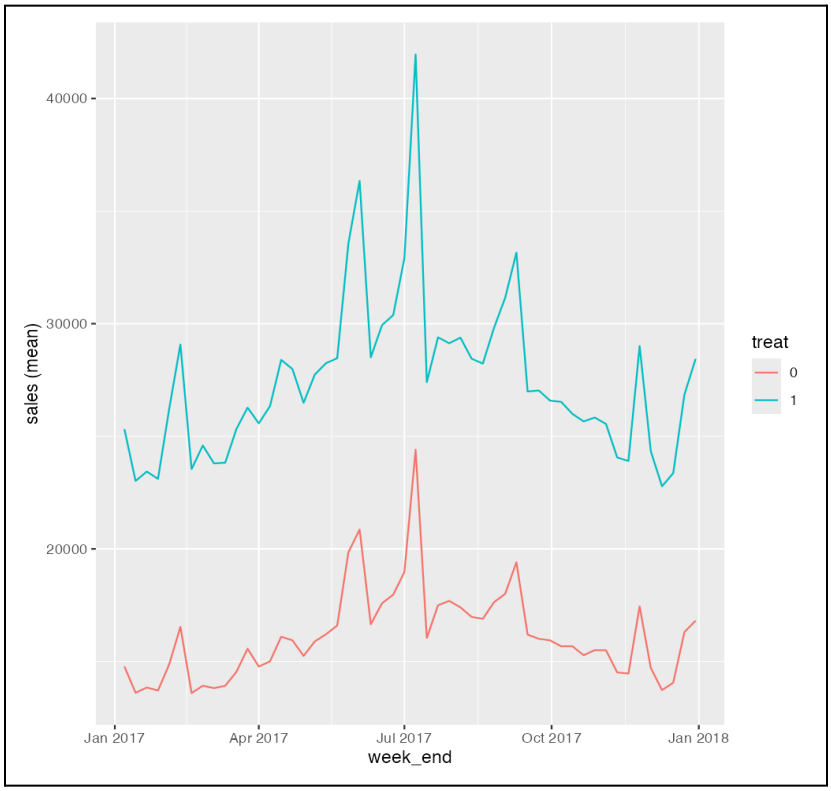
During the campaign, the campaign effect was calculated to be -$817.14. This negative impact was small in comparison to the average weekly sales. This difference was largely insignificant, meaning the campaign had a slightly negative or no apparent effect on the sales of Bud Light.

Campaign Difference Table

			Group by: treat	
campaign	variable	function.	X0	X1
All	All	All	All	All
0	sales	mean	16,200.373	27,879.193
1	sales	mean	16,097.321	26,958.999

Looking at sales for both Bud Light and the control group before, during, and after the campaign, there are no apparent impacts. However, this campaign continued to run in the next year, and may have had delayed effects on sales.

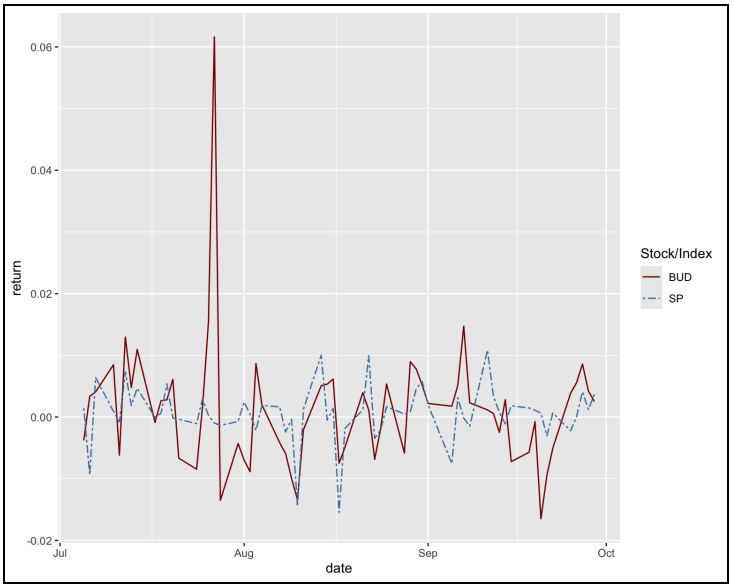
Sales Trend - Bud Light vs. Control Group



Stock Performance

The beer industry has very few publicly traded companies and the two main companies, Molson-Coors and Anheuser-Busch own several light beer brands. Bud Light is owned by Anheuser-Busch, and we first compared their stock returns to the S&P 500 index.

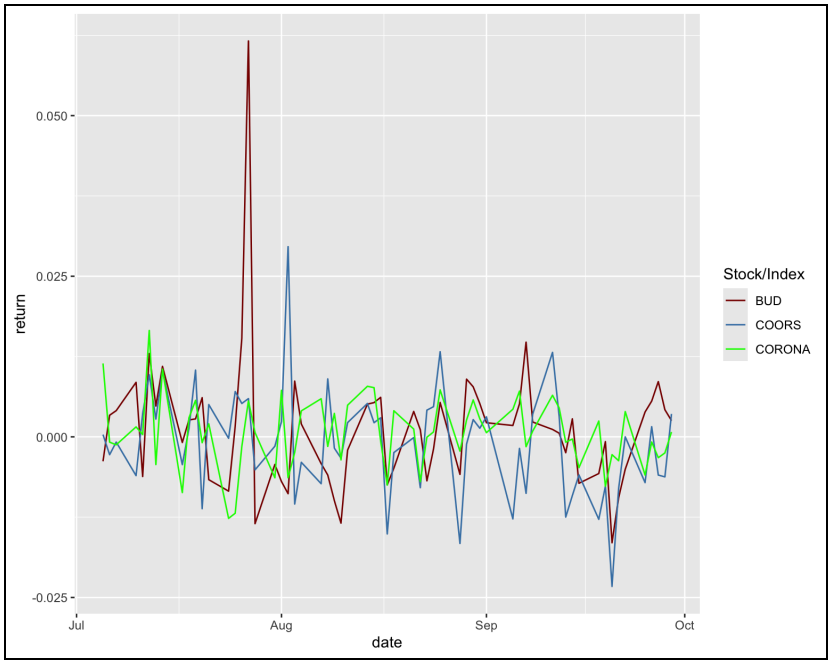
Anheuser-Busch vs. S&P 500



Our campaign period is the month of August, and the abnormal return during this time was equal to 0.04350626. We expanded the visualization to examine if there were any impacts after our campaign period that we should analyze, however we did not find any delayed campaign effects. Additionally, the large spike in return before the campaign period was likely due to the acquisition of another alcohol brand.

To compare stock performance to competitors, we analyzed Molson-Coors and Corona. This analysis yielded similar results to the S&P 500 with a small abnormal return of 0.08774514. Also, looking at the rest of the year, it appears that the campaign did not have any significant impact on the stock of Anheuser-Busch. However, it is likely that even if the campaign was largely successful, it would be difficult to analyze its effects independently of the other alcohol brands that the company owns.

Stock Performance vs. Competitors



Conclusion

If you were to ask someone in America if they had heard of the "Dilly Dilly" campaign from Bud Light many people would have memories of watching one of the commercials during the Super Bowl. This campaign was notable for its comical take on a medieval theme akin to Game of Thrones which was very popular at the time when this campaign was originally aired.

As seen in our sentimental analysis there does not seem to be a significant change in users' feelings about Bud Light and Anheuser-Busch when comparing the immediate before and after impressions of Twitter users. Similarly in our counterfactual analysis sales during the initial month of the campaign, August 2017, only slightly increased which could have been due to other factors. Again in our difference-in-differences analysis there was only a slight decrease in sales when compared to similar competitors, the difference being to an extent insignificant. Our stock performance analysis was unfortunately inconclusive as Bud Light's parent company, Anheuser-Busch, has a plethora of different beer brands under their name, similar to Molson Coors. While there were some abnormal returns found in the analysis it is hard to attribute the returns to any specific cause given the multiple different brands in their portfolios.

Some key factors that should be considered in addition to this analysis include the fact that this was an ongoing campaign and effects of it could not have been apparent until after the campaign had been in effect for a while. Additionally, beer consumption is heavily subject to seasonality with notable upticks in consumption around events such as the Super Bowl. Different marketing

strategies and activities could have had an additional impact on the sales of Bud Light, such as new value packs or other promotional campaigns that may have aired during the same time period. While the “Dilly Dilly” campaign may not have had the greatest initial impact on Bud Light’s brand it has become a fan favorite commercial that many consumers have enjoyed over the years.