Report on Lululemon Twitter Analysis

Introduction

Lululemon is a sports apparel company that offers both athletic and athleisure wear[1]. As a CrossFit enthusiast, I chose Lululemon as the brand for this project because it is one of the brands that I feel most connected with. Specifically, I am interested in understanding the sentiment towards the brand and how Lululemon can potentially use findings from both the text summarization and influencer analysis to further cater to their customers.

Text Summarization Findings

Sentiment Analysis

The sentiment analysis results that Lululemon tweets have an average compound score of 0.125738. This compound score means that there is an overall positive sentiment towards Lululemon. However, an average compound score that is closer to zero may either mean a high distribution of tweets that fall within the compound scores of 0 to 0.5 and/or outlier compound scores that are closer to -1.

The boxplot **[Appendix A]** shows that majority of the tweets have a compound score from 0 to below 0.5, and a number of outliers where compounds scores fall between -1.0 to -0.5, indicating that there are extreme negative tweets related to the brand. The histogram **[Appendix B]** shows similar results, where a high distribution of the compound scores fall between 0 to 0.5.

LDA Topic Modeling

The term "lululemon" and "poshmark" are more likely to appear for all three topics **[Appendix C]**, which may imply that consumers are checking for pre-loved apparel first before getting brand new.

Topic 1 is more likely to be about being a seller in Poshmark, a platform for pre-loved clothing **[2]**, This is because we can see from the graph that the terms "poshmark", "poshmarkapp", "earnings", and "docusign" have more chances of appearing in a tweet that is categorized under this topic. This could mean that pre-loved Lululemon Products are valuable to those who can't afford brand new.

Topic 2 is probably about buyers checking for available pre-loved lululemon clothing in Poshmark because the words "check", "listing", "poshmarkapp", and "stocks" have more chances of appearing in a tweet that is under this topic. In addition, Topic 2 could also mean that buyers are looking for alternatives because of the word "Costco", where "pants" and "jackets" are likely to be in demand for these tweeters.

Topic 3 could be about buyers checking available pre-loved items in Poshmark because the words "check", "closet", "added", and "shopmycloset" are more likely to appear in tweets related to topic 3. Furthermore, Topic 3 shows that customers are likely looking for "leggings", "bag", "tight", and "jacket", where the color "black" is likely to be in demand.

Summary of Insights About the Conversations **[Appendix E]**

One of the biggest highlights about the positive tweets point to the quality of lululemon apparel, where some tweets mention that the high price is worth the purchase of leggings. On the flip side, one of the biggest themes on the most negatives pertain to customer service, where one tweet mentioned about errors not being fixed by customer service.

Influencer Analysis Findings

Summary of network analysis results

[Appendix D] shows that the most influential users, measured by the degree of centrality or number of retweets, are unusual_whales (403 retweets), JackFarley96 (379 retweets), shespeaksup (311 retweets), and nerdyyun (144 retweets).

Summary of insights about the influencers

The top influencer, unusual_whales, caters to those who plan to invest in securities related to the retail industry. JackFarley96 is a video journalist whose audience is those who are active traders or interested in actively managing their own portfolios. Third, shespeaksup caters to women and talks about women empowerment, where the account talks about fashion from time to time. Finally, nerdyyun is an influencer who caters to students and talks about athleisure apparel from time to time.

Conclusion

A brief conclusion summarizing your findings and restating the main points

The text analysis of the tweets shows that there is an overall positive sentiment towards Lululemon as a brand, while there were some tweets with a very negative compound score. In addition, the biggest theme that came out from the LDA topic modeling was the search for pre-loved Lululemon products and alternatives, which may imply that the general public finds brand new products unaffordable or too expensive.

The network analysis results showed that the most influential users are unusual_whales, JackFarley96, shespeaksup, and nerdyyun.

Three practical action recommendations and Justification for three practical action recommendations

1. **Consider revisiting pricing of Lululemon products**
   The price point of Lululemon products came out as a concern as a result of the the LDA Analysis, where a common theme among three topics was about tweets that look for pre-loved Lululemon products as well as search for alternatives.

2. **Work together with influencers for possible partnerships to further promote the brand**
   Lululemon should also consider working with the most influential accounts to further promote Lululemon products. Specifically, Lululemon should focus on reaching out to influencer accounts like shespeaksup and nerdyyun by offering them sponsorship in exchange for paid content.

3. **Improve customer service**
   Lululemon should also work on customer service based on the most negative tweets, based from the insights about the tweet conversations. This could be done by analyzing common customer complaints and working on solutions to address those complaints (e.g., errors in inventory levels due to missing steps in the online ordering process).
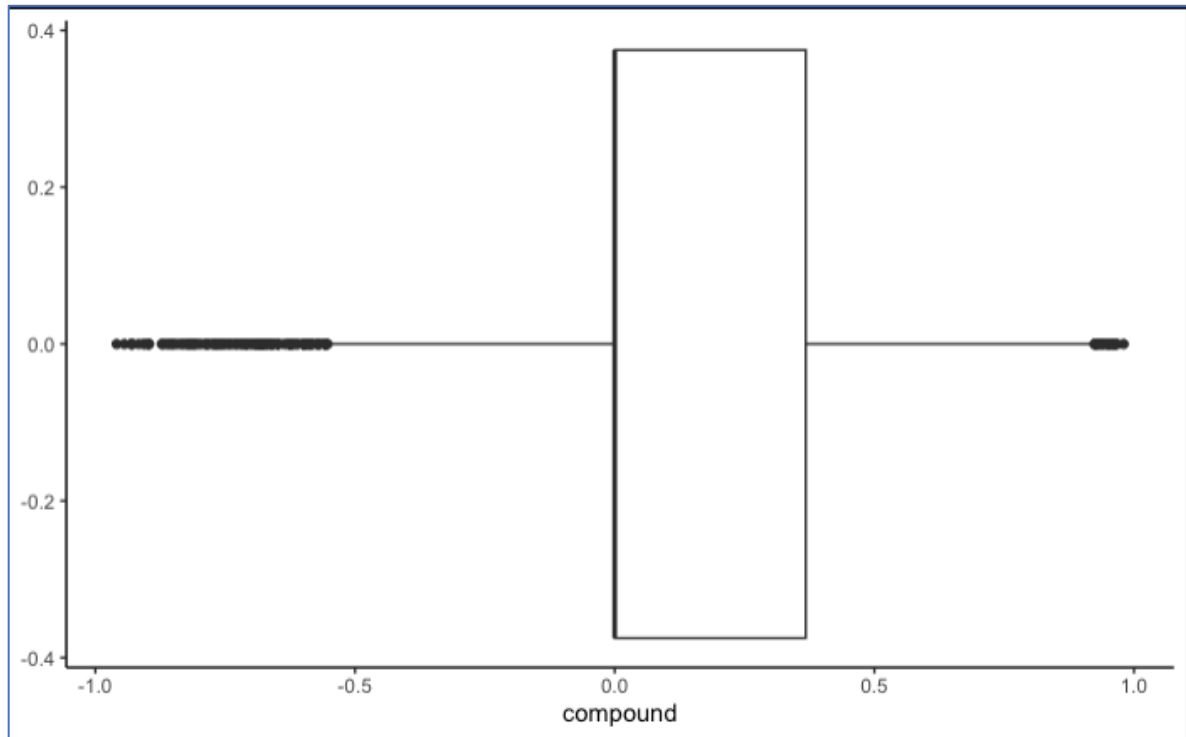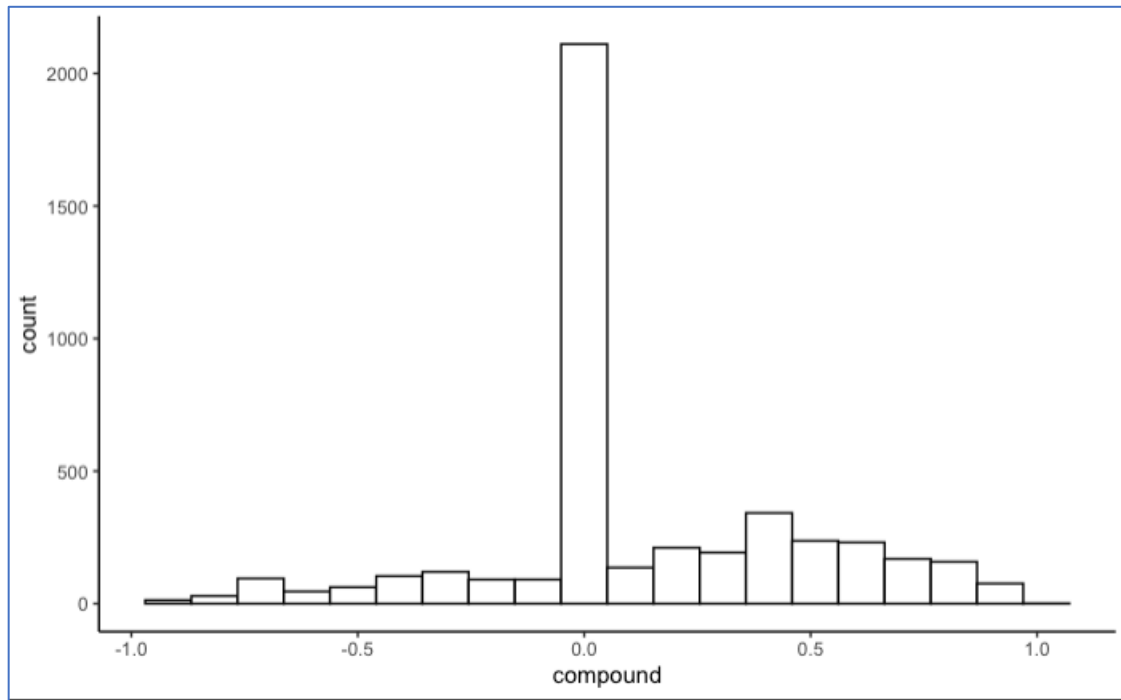
References:

[1] Lululemon Company Profile - https://info.lululemon.com/about

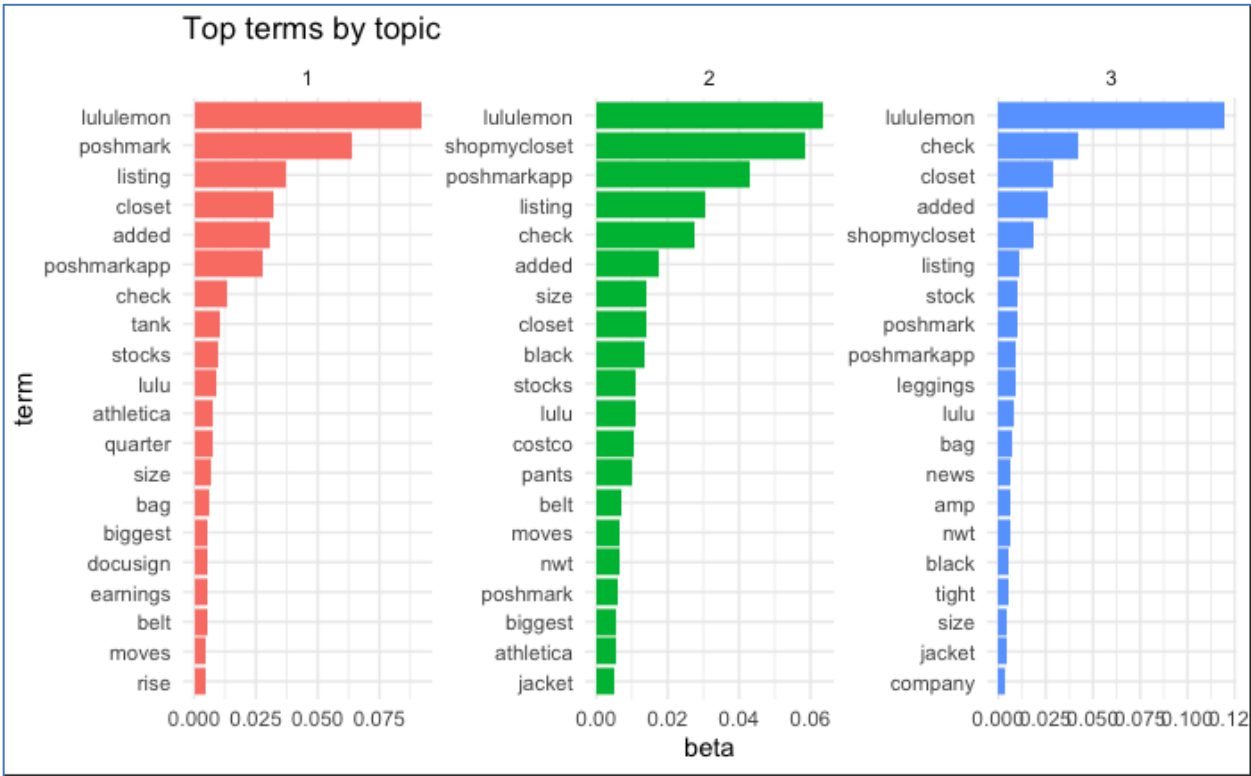[2] Poshmark - https://poshmark.com/about

APPENDIX

Appendix A – Lululemon Compound Score Box Plot

Appendix B – Histogram Depicting the Approximate Distribution of the Compound Scores
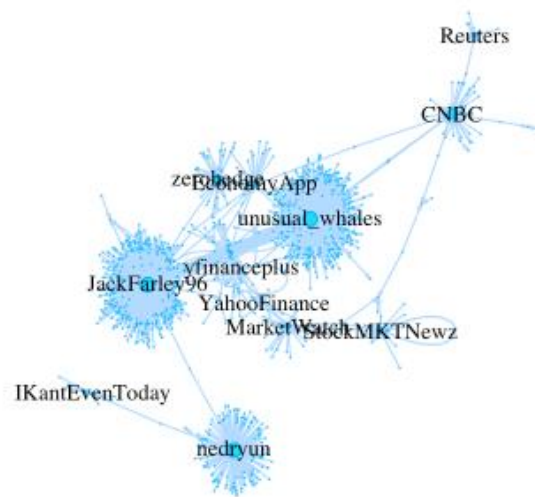
Appendix C – LDA Analysis Results

Top terms by topic

Appendix D – Top Influencers by Number of Retweets

username	retweeted_count
<chr>	<dbl>
unusual_whales	403
JackFarley96	379
shespeaksup	311
nedryun	144
MillieParfait	103
hon3ybaby3	102
gherbo	67
CNBC	51
zerohedge	46
StockMKTNewz	31

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Top retweeted users within the largest connected component

Reuters

CNBC

zerohedgeconomyApp

unusual_whales

yfinanceplus

JackFarley96

YahooFinance

MarketWatchStockMKTNewz

IKantEvenToday

nedryun

Appendix E – Top Positive and Negative Retweets

👍 50 most positive tweets

```
df_tweets %>%
  arrange(desc(compound)) %>%
  select(text, username, compound, pos, neu, neg) %>%
  head(50)
```

text
<chr>

@CrystalRunsFree @micmacmall @lululemon @ROOTS Super fun, Crystal! Never too old (age is just a number) to play/be playful and just have fun doing whatever activities you enjoy!😊 Happy to see that you were out and about getting your holiday cheers on! 🥳

🚨 LULULEMON - NOW OPEN! 🚨\n\n@lululemon is here, and we're living for it! Come check out their wide selection of high-quality athletic wear and gear. Their knowledgeable and friendly staff are on hand to help you find your perfect outfit or a special holiday gift! https://t.co/WFyNjHwJ5E

@desota @lululemon @Costco @Broadcom is taking over the blockchain, \nA cool token with 0% tax, 100%, presale is live, with an active dev, best community ever, we moon with winners, join the winning team today #bnb #Eth tested and trusted✅✅ to the moon\nhttps://t.co/Onkft3RvZc\nhttps://t.co/1UkcFgSko4

@eWhispers @autozone @Veru_Pharma @lululemon @DocuSign @MongoDB @SAICinc @DLHCorp @Chewy @SentinelOne @gitlab is taking over the blockchain, \nA cool token with 0% tax, 100%, presale is live, with an active dev, best community ever, we moon with winners, join the winning team today #bnb #Eth tested and trusted✅✅ to the moon\nhttps://t.co/Onkft3RvZc\nhttps://t.co/1UkcFgSko4

@desota @netflix @lululemon @DocuSign is taking over the blockchain, \nA cool token with 0% tax, 100%, presale is live, with an active dev, best community ever, we moon with winners, join the winning team today #bnb #Eth tested and trusted✅✅\nhttps://t.co/Onkft3AsXc\nthe moon is our destination ✅🚀🚀 https://t.co/Dzat8u34eN

@calvinmcdonald @lululemon Hello Mr Mcdonald. Love your products! Wow! Question. My wife looks so good in the leggings you make… i figure you owe me a commission on all the sales she causes. Lol. Merry Christmas.

@SavLovesSwift I love aerie leggings mine are SO soft, but honestly lululemon, they are expensive but honestly everything I've gotten from there has been honestly worth the money IMO

@Adriana1o5 We do that, same with PPC. We run ab 2M a year through them but what I am talking about are all the random benefits like free uber eats credits, 10% off lululemon, etc... all these benefits are on things I use personally, not for biz.

@Amwysoc It is a great mall . My fav too ... live 15 minutes from it . But 2 joggers at Lululemon ... $275.00 ! My 19 year old is lucky I love him ! Ha !

OMG I love LOVE Lululemon! Please don't tell me it's going out of business. Ladies, they sell thee best leggings! https://t.co/ctvQsq43wr

1-10 of 50 rows | 1-1 of 6 columns   Previous **1** 2 3 4 5 Next

👎 50 most negative tweets

```
df_tweets %>%
  arrange(compound) %>%
  select(text, username, compound, pos, neu, neg) %>%
  head(50)
```

text
<chr>
You are a thief, Ronna! You are stealing American's money to buy Lululemon? In case no one has told you, you are way too fat to wear that brand. Again, stealing and wasting our money. RESIGN. https://t.co/pCulKm6Bhh
Just had the worst experience with @lululemon Such a big company but totally ignores their customers and takes no responsibility for their errors. So disappointed 😞 #lululemon #lululemoncanada
This crime is insane and terrifying… tune in to hear Destiney delve into the Lululemon murder. \n\nSpotify: \n\nhttps://t.co/nnDTfZtb32\n\nAmazon Music:\n\nhttps://t.co/FVHl2w8PBO\n\nApple Podcast:\n\nhttps://t.co/hqRRPRZgeg https://t.co/jKPWkrcWtK
@lululemon and @LaserShip shipments to Miami are definitely being stolen. Check the google reviews. Marked as delivered but not actually delivered. SEVERELY disappointed. I had a package worth over $200 stolen. #Fraud #Stolen #Lululemon
@TuckerPeterson_ @KurtSchlichter @robbystarbuck @GOPChairwoman Aw, hell no. If I go so far as to support the RNC versus an individual candidate, and I have in the past, I'll be damned pissed to find out it got spent at freaking Lululemon.
@SquawkStreet @lululemon @calvinmcdonald @jimcramer U.S. to send $275 million in military aid to Ukraine; NATO chief worries war could become wider conflict\n\nBlood on your hands u war mongers
@rgkicks @HButter03 @ApeCrayonsYummy @unusual_whales Stop the cap with your faded ass under armpit shit just because you're too poor to affor lululemon
@nationalpost @lululemon stuff is now sweat shop fast fashion crap AND they are appealing to a woke audience in ALL of their marketing rather than their actual consumer base. Fools fools fools
It's hard shopping from lululemon without thinking about the lululemon murders \U{01fae3} gotta stop with the true crime shit frfr
Does Lululemon's 12% Drop Signal Bad News For Clothing Retailers?\n\nLuxury athletic clothing retailer Lululemon gapped down 12%, after warning of higher-than-anticipated inventories. Is this a bad sign for other clothing stocks? https://t.co/4ksRMMZxYl

1-10 of 50 rows | 1-1 of 6 columns   Previous **1** 2 3 4 5 Next