# TIKTOK: BANNED OR NOT BANNED?

## A SENTIMENT ANALYSIS ON HOW REDDIT USERS REACT TO TITKOK BAN BILL

### (1310 words)

## Introduction



Credit: Sarah Tew/CNET

It is undeniable that TikTok has reshaped people behaviours and business aspects in many ways - from media, creativity, to marketing, education and politic, to name a few. While TikTok's audience consists of younger generations of users (i.e. Millennials and Gen Z), recent study shows that TikTok also has a significant influence in politic[1]. Due to its influential and explosive growth, TikTok has faced several concerns such as privacy, cybersecurity breach, online harms etc. Congressional lawmakers have proposed a bill to ban TikTok from operating in the US. While the federal-level directive yet to be reached, several states have banned the app from being used on government and military devices, as well as on campuses at state-run public universities. This study aims to recognize how people feel about the government's approach to suspend TikTok's usage, in an attempt to mitigate national security threats and regulate censored political speech. It would be interesting to see whether TikTok has truly gained liking and loyalty from its user base; or how people truly feel about the shaky future of this social media platform.

## Background

TikTok, a Chinese-owned social app launched in 2016, has started an evolution in pop culture in recent years. TikTok is a platform that allows users to generate and share short-form videos, ranging from 3 to 30 seconds. The app offers unique visual effects and sound bites, which unleashes people's creativity to no limits. As a result, TikTok has launches countless viral trends and rapidly gained users around the world.

In 2020, former President Donald Trump issued executive orders demanding Tiktok to divest or cease to operate in the US. However, those efforts were put on hold and until today, the Biden administration has continued reviewing the potential national security risks associated with the app. There has been increasing bipartisan bills and support to impose a national-wide ban on TikTok, threatening to cut off a popular mean of social entertainment for Americans.

## Research question

Reddit is a network of communities where people can share their interests, hobbies, and passions virtually. Given its popularity in exchanging opinions across variety of topics, this study used Reddit to collect data about people's sentiments through their interactions in the forum (i.e. posts, comments). Qian's content analysis on Weibo suggests that online discussion forum can play a significant role in shaping and

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[1] https://scholar.umw.edu/cgi/viewcontent.cgi?article=1445&context=student_research

measuring public opinions in the context of politically sensitive issues [1]. Broadly, this paper will answer the following question:

## How do people react to TikTok's ban proposal by raising their voices on Reddit?

This paper aim to answer the above question using sentiment analysis, whose application was effectively used for political analysis in the article 'Opinion Mining and Sentiment Analysis' [2].

### About the data:

TikTok-related Reddit posts and comments are the subject of my study. The dataset consists of 23 post titles and total 2,651 comments in English, from subreddit 'r/technews' forum, posted by Reddit users. It is assumed that users are located in the US and have used TikTok when they engaged in this forum. Date of posts were collected, however, temporal analysis is outside the scope of this paper.

### Method:

In Python, I used PRAW (Python Reddit API Wrapper) to scrape data from subreddit 'r/technews', using keyword search for 'TikTok AND ban'. For each post, I appended to a dictionary: post title, number of comments, post body, and creation date. I created another dictionary to collect the following for comments: comment body and parent post ID for joining data if needed. Both dictionaries are transformed into Data Frame type and exported to CSV files for reference.
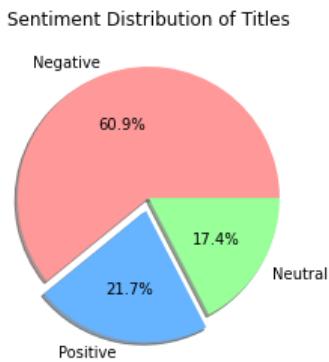
I then performed sentiment analysis on this dataset to identify public feelings and opinions using Vader, a powerful tool to use for conversations in English. A 0.05 threshold was used to categorize sentiment labels:

| < -0.05 | [(-)0.05 – 0.05] | > 0.05 |
|---------|------------------|--------|
| Negative | Neutral | Positive |
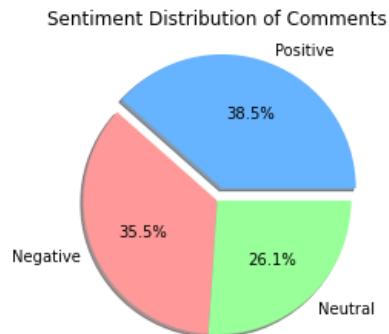
Pie and bar charts were plotted to help visualize sentiment distribution among Reddit comments. Word cloud analysis was used to explore the most-mention and virality of Reddit users' views about TikTok ban. Natural Language Toolkit was used for light data pre-processing prior to performing Word Cloud to enhance relevancy.

### Results

While a 0.4% ratio of 2,651 comments to 634k users of 'Tech News' subreddit is not high, the number suggests that TikTok ban is still an interesting topic with more than 2k textual interactions. Out of 23 posts, 3 posts did not have any comments and the remaining posts have in average 115 comments each (excluding outliers).
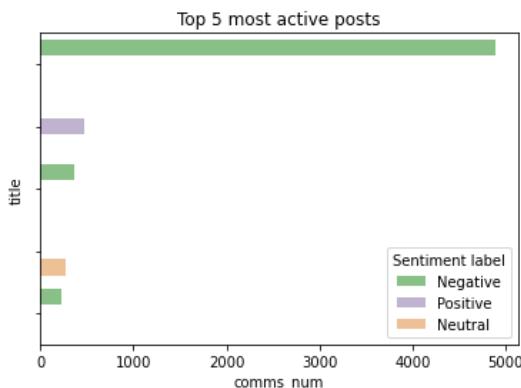
*Fig 1a.*                                        *Fig 1b.*

Figure 1a reveals that the majority of Reddit headliners about TikTok ban are negative (60.9%). In figure 1b, 38.5% Reddit users showed positive sentiments toward TikTok ban, which is slightly more than negative sentiments of 35.5%. This suggests that TikTok ban is still a controversial topic with as many opposing opinions as support. Users may need more evidence showing that TikTok poses national security threats to believe that the risk of using this app may actually outweigh the benefits. Let's look at most active posts:
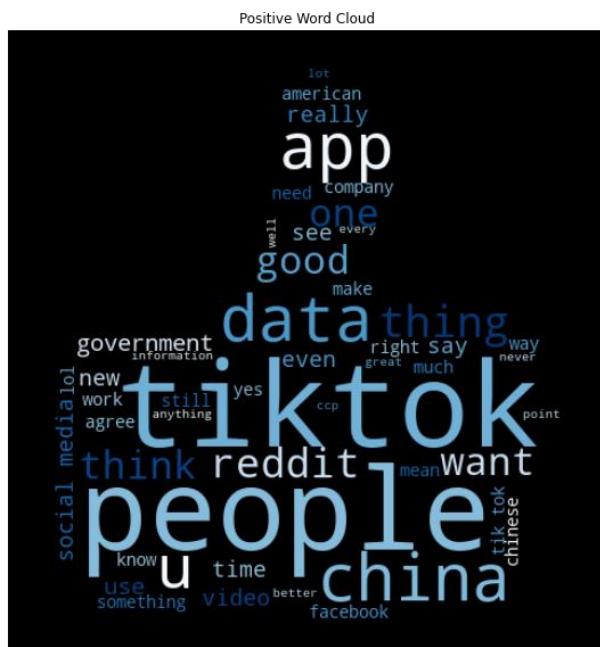


*Fig 2 – Sentiment of top 5 most active posts*

Figure 2 shows that the top post has by far the most comments and its title conveys a negative sentiment. Below are the top 5 most active posts:

1. Nationwide ban on TikTok inches closer to reality      4891 comments
2. TikTok Bans Influencers From Promoting      469 comments
   Cryptocurrencies Like Bitcoin, Dogecoin, on Its Platform
3. TikTok admits to spying on U.S. users as effort to ban      370 comments
   the app heats up
4. Texas Gov. Greg Abbott bans TikTok on state devices      273 comments
5. TikTok Sues Trump Administration Over App Ban      231 comments

These post titles seem to merely state the facts than express feelings, however it is interesting to see the topical patterns that most talked about when it came to TikTok ban such as gov, sue, Trump…

*Fig 3 – Word cloud of positive comments*



*Fig 5 – Word cloud of negative comments*

Figure 4 and 5 shows 50 most mentioned words in positive comments and negative comments, respectively. Several most mentioned words are identified in both positive and negative comments such as: China, government, people, app…which reiterates the point above about that there are two equally contrasting opinions toward this topic. In positive word clouds, a few positive descriptive adjectives were called such as 'good', 'great', 'agree'…] and the same is seen in negative word cloud. To some extent, Reddit users expressed some concerns as they mentioned the following words in negative comments: 'data', 'information', 'use', 'problem', 'country', etc.

## Challenges and Limitations:

One of the main limitations is that it can be difficult for computational algorithms to accurately detect the sentiment of text the way human do, especially when the informal language used on Reddit often contain nuance, sarcasm, negation and emoji. For this study, the word 'ban' itself is considered slightly negative, therefore a positive phrase that mentions 'TikTok ban' can fall into the negative spectrum. For example: 'TikTok should not be banned' is labelled 'negative'[2]. This can lead to unreliable, or even misleading results.

## Conclusion

While there are some concerns about data privacy on Reddit, it is not obvious one way or another what people feel about TikTok Ban. This is still a controversial topic among the public as the issue is unfolded in government level. It is understood in Reddit population that banning TikTok is more a political issue, than others not mentioned in peoples comments. For example: not many mentions about TikTok being an invaluable use of time were found, nor the fact that banning TikTok would raise the First Amendment concern, etc. This paper presents a current view of people's opinion toward TikTok ban on Reddit community. Should people's opinion be swayed in one way, this is served as a good starting point on what can be done to shape public perception.

## Reference:

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- Pang, B., & Lee, L. (2008). Opinion mining and sentiment analysis. Foundations and Trends in Information Retrieval, 2(1-2), 1-135. (http://www.cs.cornell.edu/home/llee/omsa/omsa.pdf)

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[2] https://monkeylearn.com/sentiment-analysis-online/