TikTokers migration on RedNote

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Abstract
The recent TikTok ban in the United States has sparked a lot of conversation online and has led many creators to migrate to other platforms, such as RedNote. This migration offers valuable insights into how users respond to platform restrictions and how such limitations can affect online communities. Understanding these reactions helps us observe how communities take shape and evolve when faced with external pressures.This study focuses on public responses to the migration by analyzing posts and comments on Reddit, a widely used online discussion forum. We collected data using Reddit's APIs, and our analysis combines several techniques, including Natural Language Processing (NLP) and sentiment analysis with VADER, to get a sense of the overall tone of the conversations.We also applied network analysis to visualize how users interact with one another, using bipartite graphs to map connections between posts and users. The overall goal was to identify key discussion topics, highlight influential users, and gain a deeper understanding of how people perceive the migration of TikTok creators to new platforms.

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1 Background

The rise of social media has transformed the way people communicate, create content, and consume information. Platforms like TikTok have gained massive popularity and now play a central role in shaping digital cultures. However, growing concerns around data security, privacy, and foreign influence have pushed governments to take regulatory action against these platforms. TikTok, in particular, has been at the center of political and legal debates in the United States due to its connection with the Chinese company ByteDance. Lawmakers and government officials have raised concerns that the platform could potentially allow foreign entities to access user data or manipulate public discourse.

As a result, in 2024 the U.S. government passed legislation requiring TikTok to either be sold to an American company or face a nationwide ban. This decision sparked a wave of responses from the online community. One of the most significant consequences of the ban has been the migration of content creators to

alternative platforms, such as RedNote.

This topic caught my attention when I began noticing an increasing amount of Italian-language content on RedNote, a platform I was already using. The migration of creators—particularly in response to rising political and legal tensions—piqued my curiosity about how users, including many Italians, were adapting to this new space. I found it fascinating to explore how this shift was shaping online conversations, especially on Reddit, where debates about the future of social media were becoming more active and widespread.

This report explores public reactions to the TikTok ban by analyzing discussions on Reddit, one of the leading platforms for online discourse. I use network analysis to examine how users interact with each other, identifying community structures and building graphs to illustrate the connections between users and posts. In addition, I apply Natural Language Processing (NLP) techniques to uncover dominant themes and sentiment patterns within these communities.[2]

2 Methods

2.1 Data collection

To analyze the discussions surrounding the potential ban of TikTok, I collected data from Reddit using the Python Reddit API Wrapper (PRAW). The extraction was concentrated on the r/TikTok subreddit. I used specific keywords such as "ban", "TikTok ban", and "banned in the USA" to search for relevant discussions. I retrieved for each post various fields such as post ID, title, author, number of comments, timestamp, and others. In addition i extracted comments for each post, capturing details such as comment ID, author, comment body, timestamp, and parent ID. I retrieved more than 16,000 comments during this process.

2.2 Data Processing

I loaded the data into a Pandas DataFrame and preprocessed it to ensure it was clean and ready for analysis. First, I filtered out any posts or comments with missing values, like those with unknown authors. I then converted usernames to lowercase, and removed any leading/trailing spaces. Finally, I converted timestamps into a human-readable date format to facilitate temporal analysis. These preprocessing steps ensured that the data was clean and ready for further analysis.

2.3 Network analysis

To study user interactions, i built a social network graph using NetworkX. Each node in the graph represented an user, and edges between nodes indicated interactions (i.e., comments made on another user's post). I analyzed the graph by calculating betweenness centrality which helped identify influential users and key connections within the network To visualize the structure of the discussions I generated several graph layouts, including spring layout, Kamada-Kawai layout, and circular layout. Additionally, I applied a community detection algorithm (Louvain method) to identify clusters of users engaging in similar discussions.

2.4 Sentiment analysis

To analyze the sentiment of the discussions I used Natural Language Processing (NLP). I preprocessed comments by removing URLs, mentions, hashtags, and special characters. I applied the VADER (Valence Aware Dictionary and sEntiment Reasoner) tool from the NLTK library to classify the comments into three categories: positive, negative, and neutral. I created a bar chart to visualize the distribution of sentiments in the discussions. This chart provides a clear and immediate representation of the proportion of positive, neg-

ative, and neutral comments, highlighting the prevailing emotions among users.

2.5 Data visualization

To enhance interpretability I created several visualizations. These included a line graph to display the number of posts per day, a scatter plot highlighting users with the highest influence, and a violin plot to showcase the distribution of betweenness centrality scores. Additionally, I developed interactive visualizations to represent user interactions and communities, allowing for a more dynamic exploration of the data.

3 Results

3.1 Network Analysis

The Reddit social network constructed from user interactions consisted of 4,257 nodes and 4,691 edges. The network revealed that most users had only a few connections, while a small group of highly connected users formed central hubs. Analyzing betweenness centrality, which shows how well users can connect different parts of the network, highlighted a few users that are particularly influential. The users with the highest betweenness centrality scores were hugeplace3170, thenrich, guilty_tree_8245, marchprofessional435, and packofcells. These users played an important role in linking different groups and helping information move across the network.

A community detection method, using the Louvain algorithm, revealed 16 distinct communities within the network. The largest community consisted of 19 users, representing approximately 15.57% of the total network size. The structure of the network was illustrated using a spring layout visualization (see Figure 2). The graph depicts various clusters of users, with clear interaction hubs highlighting how users are connected in different ways.

The figure below illustrates the betweenness centrality graph with community detection. Each node's size is proportional to its betweenness centrality score, which indicates the user's importance in connecting different network parts. Larger nodes signify users who have a higher capacity to bridge various groups, while smaller nodes represent users with lower betweenness centrality. The network is divided into 16 communities, each represented by different colors, and the largest community contains 19 users, the most significant group within the network. I filtered the users by a betweenness centrality threshold of 0.005 to focus on the most influential users, which helped me identify these key community structures.

The visualization underscores the centrality of a few users and reveals distinct communities within the network. Most of the users are part of smaller communities, while a few larger communities dominate the network structure. This information helps to understand how interactions unfold within the broader Reddit network and which users play pivotal roles in spreading information across the platform.

In addition to the overall network analysis, I also constructed a bipartite graph to capture the interactions between two distinct sets of entities: users and posts. A bipartite network consists of two groups of nodes, where edges can only exist between nodes from different groups (i.e., users are connected to posts, but not to other users or other posts).

The bipartite graph shown in Figure 1 was filtered by Betweenness Centrality with a threshold of 0.01 to focus on the most influential nodes. In this graph nodes represent users and posts, meanwhile edges represent the interaction between users and posts The highlighted nodes in the bipartite graph represent the most influential users and posts, deter-

mined by their betweenness centrality. These nodes act as key intermediaries in the network, connecting different parts of the user-post interaction space. In this case, nodes with high centrality are essential for linking disparate groups of users to posts, facilitating information flow across the network. The purpose of creating this bipartite graph was to focus on user-post interactions and identify which users or posts play pivotal roles in connecting various parts of the network. The filtering by betweenness centrality helps to identify the users and posts that are crucial for bridging different segments of the Reddit network.

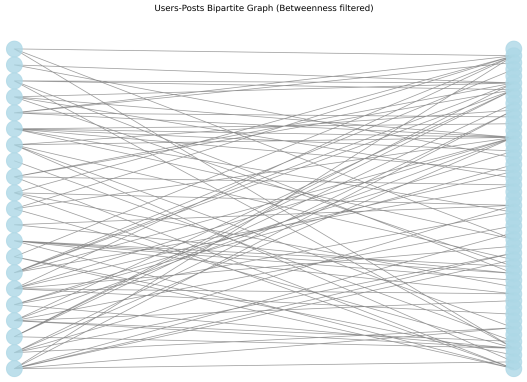

Figure 1: Bipartite network filtered by Betweenness Centrality. The highlighted nodes represent users and posts, while the edges represent the interactions (comments) between them.

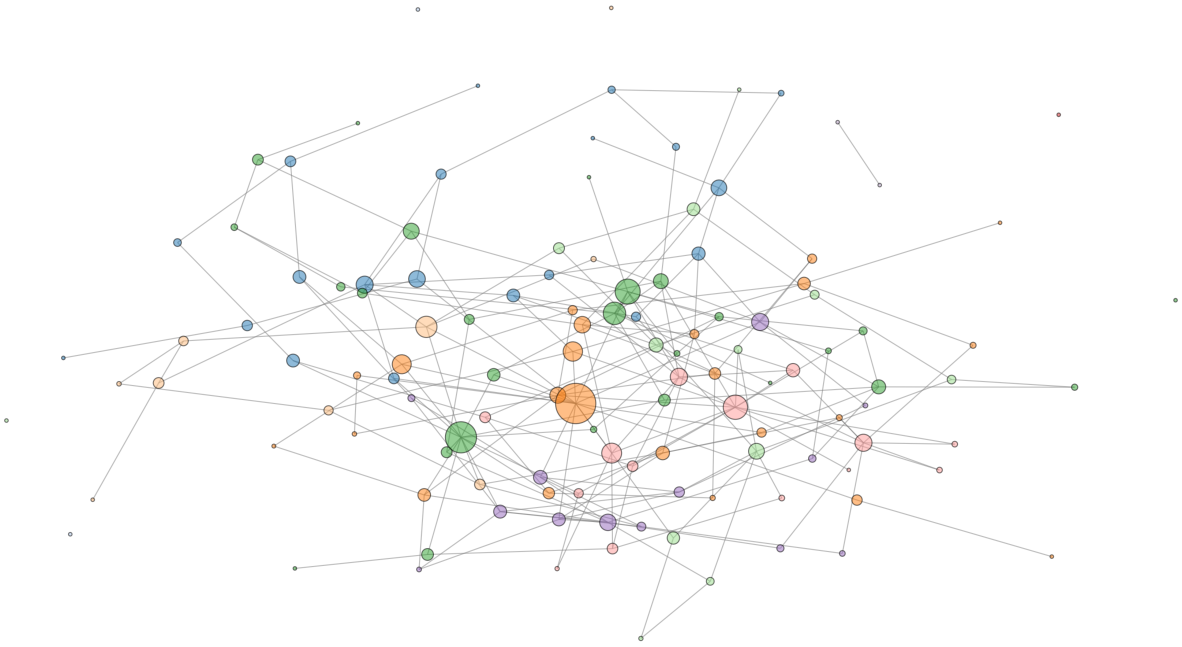

Figure 2: Network visualization showing betweenness centrality and 16 communities detected using the Louvain method. Node size reflects betweenness centrality, and colors represent different communities.

3.2 Sentiment Analysis

I analyzed a total of 16,000 user comments for sentiment classification. The sentiment distribution showed that 36% of comments were positive, 32% neutral, and 31% negative. This suggests that most users expressed favorable or neutral sentiments in their comments. A bar chart was used to display the sentiment distribution, showing that positive sentiment was the most common(see Figure 3). Positive comments generally expressed approval or agreement with the topics being discussed, while negative comments were often critical or showed disagreement, particularly in response to controversial topics.

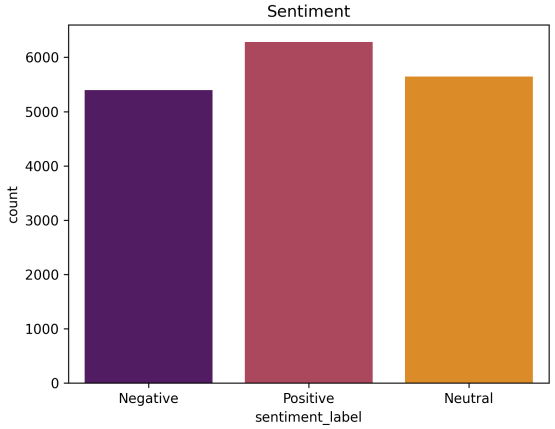

Figure 3: Bar chart representing the sentiment distribution of 16,000 comments, revealing that positive comments were the most frequent, followed by neutral and negative sentiments.

3.3 Temporal Trends

The number of posts per day showed significant fluctuations, with clear peaks on specific dates. These spikes coincided with major announcements or updates related to the TikTok ban, indicating that these events were important drivers of user engagement. I used a line graph to illustrate these temporal changes(see Figure 4), clearly showing that discussion activity increased following key moments. One of the first major spikes occurred in April 2024, when the U.S. government officially passed the law requiring TikTok to either sell its U.S. operations or face a ban. The legislation progressed quickly, with President Biden signing it into law on April 24. This decision sparked widespread discussions as users debated its potential consequences and shared their reactions online. An even larger spike was observed in January 2025, coinciding with the deadline for TikTok's forced sale. As the date approached, the Supreme Court ruled in favor of the ban, and for a brief period, TikTok actually became unavailable in the U.S. However, just after his inauguration, President Trump issued an executive order delaying enforcement, keeping the platform accessible. These rapid developments fueled a surge of online conversations as users reacted to the evolving situation.[1] This pattern suggests that significant political and legal decisions surrounding TikTok directly influenced user discussions, leading to bursts of engagement at key moments.

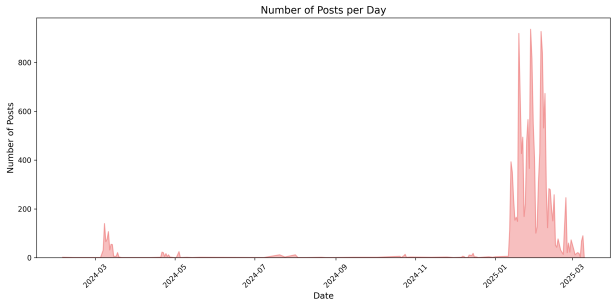

Figure 4: Graph showing the number of reddit comments per day, highlighting the spikes in user activity in April 2024 and January 2025.

3.4 Distribution of User Centrality

A violin plot of betweenness centrality scores showed a highly uneven distribution, with most users having low scores and a few outliers with much higher scores (see Figure 5). This further confirmed the presence of a small group of highly influential users who played a key role in the discussions and helped connect different parts of the network.

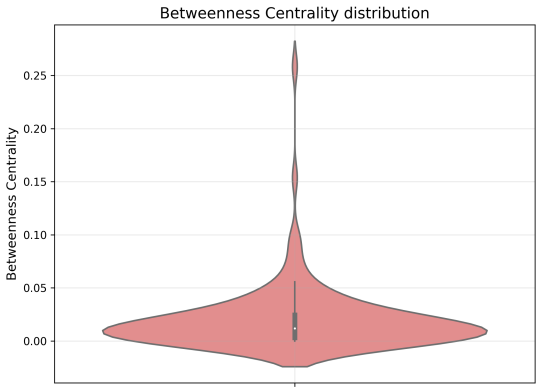

Figure 5: Violin plot showing the distribution of betweenness centrality scores among users, revealing a pronounced skew with a few users holding significantly higher centrality values.

4 Conclusions

4.1 Summary

This study explored the reactions of Reddit users to the TikTok ban in the U.S. and the migration of content creators to platforms like RedNote. By analyzing user interactions through network analysis and sentiment analysis, I uncovered key insights into the conversations surrounding the ban. Most discussions were either positive or neutral, with users showing some level of optimism about moving to new platforms. The network analysis revealed that a small number of users had a significant influence on the overall conversation, helping to connect different groups and spread information.

4.2 Limitations

The findings highlight how online communities, even when facing regulatory challenges, adapt quickly and continue engaging with the topic at hand. Despite the political and legal controversies surrounding TikTok, the general sentiment from Reddit users suggests that they were willing to explore alternative platforms, such as RedNote. This adaptation process shows that users are resilient, and it raises important questions about how social media users might react to similar restrictions in the future. The study also reveals that a few key users have a disproportionate influence within the community. These users play an essential role in connecting different groups, facilitating the spread of information, and driving the conversation forward. This emphasizes the importance of understanding how certain users act as “bridges” in online communities, especially in moments of change or crisis.

There are, of course, some limitations to this study. For one, I focused solely on Reddit, which, while a major platform, might not fully capture the complete range of opinions or reactions from all TikTok users. Other social media platforms, like Twitter or Instagram, might have different dynamics, and users there may have reacted differently to the TikTok ban and migration. By relying on just one platform, I might have missed out on al-

ternative discussions happening elsewhere.

Additionally, I only considered the immediate aftermath of the ban. This study does not account for long-term reactions, which could evolve as the situation progresses. The sentiment analysis was also based on VADER, a tool that works well for general sentiment but may miss some of the nuances or sarcasm found in online discourse.

4.3 Future Research

There's a lot of room for future research in this area. One direction would be to analyze discussions on multiple platforms to see if the reactions to TikTok's ban and the migration to RedNote are consistent across different social networks. Expanding the study to other platforms like Twitter or Instagram could provide a more holistic view of how social media users across the board responded to the ban.

Another interesting area for future research would be the long-term effects of the TikTok ban. We could look at how the user dynamics and sentiment evolve as time goes on and as the legal situation surrounding TikTok develops further. For example, what happens if TikTok continues to operate in the U.S. despite the legal challenges, or if new policies arise that impact content creators? How will the networks change over time?

Finally, it might be useful to dive deeper into the content of the discussions using more advanced techniques like topic modeling or deep learning. This could help us identify new trends, uncover more detailed discussions, or spot emerging themes in users' conversations that weren't immediately obvious from sentiment analysis alone.

4.4 Final Thoughts

In conclusion, this research provides a snapshot of the reactions of Reddit users to the TikTok ban and the migration of creators to new platforms. By using network analysis and sentiment analysis, I was able to map out the structure of these conversations and understand the main sentiments surrounding this event. While I encountered some limitations, the insights gained can inform how we think about online communities' responses to regulatory pressures in the future. Moving forward, further research can expand on these findings, considering longer-term dynamics and exploring other platforms to get a fuller picture of how users navigate these kinds of social media disruptions.

References

[1] James Grimmelmann. The tiktok ban and its consequences. *Communications of the ACM*, 2025.

[2] Jing Zeng and D. Bondy Kaye. From content moderation to visibility moderation : A case study of platform governance on tiktok. *Policy Internet*, 14, 02 2022.