Analysing Impact of Fake news in Online Social Media

Motivation:

Often we have seen that election results are mostly based on what the public thinks rather than solid facts. In the current age of social media, it is mainly driven by most trending rather than facts.

Twitter is a prime example of a platform that is a medium used by political leaders, celebrities and organisations to communicate their thoughts about politics and social issues. Although Twitter has placed several restrictions to prevent abuse and hate speech, there have been many cases of mob lynching, communal hate and politically motivated targeting at an individual or group.

Problem Statement:

Fake news posted by famous figures on social media spreads faster because people do not fact check what is shared with them and blindly follow the crowd. Thus, people cannot differentiate between facts and online propaganda, which often leads to real-life consequences regardless of being good or bad. People need a transparent medium for fact-checking news to make informed decisions without contributing to a social problem.

Verification of problem

To verify our problem statement, we conducted a short survey to know about how involved social media is with people's lives. From the 67 responses that we received we got the following results:

Only a small percentage of the users rarely used online social networks.
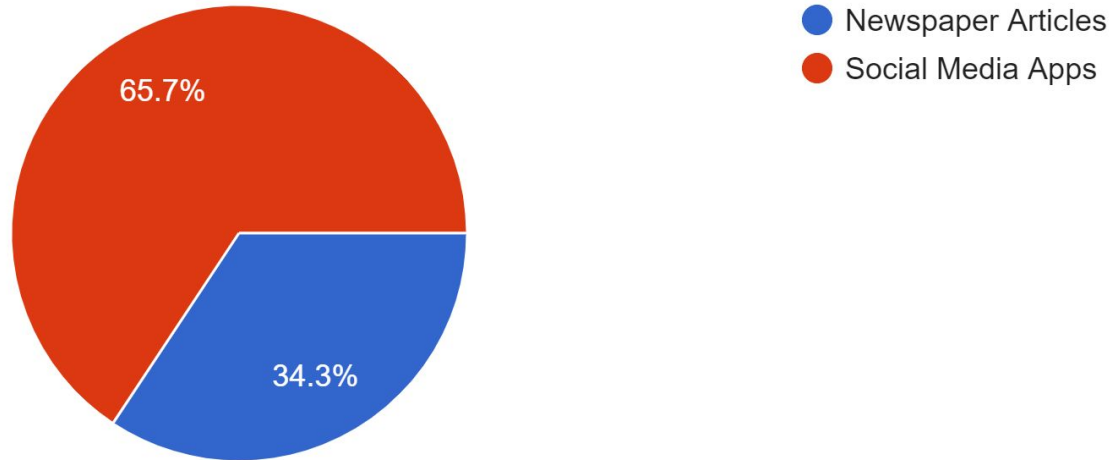
How often do you use your social media platforms?

67 responses

- Very Rare
- Moderately
- Very Often

31.3%

7.5%

61.2%
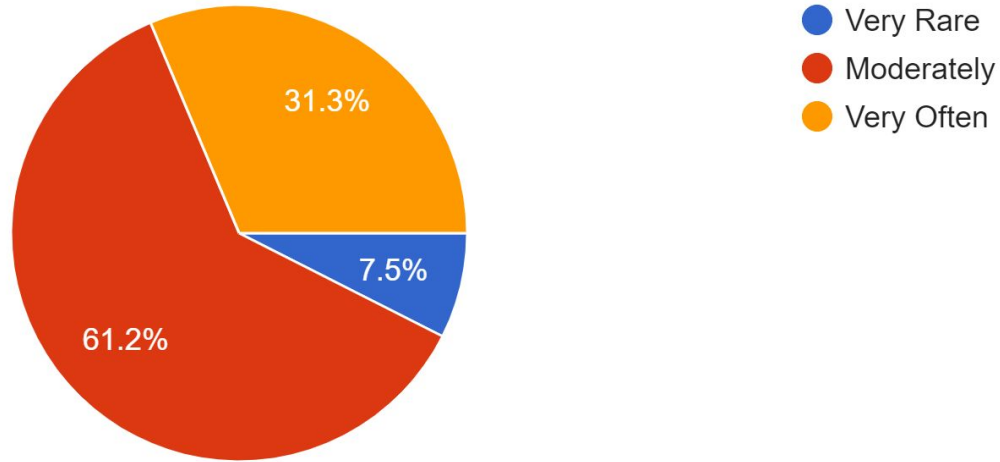
Users preferred to use Social Media Apps for getting news rather than newspaper articles.

Do you prefer using newspaper articles or social apps to get your preferred news?
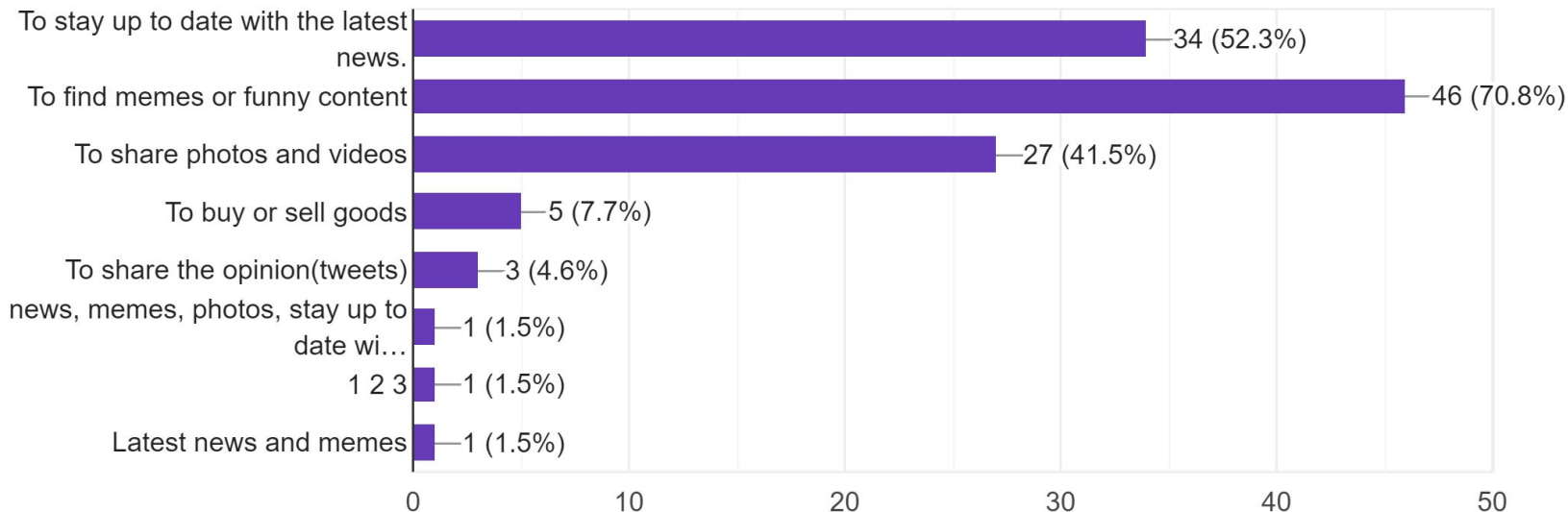
67 responses

- Newspaper Articles
- Social Media Apps

65.7%

34.3%

A major portion of the users used social media platforms to keep track of the latest news after searching content for entertainment.

For what purposes do you use social media platforms?(Mark all that apply)

65 responses

Category	Value
To stay up to date with the latest news.	34 (52.3%)
To find memes or funny content	46 (70.8%)
To share photos and videos	27 (41.5%)
To buy or sell goods	5 (7.7%)
To share the opinion(tweets)	3 (4.6%)
news, memes, photos, stay up to date wi…	1 (1.5%)
1 2 3	1 (1.5%)
Latest news and memes	1 (1.5%)

More than 50% of the users fall for fake news on social media platforms

Have you ever been the victim of fake news.
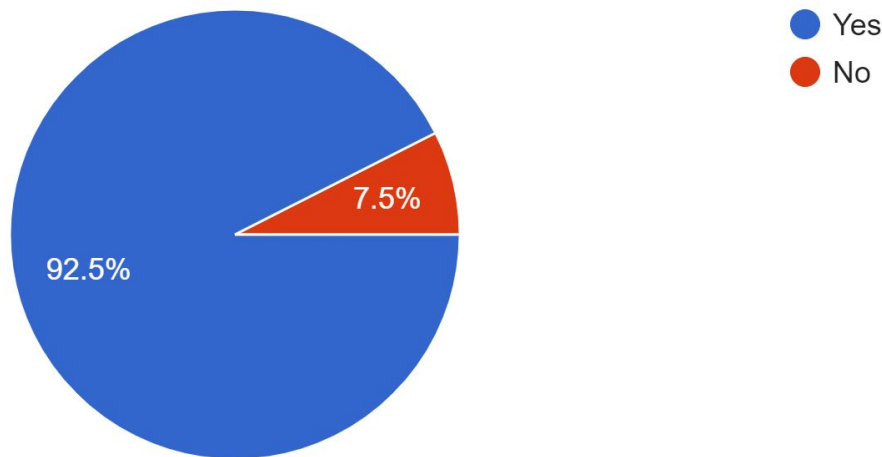
67 responses

● Yes
● No

50.7%

49.3%
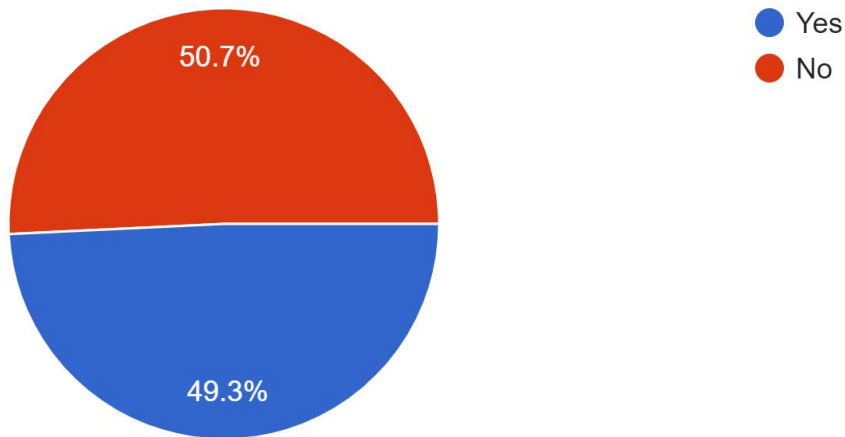
Around 92.5% of the users agree that the chances of falling for fake news is higher on social media.

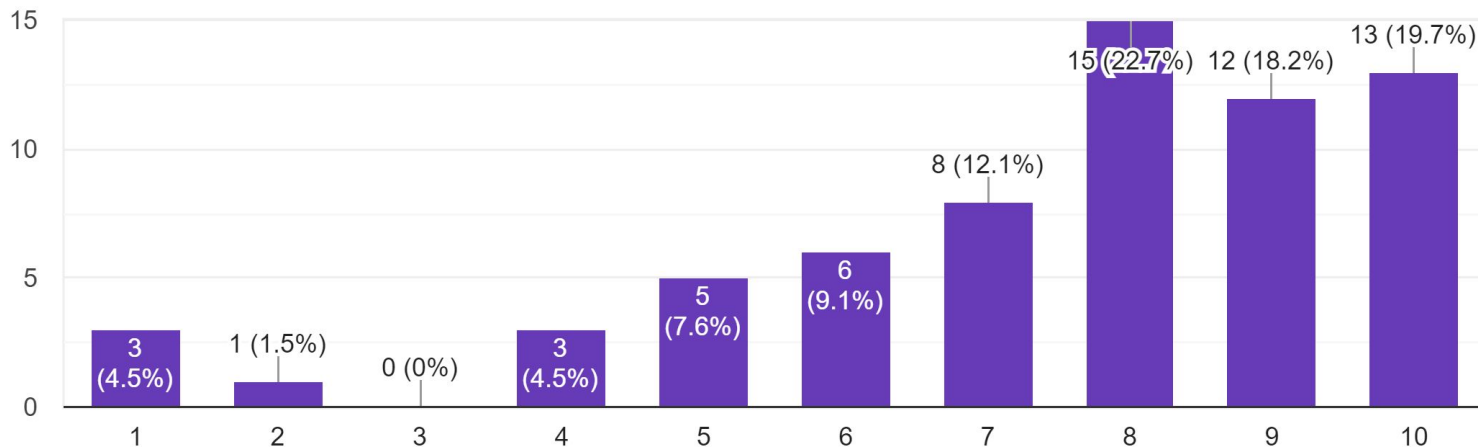Do you agree the chances to fall for fake news is higher on social media?

67 responses

- Yes
- No

92.5%

7.5%

Majority of the users want a tool to get a transparent overview of posts on the internet.

On a scale of 1-10, how interested you will be to use a tool to check the impact of a post before sharing it /commenting on it?
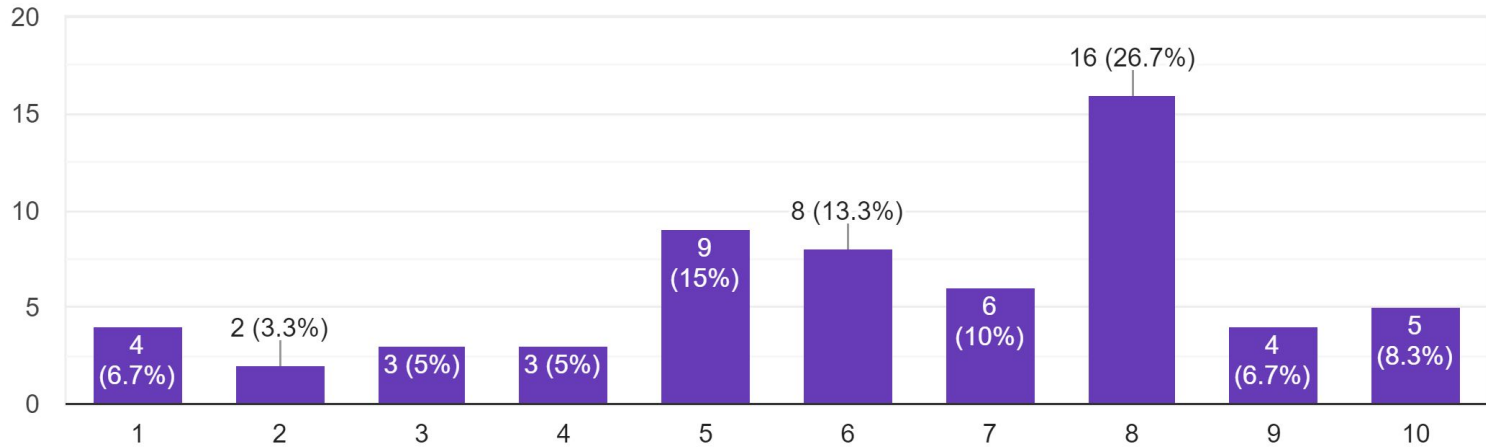
66 responses

Most of the users agreed that Twitter is more responsible for spreading fake news.

On a scale of 0 – 10, do you think twitter is more responsible for fake news as compared to other platforms?
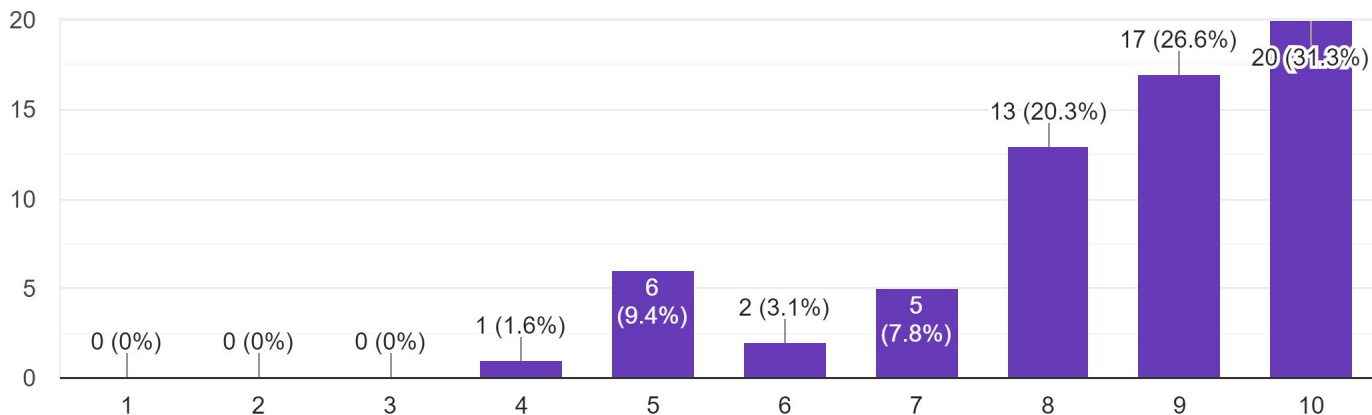
60 responses

Lastly, most users agreed that famous figures play a crucial role in spreading news irrespective of it being fake or real.

On a scale of 0 to 10, rate the scope of impact a post shared by famous figures have on online social media.

64 responses

Research done on this field

Ahmad et al. Hum. Cent. Comput. Inf. Sci. (2019) 9:24
https://doi.org/10.1186/s13673-019-0185-6

Human-centric Computing and Information Sciences

Detection and classification of social media-based extremist affiliations using sentiment analysis techniques

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article

Abstract

Identification and classification of extremist-related tweets is a hot issue. Extremist gangs have been involved in using social media sites like Facebook and Twitter for propagating their ideology and recruitment of individuals. This work aims at proposing a terrorism-related content analysis framework with the focus on classifying tweets into extremist and non-extremist classes. Based on user-generated social media posts on Twitter, we develop a tweet classification system using deep learning-based sentiment analysis techniques to classify the tweets as extremist or non-extremist. The experimental results are encouraging and provide a gateway for future researchers.

Keywords: Social media, Sentiment classification, Emotions, Extremist sentiments, Terrorism, Extremist affiliations, Deep learning

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Journal of Computer-Mediated Communication

The Rise of Twitter in the Political Campaign: Searching for Intermedia Agenda-Setting Effects in the Presidential Primary

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Questions exist over the extent to which social media content may bypass, follow, or attract the attention of traditional media. This study sheds light on such dynamics by examining intermedia agenda-setting effects among the Twitter feeds of the 2012 presidential primary candidates, Twitter feeds of the Republican and Democratic parties, and articles published in the nation's top newspapers. Daily issue frequencies within media were analyzed using time series analysis. A symbiotic relationship was found between agendas in Twitter posts and traditional news, with varying levels of intensity and differential time lags by issue. While traditional media follow candidates on certain topics, on others they are able to predict the political agenda on Twitter.

Keywords: Twitter, Agenda Setting, Presidential Primary, Social Media, Campaigns, New Media.

Hate Speech on Twitter Predicts Frequency of Real-life Hate Crimes

Jun 24, 2019
Modified Jun 24, 2019

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📍 New York City

NYU researchers turn to artificial intelligence to show the links between online hate and offline violence in 100 cities

According to a first-of-its-kind study, cities with a higher incidence of a certain kind of racist tweets reported more actual hate crimes related to race, ethnicity, and national origin.

A New York University research team analyzed the location and linguistic features of 532 million tweets published between 2011 and 2016. They trained a machine learning model – one form of artificial intelligence – to identify and analyze two types of tweets: those that are targeted – directly espousing discriminatory views – and those that are self-narrative – describing or commenting upon discriminatory remarks or acts. The team compared the prevalence of each type of discriminatory tweet to the number of actual hate crimes reported during that same period in those same cities.

The research was led by Rumi Chunara, an assistant professor of computer science and engineering at the NYU Tandon School of Engineering and biostatistics at the NYU College of Global Public Health, and Stephanie Cook, an assistant professor of biostatistics and social and behavioral sciences at the NYU College of Global Public Health.

"We found that more targeted, discriminatory tweets posted in a city related to a higher number of hate crimes," said Chunara. "This trend across different types of cities (for example, urban, rural, large, and small) confirms the need to more specifically study how different types of discriminatory speech online may contribute to consequences in the physical world."

Our Goals:

## Given a twitter handle, We will be

- Checking the validity of their tweets.
- Analyzing the range of emotions in comments section. (Also based on language)
- Finding the extremism of the posts.
- Knowing if hatred/ negativity is being spread by the account.
- Building a network of users around a particular tweet/post.
  - Build a demographic
- Presenting the curated data of our analysis to our users though a website.
  - Word Clouds
  - Pi charts
  - Bar Graphs
  - Most Upvoted retweets

Our end goal is to provide users with a Transparent medium to find news on Online social media, particularly on Twitter and help them make informed decisions.

Data Collection and Preliminary Analysis
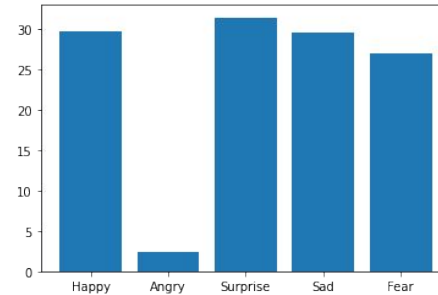
Emotion Analysis of 4 twitter User's post comment .
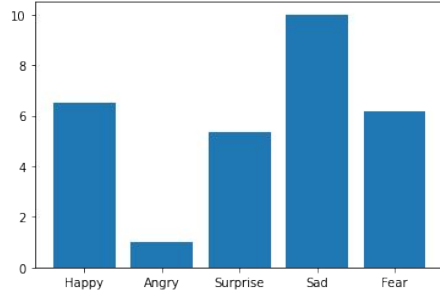
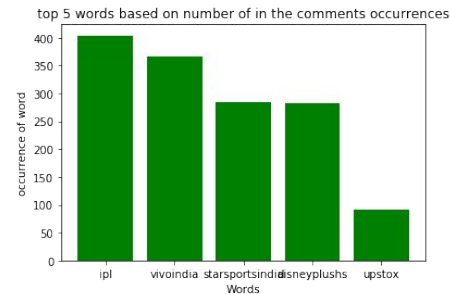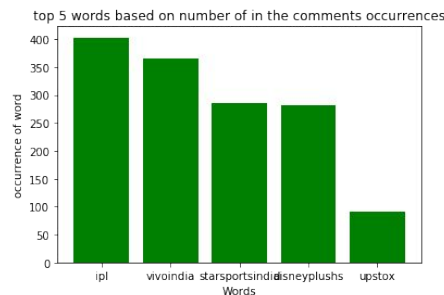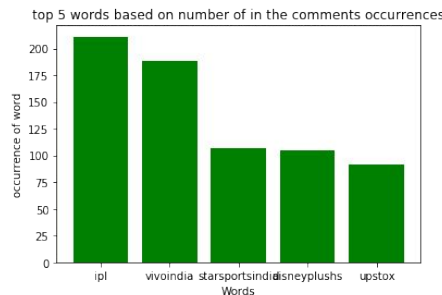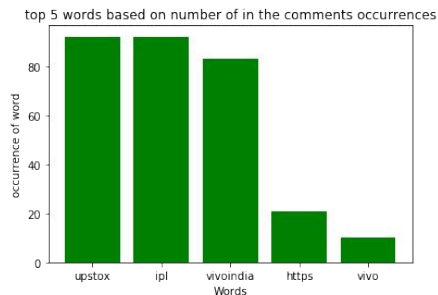
Plot 1.
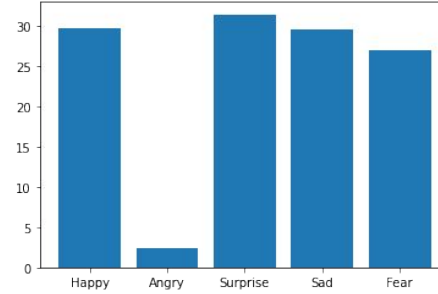
Plot 2.
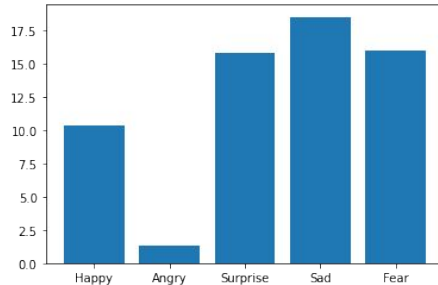
Plot 3.

Plot 4.

People had mixed responses to the post and showed varied emotions in the comment section, but only a few comments were based on emotion 'anger.'

Top 5 Most common words from the comments across different posts

The majority of comments constitute words related to Vivo and IPL because people know that Vivo is under pressure from the Indian government due to the India-China border dispute.