

1 Hour Analysis: Twitter Engagement

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Introduction

In this 1 hour analysis project, using Twitter/X engagement data of a social media creator, I investigate the question “When is the best time to post on Twitter for high impressions and engagement rate?”

Since the data is of an individual user, it will not be published alongside this executive report. As the aim of the 1 hour analysis is to force the data analyst to narrow down the scope of the analysis, this executive report serves as the findings that answer the aforementioned specific question.

Key Insights

- The best time for posting for the highest sum of impressions is approximately 7 PM in the timezone of the user.
- The highest historical sum of impression in a day for this user was in April 2023.
- The best time for posting for the highest average engagement rate 6 AM in the timezone of the user.
- The highest historical average engagement rate for this user was in June 2023.

Process and Analysis

Given the time constraints, the data was briefly explored, extraneous columns dropped, relevant columns were reformatted, and then the visualization process began.

Note that Twitter user data can only be retrieved for the past year of activity (with the current Twitter Analytics portal). These data are stored in CSVs and can be acquired by Tweet or by Date. This data was acquired by Tweet for future expansions into the analysis. Data arrived by month and was first concatenated into a single dataframe for the entire year.

Relevant columns for the question were the ‘time’, ‘impressions’, and ‘engagement rate’ columns.

Impressions are roughly the count of users who see a Twitter post, engagement rate is the number of impressions divided by the count of users who engage with your post (either through a like, a comment, a retweet, or a quoted retweet).

Note the graphs below that display the trends of impressions and engagement rates over differing timeframes for this particular user.

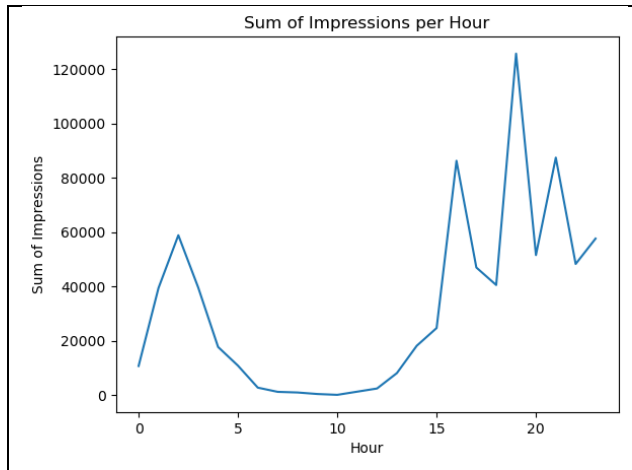


Fig 1. Sum of Impressions per Hour

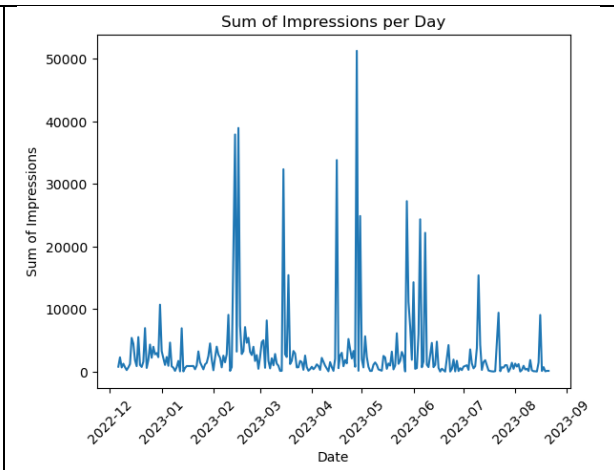


Fig 2. Sum of Impressions by Day

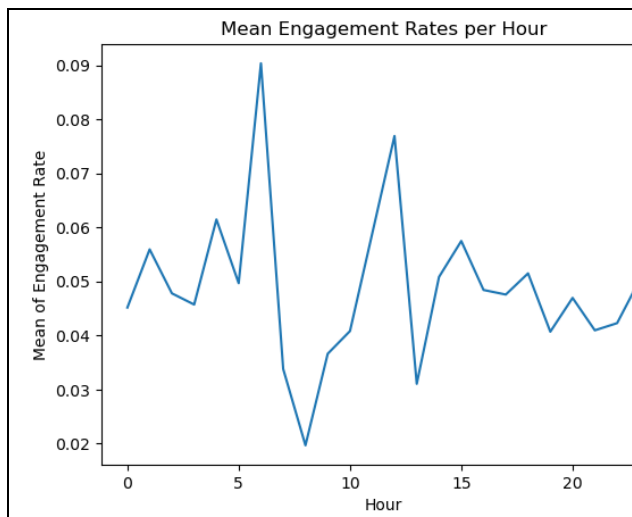


Fig 3. Mean Engagement Rates per Hour

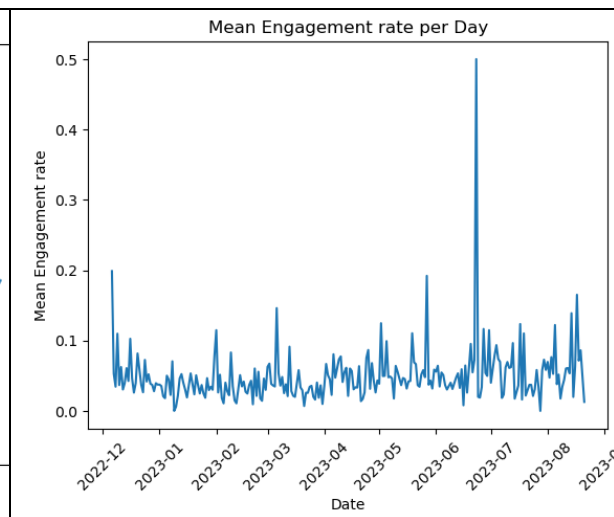


Fig 4. Mean Engagement Rates by Day

We see that though the highest sum of impressions comes from posting in the early evening (around 7PM in this user's timezone), greater engagement rates come from tweeting early in the morning (around 6AM in this user's timezone).

This may be due to the fact that there is more "passive scroll" time in the evening, but engagement rates are higher for morning tweets since viewers of a content may be actively scrolling through the timeline. In the evening, users may be tired from the day's activities and merely wish to passively see content, but in the morning, users may be more energized to comment on posts they find interesting. Engaging in the morning also means that users can return to a particular Tweet multiple times that day for further conversation; whereas, engagement in the evening may not lead to follow-up conversations due to night time lull.

Moving Forward

Since the goal of this project was only to focus on specific metrics within this hour, there are many avenues of expansion. In the future, we may wish to investigate the following questions:

- Given the set of hashtags used frequently by this user, which hashtag provides the user's content Tweets with the highest impressions or engagement rates?
- Are there words or media types that consistently correlate to higher impressions or engagement rates?
- Twitter engagement between users is also recorded by Twitter capturing @ data in every Tweet. Are there particular user networks that see higher engagement rates or impressions?

Predictive models may also be built to determine best times of posting given specific words/hashtags used in a Tweet.