INTRODUCTION

Twitter Analytics dashboard is an interactive dashboard that displays analysis on tweets with many parameters implemented with Power BI. The dataset comprises various elements, including the tweet content, the date and time of posting, impressions, engagement rates, retweets, replies, likes, user profile interactions, URL clicks, hashtag interactions, permalinks, app openings, app installations, follower counts, media views, and media engagements.

BACKGROUND

This initiative entails the development of a dashboard designed to display real-time tweets sourced from the website. The dashboard features five charts that have been created utilizing Power BI software. Data cleansing is performed through the Transform Data functionality within Power BI.

LEARNING OBJECTIVES

* To perform data cleaning
* To learn various Power BI charts.
* To learn and implement DAX queries and conditional formatting
* To Design an Interactive Dashboard

ACTIVITIES AND TASKS

The dataset is cleaned in Power BI using the Transform data option.

* The dataset is loaded in Power BI; clicking on transform data helps load data for the ETL process.
* The null values and duplicate values are removed by filtering.
* Calculated columns are created from the “time” column by splitting into various columns like Day, Day name, Month, Month Name, Quarter, Year, hour, and minutes by using M query functions.
* KPIs are created using cards to visualize metrics.

The project contains 5 tasks.

Task 1:

Task 1 involves creating a pie chart with proportions of clicks having impressions greater than 500. The drill-down option has to be enabled to show the proportion of clicks. This chart works for all timings

Task 2:

Task 2 involves creating a clustered bar chart between clicks and tweet categories.

* Tweets have to be categorized as tweets with media, tweets with links, etc., based on tweets.
* Drill down of tweet category shows proportions of clicks
* Tweet date should be an even number.
* Word count >40
* Tweets with at least one of the interaction types should be included
* The graph should work only between 3PM-5PM IST.

Task 3:

Task 3 involves creating a bar chart between tweets by sum of retweets and likes.

* Tweets must be posted on weekends.
* Impressions should be even number.
* Tweet date should be odd number.
* Tweet count should be less than 30
* Graph should work only between 3PM-5PM IST.

Task 4:

Task 4 involves creating a line chart between engagement rate for each month.

* Create lines with and without media content.
* Tweet engagement should be an even number
* Tweet date should be an odd number
* Graph should work only between 3 PM-5 PM IST.

Task 5:

Task 5 involves creating a line chart between engagement rate and app opens.

* Tweets posted on weekdays between 9 AM - 5 PM are only included
* Impression must be an even number
* Tweet date should be an odd number
* Tweet count is less than 40.
* Graph should work only between 12 PM-6 PM IST

SKILLS AND COMPETENCIES

* Data transformation is done using M-query.
* Data cleaning techniques like handling missing values, null values, and duplicate values are implemented with filtering.
* Calculated columns are created for the day, day name, month, month name, quarter, year, hour, and minutes.
* Columns and measures are created for respective fields.
* Switch statement and conditional filters are applied to columns and metrics for further analytics.

FEEDBACK AND EVIDENCE:

* Data calculations can be optimised by creating new tables and calculated columns.
* Visualisations can be interactive by syncing the slicers
* Group can be created for Task 2,3,4 as all 3 charts work for same timings.

CHALLENGES AND SOLUTIONS:

* Power BI works in the IST time zone. So time conversion is implemented using a calculated field and the UST time is converted to IST time for a better user experience.
* Task 1 involves calculating proportion of clicks using drill through option which was implanted by calculating total clicks
* Dynamic visibility can be done along with transparent background.

OUTCOMES AND IMPACT:

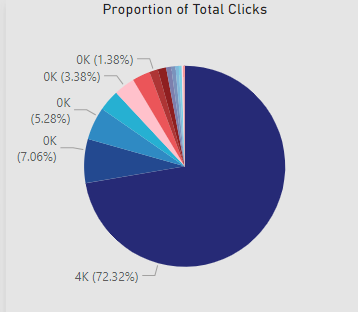


Figure 1 shows the proportion of clicks, including user profile, URL, and hashtag clicks. Clicking on the drill-down option shows the proportion of each click in total clicks.

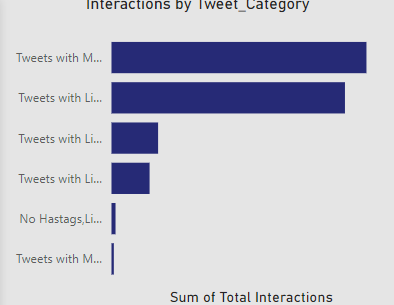


Figure 2 shows the graph between the Tweet category and interactions. The graph will work only between 3PM-5PM IST.

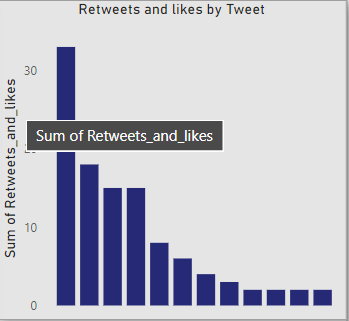


Figure 3 shows the graph between Retweets, likes, and tweets. Conditional filters are applied on odd days, tweet impressions, word count, and weekdays. The graph works between 3 PM and 5 PM IST.

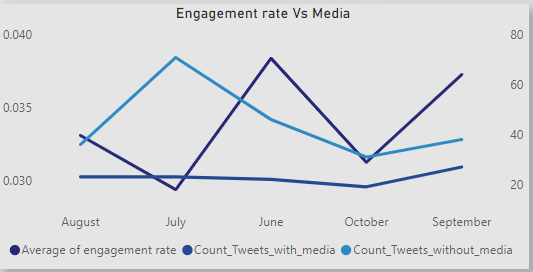


Figure 4 shows the graph between engagement rate and media. The graph shows engagement rate for tweets with and without media views.

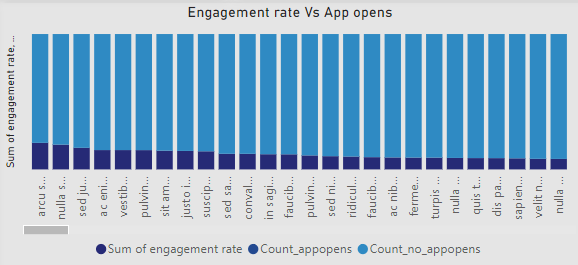


Figure 5 shows a graph between engagement rate and tweets with app opens.

CONCLUSION:

All tasks are completed with Power BI software, which utilizes features like conditional formatting, filters, slicers, charts, grouping, and dashboards. The project helps gain insights on Twitter analytics, visualization, and formatting techniques.