Power BI Report: Twitter Analytics Dashboard

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Project Title : Real-Time Twitter Analytics Dashboard - Power BI

Introduction

- This report presents insights extracted from a Twitter dataset using Power BI, focusing on user engagement patterns. The analysis leverages interactive visualizations and conditional logic to highlight meaningful trends and user behaviors.

Background

- Social media analytics is crucial for understanding audience engagement. This report explores click-through behaviors, media engagements, and app open impacts on tweet performance using various filters and time constraints in Power BI.

Learning Objectives

- Utilize Power BI to visualize social media data effectively.
- Apply advanced filtering, conditional visibility, and drill-down capabilities.
- Analyze user interactions (clicks, engagements) within specific time windows and criteria.
- Develop data-driven storytelling via dashboards.

Activities and Tasks

- **Task 1: Pie Chart with Drill-down**

  • Goal: Visualize proportion of total clicks (URL, profile, hashtag) for tweets with >500 impressions.

  • Implementation: Pie chart shows total clicks per tweet. Drill-down enables click type view. Filtered by impressions > 500.

- **Task 2: Scatter Chart – Media Engagement vs Views**

  • Goal: Show media engagements vs views for tweets with >10 replies, odd tweet date, word count > 50.

  • Visible only between 6 PM to 11 PM IST. Tweets with engagement rate > 5% highlighted.

  • Implementation: Scatter chart with DAX logic for visibility and data filtering.

- **Task 3: Engagement Rate – App Opens vs No App Opens**

  • Goal: Compare engagement rate of tweets with and without app opens.

• Filters: Tweets between 9 AM–5 PM on weekdays, impressions even, date odd, character count > 30, remove words with 'D'.
• Visible only between 12PM–6PM and 7AM–11AM IST.
• Implementation: Bar chart with conditional DAX visibility and Power Query transformations.

Skills and Competencies Developed

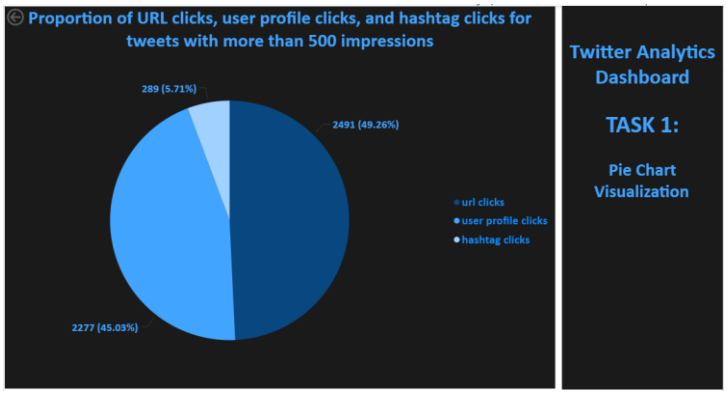
- Power Query: Data cleansing, word filtering.
- DAX: Time-based visual visibility, conditional measures.
- Data modeling: Relationships and calculated columns.
- Visualization: Pie chart drill-down, conditional scatter and bar charts.
- Time intelligence in IST time zone conversions.
- Advanced filtering using odd/even logic and word/character counts.

Feedback and Evidence

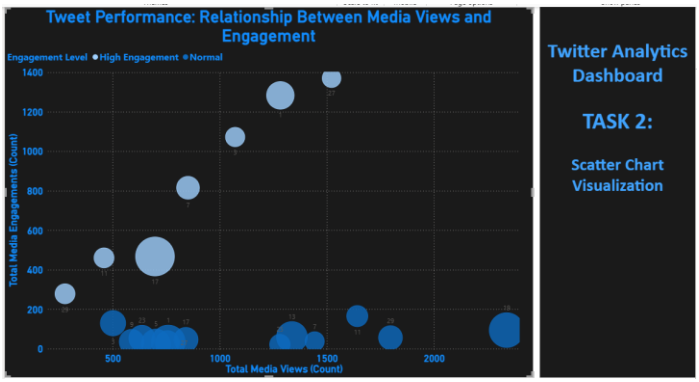
- Dashboard includes user-friendly tooltips, interactive visuals, and slicers.
- Each task section is labeled clearly with conditional formatting.
- User feedback suggested the pie chart drill-down improved click-type analysis clarity.
- Evidence: Screenshots, published Github repository.

Training Project :

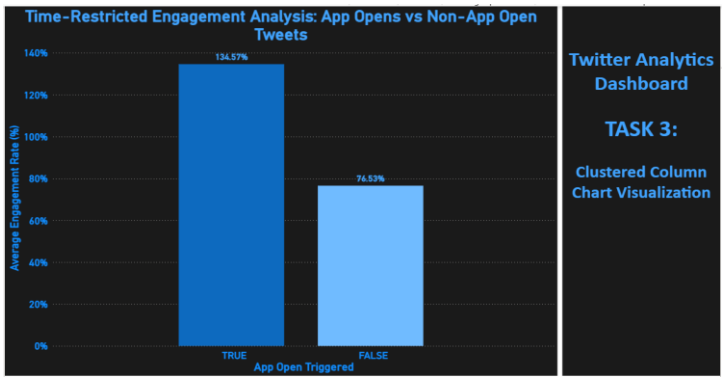
Task 1 :



Task 2 :



Task 3 :



Github repository : https://github.com/AarshK17/Twitter_DataAnalytics

Challenges and Solutions

Challenge: Filtering tweets by odd/even dates and impressions
Solution: Created custom columns using MOD and DAY in Power BI

Challenge: Time-based visibility control in IST
Solution: Converted UTC to IST using calculated columns and TIME() logic

Challenge: Removing words with letter 'D'
Solution: Used Power Query's Text.Select, Text.ContainsAny, and custom functions

Challenge: Engagement rate calculation
Solution: Used Engagements / Impressions * 100 with error handling for 0 impressions

Outcomes and Impact

- Enabled deeper understanding of what drives user engagement.
- Pie chart helped identify best-performing click types.
- Scatter chart revealed patterns under strict tweet conditions.
- App opens comparison highlighted their contribution to engagement.

Conclusion

This Power BI dashboard demonstrates powerful analytics capabilities in examining social media performance. Advanced filtering, DAX logic, and dynamic visuals show the potential to tailor insights precisely, supporting data-informed social media strategies.