Internship Report: Real-Time Twitter Analytical Dashboard Using Power BI

Introduction

This report details my internship project, which involved building a Real-Time Twitter Analytical Dashboard using Power BI. The objective was to analyze and visualize Twitter data to gain insights into user engagement and tweet performance.

Background

Understanding Twitter data is crucial for assessing the impact of social media campaigns and user interactions. The dataset used in this project included various metrics such as impressions, engagement, retweets, replies, likes, and more, providing a comprehensive view of tweet performance.

Learning Objectives

- To develop skills in data visualization using Power BI.
- To gain insights into Twitter data analytics.
- To create meaningful and interactive dashboards that provide actionable insights.

Activities and Tasks

- 1. Create a Line Chart: Show the trend of the average engagement rate over each month, differentiating between tweets with and without media content.
- 2. **Develop a Visualization**: Compare replies, retweets, and likes for tweets with media engagements greater than the median value, filtered for the last six months.
- 3. **Analyze Engagement Rate**: Compare engagement rates for tweets with and without app opens, focusing on tweets posted between 9 AM and 5 PM on weekdays.
- 4. **Create a Dual-Axis Chart**: Show media views and media engagements by the day of the week for the last quarter, highlighting significant spikes.
- 5. **Build a Pie Chart**: Represent the proportion of total clicks (URL clicks, user profile clicks, and hashtag clicks) for tweets with more than 500 impressions, including a drill-down for specific click types.
- 6. **Build a Drill Down:** Create the drill down with hierarchy chart to deep down into sub behavior to view the specific types of clicks for certain tweet,

Skills and Competencies

- Data Visualization: Learned to create various types of visualizations in Power BI.
- Data Analysis: Improved skills in analyzing complex datasets to extract meaningful insights.
- Dashboard Design: Gained experience in designing interactive and user-friendly dashboards.

Feedback and Evidence

Feedback from my supervisor highlighted the effectiveness of the visualizations in conveying complex data simply and clearly. Screenshots and examples of the dashboards created were included in the final presentation to stakeholders.

Challenges and Solutions

- **Data Complexity**: Managing and visualizing large datasets was challenging. Solutions included using Power BI's data modeling features to streamline the data.
- **Interactivity**: Ensuring the dashboards were interactive and user-friendly required iterative testing and feedback incorporation.

Outcomes and Impact

The project resulted in a set of interactive dashboards that provided valuable insights into tweet performance and user engagement. These dashboards can be used by social media managers to optimize content and engagement strategies.

Conclusion

This internship project enhanced my skills in data visualization and analytics, providing practical experience with Power BI. The resulting dashboards offer a powerful tool for understanding and optimizing Twitter engagement

MY TASKING MODULE:

Project:

Main Tasks -

- 1) Create a line chart showing the trend of the average engagement rate over each month of the year. Separate the lines for tweets with media content and those without. Develop a visualization that compares the number of replies, retweets, and likes for tweets that have received media engagements greater than the median value. Include a filter for tweets posted in the last six months.
- 2) Analyze tweets to show a comparison of the engagement rate for tweets with app opens versus tweets without app opens. Include only tweets posted between 9 AM and 5 PM on weekdays.
- 3) Create a dual-axis chart that shows the number of media views and media engagements by the day of the week for the last quarter. Highlight days with significant spikes in media interactions. Build a pie chart that represents the proportion of total clicks (URL clicks, user profile clicks, and hashtag clicks) for tweets with more than 500 impressions. Include a drill-down to view the specific types of clicks for each tweet.

Instruction:

Everyone should export the Power BI template and share the Template

Note: Make the entire website responsive on all mobile devices including tablets

TASK DIFFENTIATION:

Data Transformation:

- a. Create a New Dataset, Extract and Clean it.
- b. column should to have: tweet, time, date, impressions, engagement, rate of engagement, retweets, replies, likes, user profile clicks, url clicks, hashtag clicks, detail expands, app opens, media views, media engagements, month, day, year, converted date, converted time.

Power BI Visualizations:

- 1. Create a <u>line chart</u> showing the trend of the <u>average engagement rate over each month of the year.</u> Separate the <u>lines for tweets with media content and those without</u>.
- 2. Develop a <u>visualization</u> that <u>compares</u> the <u>number of replies</u>, <u>retweets</u>, <u>and likes for tweets</u> that have received <u>media engagements greater than the median value</u>. Include a filter for tweets posted in the <u>last six months</u>.
- a. Analyze tweets to show a <u>comparison</u> of the <u>engagement rate for tweets with app opens</u> versus <u>tweets without app opens</u>. Include <u>only tweets posted between 9 AM and 5 PM on weekdays</u>
- 1. Create a <u>dual-axis chart</u> that shows <u>the number of media views and media engagements</u> by the <u>day of the week for the last quarter</u>. <u>Highlight days</u> with significant <u>spikes in media interactions</u>.
- 2. Build a <u>pie chart</u> that represents the proportion of total clicks (<u>URL clicks, user profile clicks, and</u> hashtag clicks) for tweets with more than 500 impressions.
- 3. Include a drill-down to view the specific types of clicks for each tweet.