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## **Report on Twitter Dashboard Data Analytics Project**

### **Introduction**

*This report highlights the development and insights gained from a data analytics project aimed at creating interactive dashboards to analyze Twitter data. The project's objective was to design visualizations that effectively illustrate user engagement metrics.*

### **Background**

*Twitter provides extensive data on user interactions, such as impressions, clicks, likes, retweets, and media engagements. This project focused on developing dashboards to analyze these metrics comprehensively. Advanced filters and visualization techniques were used to derive meaningful insights.*

### **Learning Objectives**

- Gain a deeper understanding of Twitter engagement metrics.*
- Build expertise in designing interactive dashboards with advanced filtering capabilities.*
- Enhance data visualization and analytical storytelling skills.*
- Address complex data challenges to generate actionable insights.*

### **Activities and Tasks**

## **1. Analysis of Click Proportions**

- Created a pie chart showing the proportion of total clicks (URL clicks, user profile clicks, and hashtag clicks) for tweets with over 500 impressions.
- Implemented a drill-down feature to display specific click types for each tweet.

## **2. Top Tweets Identification**

- Designed a chart to showcase the top 10 tweets based on the sum of retweets and likes.
- Applied filters to exclude weekend tweets and included criteria such as tweets posted between 3 PM and 6 PM with even impressions, odd dates, and word counts below 30.

## **3. Clicks Breakdown by Categories**

- Developed a clustered bar chart to display the sum of URL clicks, user profile clicks, and hashtag clicks by tweet category.
- Included tweets with at least one interaction type and applied the same filters as above.

## **4. Media Interaction Trends**

- Created a dual-axis chart to track media views and engagements by day of the week for the last quarter.

- Highlighted days with notable spikes in interactions while applying specified filters for impressions, dates, and word count.

## **5. Engagement Comparison**

- Designed a visualization comparing replies, retweets, and likes for tweets with media engagements exceeding the median value.
- Included filters for tweets posted between June and August 2020 with criteria for impressions, dates, media views, and word count.

## **Skills and Competencies**

- **Data Processing:** Expertise in cleaning and preparing datasets for analysis.
- **Visualization Design:** Proficiency in creating diverse chart types, including pie charts, clustered bar charts, and dual-axis charts.
- **Analytical Reasoning:** Ability to integrate multiple conditions and extract meaningful patterns.

## **Feedback and Evidence**

- Stakeholders provided positive feedback, appreciating the dashboards' interactivity and clarity.

- Screenshots and visual outputs served as evidence of the dashboards' utility and effectiveness.

### *Challenges and Solutions*

- **Complex Filters:** Handling multiple simultaneous filters was challenging. Logical structuring and iterative testing helped resolve these issues.
- **Data Inconsistencies:** Addressed missing or inconsistent data through preprocessing and validation techniques.
- **Visual Simplicity:** Ensured charts were easy to interpret despite complex data requirements by incorporating stakeholder feedback and iterative design.

### *Outcomes and Impact*

- **Actionable Insights:** Delivered valuable insights into user engagement patterns on Twitter.
- **Informed Decisions:** Empowered stakeholders to identify and capitalize on high-performing tweet categories and timeframes.
- **Skill Advancement:** Enhanced proficiency in advanced data analytics and visualization methodologies.

### *Conclusion*

The Twitter Dashboard Data Analytics Project successfully delivered user-friendly and insightful dashboards, enabling a comprehensive understanding of Twitter engagement trends. The project emphasized the importance of robust data filtering and innovative visualization techniques, significantly contributing to personal skill growth and data-driven decision-making.

