

TWITTER ENGAGEMENT ANALYSIS USING POWER BI

A Data Visualization Project on Twitter Metrics and User Engagement

Prepared by Nitish Kishnani

Date: October 2024

Institution: NullClass

INTERNSHIP REPORT

1. INTRODUCTION

- **Overview**: This report documents my internship project focused on analyzing Twitter engagement metrics. The goal was to use Power BI to create a series of data visualizations that could reveal patterns in tweet engagement, help understand optimal posting strategies, and identify high-performing tweet characteristics.
- **Project Tasks**: My main tasks involved developing targeted visualizations based on specific criteria, such as tweet timing, engagement types, and interaction rates.

2. BACKGROUND

- **Organization Context**: Understanding Twitter engagement is crucial for brands and social media analysts who aim to maximize user interaction and optimize content strategies. My role was to use data analytics and Power BI to offer insights into tweet performance patterns.
- **Project Importance**: This project aimed to provide deeper insights into how engagement metrics like likes, clicks, and retweets vary based on time, content type, and user interactions.

3. LEARNING OBJECTIVES

- Develop technical expertise in Power BI, including DAX functions for filtering and data transformation.
- Understand how specific tweet characteristics (like time of day, type of content, and interactions) impact overall engagement.
- Gain experience in designing actionable data visualizations and dashboards.

4. ACTIVITIES AND TASKS

- **Task 1**: Created a chart to display tweets with the top 10% engagement rates, including only tweets that met specific criteria (more than 50 likes, posted on weekdays, between 1 PM and 4 PM, and word count below 30).
- **Task 2**: Developed a clustered bar chart breaking down the sum of URL clicks, profile clicks, and hashtag clicks by tweet category. The chart included only tweets posted between 3 PM and 6 PM on even dates and with word counts below 40.
- **Task 3**: Built a visualization comparing replies, retweets, and likes for tweets with media engagements above the median. Filters included a date range (June to August 2020), odd dates, even media views, and word count below 50.

5. SKILLS AND COMPETENCIES

- **Technical Skills**: Gained proficiency in Power BI, particularly in using DAX for complex filtering and criteria-based analysis.
- **Analytical Skills**: Enhanced my ability to interpret engagement metrics and derive meaningful insights from raw social media data.
- **Visualization Skills**: Learned how to design clear and interactive visualizations tailored to specific analysis goals.

6. FEEDBACK AND EVIDENCE

- **Feedback:** Positive feedback from supervisors and peers highlighted the clarity of my visualizations and the value of the insights presented.
- **Evidence:** Screenshots of Power BI dashboards and charts created, including the engagement rate chart, clustered bar chart by tweet category, and the media engagement comparison visualization.

7. CHALLENGES AND SOLUTIONS

- **Challenge 1:** Setting up complex filters in Power BI based on multiple criteria (e.g., time of day, specific tweet dates).
Solution: Used advanced DAX functions to accurately filter and categorize the data.
- **Challenge 2:** Balancing visual clarity with the complexity of the analysis requirements.
Solution: Experimented with different chart types to find those that best conveyed the data, like clustered bar charts and comparison visualizations.

8. OUTCOMES AND IMPACT

- **Outcomes:** Created a comprehensive Power BI dashboard that included the top 10% engagement tweets, interaction breakdown by tweet category, and engagement metrics comparisons for tweets with high media interaction.
- **Impact:** Provided actionable insights on high-performing tweet times, types, and user interaction trends, which could inform effective posting strategies and engagement optimization.

9. CONCLUSION

Reflection: This internship allowed me to strengthen my Power BI skills and develop a deeper understanding of social media analytics. The project was instrumental in honing my data analysis skills and preparing me for future roles in data-driven decision-making.