**INTERNSHIP REPORT**

Real Time Twitter Analytics Dashboard

**Name:** Mohan S

**Project:** Real Time Twitter Analytics Dashboard

**Internship Duration:** 18-04-2025 to 18-06-2025

**INTRODUCTION**

This internship report highlights the key contributions, learning, and experience gained during my internship focused on data analytics and dashboard development using Power BI. The primary objective of the internship was to build dynamic visualizations based on specific business logic and conditions using DAX and Power BI tools.

**BACKGROUND AND DATA INFO**

The internship involved working with a real-world social media dataset that included tweet-level metrics such as likes, retweets, replies, engagement rates, impressions, and time-based data. I was required to develop custom visualizations, apply advanced DAX filtering, and use Power Query to clean and preprocess data.

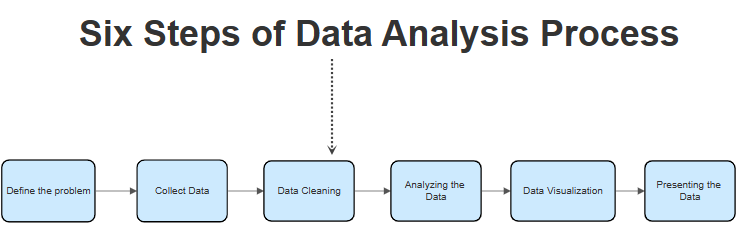
**SOFTWARE AND HARDWARE SPECIFICATION**

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| **Hardware Requirements** | |
| Processor | Intel i5 or higher |
| Ram | 8 GB |
| Storage | 256 GB |

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| **Software Requirements** | |
| OS | Windows 11 |
| Tool Used | Excel, Power BI |
| Data file | CSV |

**STEPS IN DATA ANALYSIS PROCESS**







**LEARNING OBJECTIVES**

Understand how to build conditional dashboards using Power BI - Learn to write DAX formulas for time filtering and data manipulation - Explore Power Query for text transformations and custom filtering - Gain skills in developing dashboards based on dynamic conditions and business requirements

**ACTIVITIES AND TASKS**

**PROBLEM STATEMENTS**

1. Develop a chart that displays tweets with the highest engagement rates (top 10%). Include only those tweets that have received more than 50 likes and were posted on weekdays and this graph should work only between 3PM IST to 5 PM IST apart from that time we should not show this graph in dashboard itself as well as tweet character count should be below 30.  
  
2. Plot a scatter chart to analyse the relationship between media engagements and media views for tweets that received more than 10 replies. Highlight tweets with an engagement rate above 5% and this graph should work only between 6PM IST to 11 PM IST apart from that time we should not show this graph in dashboard itself and the tweet date should be odd number as well as tweet word count be above 50.  
  
3. Build a chart to identify the top 10 tweets by the sum of retweets and likes. Filter out tweets posted on weekends and show the user profile that posted each tweet and this graph should work only between 3PM IST to 5 PM IST apart from that time we should not show this graph in dashboard itself and the tweet impression should be even number and tweet date should be odd number as well as tweet word count be below 30  
  
4. Analyse 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 andthis graph should work only between 12PM IST to 6PM IST and 7 AM to 11AM apart from that time we should not show this graph in dashboard itself and the tweet impression should be even number and tweet date should be odd number as well as tweet character count should be above 30 and need to remove tweet word which has letter 'D'.  
  
5. 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 between June and August of 2020 and this graph should work only between 3PM IST to 5 PM IST and 7 AM to 11AM apart from that time we should not show this graph in dashboard itself and tweet date should be odd number and media views should be even number as well as tweet character count should be above 20 and need to remove tweet word which has letter 'S'.

**SOLUTIONS**

I developed five main visualizations:

1. A chart showing top 10% tweets by engagement rate filtered by time (3 PM to 5 PM IST), likes > 50, weekday filter, and tweet character count < 30.

2. A scatter chart comparing media engagements vs media views for tweets with >10 replies and word count > 50, limited to 6 PM to 11 PM IST.

3. A chart showing top 10 tweets by sum of likes and retweets filtered for weekdays, tweet impression being even, date being odd, and word count < 30.

4. A bar chart comparing engagement rate for tweets with and without app opens, filtered for tweets posted between 9 AM to 5 PM on weekdays and displayed only between 12 PM to 6 PM IST and 7 AM to 11 AM IST. Also included filters for tweet date being odd, impressions even, and character count > 30, while removing words containing “D”.

5. A comparison chart of replies, retweets, and likes for tweets with media engagements greater than the median value. Filters included date range (June to August 2020), media views even, tweet date odd, tweet character count > 20, and removal of words with “S”.

**SKILLS AND COMPETENCIES**

Proficiency in Power BI report creation - Writing advanced DAX queries - Power Query for string and word manipulation - Data cleaning and transformation techniques - Time-based filtering using IST conversions

**FEEDBACK AND EVIDENCE**

Throughout the internship, I received continuous feedback on query optimization, use of custom measures, and better data modeling. All visualizations were built and tested based on functional requirements and screenshots were shared for evaluation.

**CHALLENGES AND SOLUTIONS**

Challenge: Applying time filters dynamically in IST timezone Solution: Created DAX measures using UTC + TIME (5,30,0) to reflect IST. - Challenge: Word-based filtering inside tweets in DAX Solution: Switched to Power Query for more robust string manipulation. - Challenge: Implementing complex multi-condition filters Solution: Broke down requirements into reusable calculated columns and measures for clarity and efficiency.

**OUTCOMES AND IMPACT**

The outcome of the internship was a fully interactive, condition-based Power BI dashboard capable of dynamically displaying or hiding charts based on the current time, tweet content, and user-defined conditions. The solutions are scalable and reusable in real-world business environments.

**CONCLUSION**

This internship enhanced my technical capabilities in Power BI, DAX, and data modeling. I now feel more confident in handling complex dashboard requirements, creating efficient and clean code, and applying business logic into visual storytelling through data analytics.