**Internship Report**

**By Aditya Jain**

### **Introduction**

During my internship,I spent a lot of my time analyzing and visualizing Twitter interaction data using Power BI and Excel. My main responsibilities were creating interactive dashboards, implementing intricate filtering conditions, and gleaning data from social media interactions. My abilities in data preparation, transformation, and visualization were honed by this practical experience.

**Background**

My internship's objective was to improve my technical and analytical skills by utilizing business intelligence technologies, especially Power BI. Creating reports that emphasized tweet performance and user interaction trends was the main responsibility I had. The project was both difficult and exciting because the dashboards needed drill-down capabilities, time-based limits, and sophisticated filtering.

### **Learning Objectives**

1. Enhance proficiency in Power BI for data visualization and analytics.
2. Gain expertise in data cleaning and transformation techniques using Power BI and Excel.
3. Apply complex filtering criteria to refine data presentation.
4. Incorporate drill-down functionality for an interactive user experience.
5. Develop dashboards with time-sensitive and content-based constraints.

### **Activities and Tasks**

1. **Pie Chart for Click Distribution**: Created a pie chart representing the proportion of different types of clicks (URL clicks, profile clicks, and hashtag clicks) for tweets with over 500 impressions. A drill-down option was incorporated to explore detailed engagement for each tweet.
2. **Clustered Bar Chart Categorizing Tweets**: Designed a bar chart to analyze URL clicks, profile clicks, and hashtag clicks by tweet type. Applied the following filters:
   * Only included tweets with at least one of these interactions.
   * Restricted the chart’s visibility to between 3 PM and 5 PM IST.
   * Considered only tweets posted on even-numbered dates.
   * Displayed only tweets containing more than 40 words.
3. **Dual-Axis Chart for Media Engagement**: Developed a dual-axis chart comparing media views and engagements by weekday for the previous quarter. Additional conditions included:
   * The chart was accessible only between 3 PM - 5 PM IST and 7 AM - 11 AM IST.
   * Displayed only tweets with even-numbered impressions and odd-numbered tweet dates.
   * Removed words containing the letter "H" from tweet content.

### **Skills and Competencies**

* Expertise in Power BI for data cleaning, analysis, and visualization.
* Implementing advanced filtering logic and conditional formatting.
* Integrating drill-down functionality for deeper data exploration.
* Managing time-dependent visibility for dashboard elements.
* Designing interactive dashboards with user-defined constraints.

### **Feedback and Evidence**

The dashboards I created were well-received for their clarity, functionality, and ability to meet complex analytical requirements. The visual reports provided actionable insights into social media performance, assisting in optimizing engagement strategies.

### **Challenges and Solutions**

* **Data Cleaning and Structuring**: The dataset had inconsistencies, missing values, and unstructured content. Using Power Query, I cleaned and transformed the data for better analysis.
* **Applying Multiple Filters**: Implementing numerous conditions, such as time-based visibility and word count restrictions, was complex. I utilized DAX functions and conditional logic in Power BI to streamline the process.
* **Performance Issues**: Large datasets led to slow dashboard performance. By aggregating data and optimizing queries, I improved efficiency and responsiveness.

### **Outcomes and Impact**

* Gained hands-on experience in using Power BI for advanced data visualization.
* Successfully built dynamic dashboards with intricate filtering mechanisms.
* Strengthened problem-solving skills in data analysis and reporting.
* Enhanced ability to structure and present data for better decision-making.

### **Conclusion**

This internship provided valuable exposure to data analytics and visualization, helping me develop technical expertise in Power BI. The experience of working with complex filters, drill-down functionality, and time-sensitive dashboards strengthened my analytical skills. Overcoming challenges related to data cleaning and multiple filtering conditions has prepared me for handling sophisticated data projects in professional settings.