Data Analyst
Internship Report

Project Title: Twitter Analysis Dashboard – Power BI

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Introduction:

This report presents a detailed summary of my three – month internship with NullClass, where I worked on the Twitter Analysis Dashboard using Microsoft Power BI. The internship focused on applying data analytics concepts, Power BI visualization techniques and Power Query transformations to develop meaningful insights.

The primary goal was to enhance my technical proficiency while contributing to a functional analytics tool, aligning with NullClass's emphasis on independent problem- solving and research.

Background:

NullClass provides industry-oriented learning programs where students work on real-time projects to gain practical exposure. The **Twitter Analysis** internship was part of the "Build Real-Time Twitter Analytics Dashboard – Power BI" track, designed to develop analytical and visualization skills relevant to social media and marketing analytics.

During this internship, I applied theoretical knowledge of data processing and visualization to real-world datasets, working independently to complete six complex analytical tasks that simulated real business reporting scenarios.

Learning Objectives:

- To gain hands-on experience in Power BI including Power Query, data transformation and visualization.
- To apply data cleaning techniques and calculating metrices for analysing social media datasets.
- To apply time-based and conditional filtering logic for business-specific reporting requirements.
- To develop a dashboard with multiple visuals.
- To enhance problem-solving and self-learning while working independently.

Activities and Tasks:

During the internship, I have completed the following task:

- Plotted a scatter chart to analyse the relationship between media engagements and media views filtering tweets with more than 10 replies, engagement rate above 5%, odd dates and word count above 50. Implemented conditional visibility for 6 PM–11 PM IST.
- Created a clustered bar chart showing the sum of URL clicks, profile clicks, and hashtag clicks categorized by tweet type. Included only tweets with at least one interaction type and filtered by even tweet dates and specific posting hours.

- Developed a chart to identify the top tweets by the sum of retweets and likes. Excluded weekend posts and added user profile details. The visualization was visible only during certain time periods and filtered for tweets with even impressions and odd dates.
- Plotted monthly average engagement rates for tweets with media content and those without, filtering even engagements, odd dates, character counts above 20, removing words with letter “C” and ensured the chart displayed only within specified time ranges.
- Built a comparative visualization showing replies, retweets, and likes for tweets with media engagements greater than the median value. Applied date and media view conditions and filtered for tweets from June to August 2020. Implemented logic to exclude words containing the letter “S.”
- Analysed and visualized the engagement rate comparison between tweets with app opens and those without. Restricted the analysis to weekday posts (9 AM – 5 PM) and applied visibility limits (7–11 AM and 12–6 PM). Implemented data cleaning logic to remove words containing the letter “D.”

Skills and Competencies:

- Power BI: Data modelling, Power Query transformations, dynamic filters and custom visuals.
- Data Cleaning: Advanced text manipulation, word and character count logic and handling null/invalid data.
- Analytical Thinking: Translating problem statements into measurable KPIs and visualization logic.
- Time-based Analysis: Implementing conditional visibility based on IST time windows.
- Communication & Reporting: Documenting workflow and presenting analytical insights clearly.
- Independent Learning: Researching solutions without mentor support, enhancing self-reliance and adaptability.

Feedback and Evidence:

The internship provided a strong foundation in Power BI analytics and practical data storytelling. The tasks simulated real business constraints such as time-restricted reporting and data condition filters.
Evidence of work includes:

- The completed Power BI file uploaded on GitHub.
- Hosted live project link demonstrating the functional dashboard integration.
- Daily report logs showing consistent progress.

Challenges and Solutions:

- **Challenge:** Implementing dynamic visibility for visuals based on time of day.
  Solution: Created time-based measures in Power Query and used conditional visibility overlays within Power BI.
- **Challenge:** Calculating median.
  Solution: Computed the median using Measures.
- **Challenge:** Cleaning tweet text by removing words containing specific letters.
  Solution: Used Text.PositionOf Power Query functions to dynamically filter words and reconstruct cleaned tweet text.

Outcomes and Impact:

The internship enabled me to independently design and implement a complete analytics solution using Power BI.
Key outcomes include:

- A fully functional Twitter Analysis Dashboard featuring multiple interactive visuals.
- Improved ability to convert business rules into data transformations.
- Enhanced analytical reasoning, visualization design, and Power BI technical skills.
- Better understanding of real-world social media analytics and engagement trends.

The project strengthened my portfolio and provided hands-on experience and demonstrates how filtered insights can optimize social media strategies, potentially increasing engagement by identifying high-performing tweet patterns.

Conclusion:

The three-month internship with NullClass was an enriching experience that bridged the gap between academic learning and professional application. I gained in-depth technical and analytical skills, improved my ability to work independently, and built confidence in handling real datasets using Power BI.

Completing all six analytical tasks reinforced my understanding of end-to-end data analysis — from cleaning and transformation to visualization and storytelling. This internship has significantly contributed to my career preparation as a data professional.