An

Internship Project Report

On

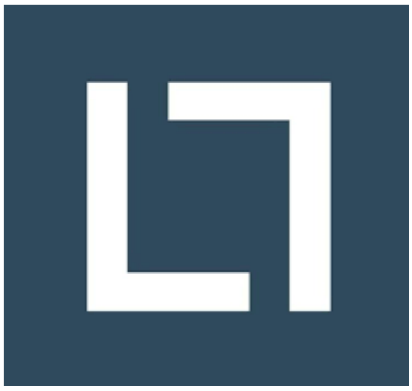
Twitter Analytics Dashboard

At

NullClass Private Limited

Submitted in partial fulfilment of the requirements for the award of the Internship completion certificate in

Data Analytics



Submitted to

NullClass Private Limited

Submitted by

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NULLCLASS,TAMIL NADU, INDIA
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Introduction

During my internship at NullClass Pvt. Ltd., I had the opportunity to contribute to a project Twitter analysis using Power BI. This report details my experiences and learnings throughout the internship, which spanned from 22 January, 2025 to 22 February, 2025.

The focus of my project was to analyse Twitter metrics and create interactive visualizations to help the marketing team understand user behaviour and engagement trends.

I choose this internship to gain hands-on experience in data analytics and to apply my academic knowledge in a real-world projects. I was eager to develop my technical skills in Power BI and data visualization, as well as to learn more about the practical applications of data analysis in a business context.

This report is structured to provide a comprehensive overview of my internship experience and problem solving experiences. It includes sections on the background of the project, my learning objectives, the activities and tasks I undertook, the skills I developed, the feedback I received, the challenges I faced and the solutions I found, the outcomes and impact of my work, and a concluding reflection on the overall experience.

Background

The internship at NullClass Pvt. Ltd. was a pivotal opportunity for me to bridge the gap between academic knowledge and practical application in the field of data analytics.

The project I was assigned to revolved around analysing Twitter engagement metrics and creating interactive visualizations using Power BI. This was aimed at helping the marketing teams better understand user engagement trends and improve their social media strategies.

The tasks assigned during the internship were designed to cover various aspects of data visualization and analysis:

1. Creating pie chart :

Builded a pie chart that represents the proportion of total clicks for tweets with more than 500 impressions also Included a drill-down to view the specific types of clicks for each tweets.

2. Creating Clustered bar chart :

Created a clustered bar chart that breaks down the sum of URL clicks, user profile clicks, and hashtag clicks by tweet category. Included tweets that have at least one of these interaction types and this graph works only between 3PM IST to 5 PM and the tweet date as even number as well as tweet word count above 40.

3. Creating line chart :

Created a line chart showing the trend of the average engagement rate over each month of the year. Separated lines by for tweets with media content and tweets without media and this graph works only between 3PM IST to 5 PM IST and 7 AM to 11AM and the tweet engagements are even number and tweet date are odd

number as well as tweet character count are above 20 and removed word which has letter 'C'.

The technology stack for this project primarily involved Power BI, a leading business analytics tool by Microsoft. Power BI was chosen for its powerful data visualization capabilities, user-friendly interface, and robust data modelling features. This tool enabled the creation of dynamic and interactive visualizations, which were crucial for deriving actionable insights from the Twitter engagement data.

Overall, the internship project at NullClass provided a comprehensive learning experience in data analytics, combining theoretical knowledge with practical application.

Learning Objectives

During my internship at NullClass, I set forth several key learning objectives to enhance my professional skills and deepen my understanding of data analytics and visualization. These objectives were crafted to provide a comprehensive graph of the tools, methodologies, and processes involved in analysing social media engagement metrics. The primary learning objectives were as follows:

1. **Mastery of Power BI :**

- Acquire hands-on experience with Power BI to develop interactive and insightful visualizations.
- Utilize various Power BI features, including data modelling, DAX functions, and advanced charting techniques.
- Effectively leverage Power BI to transform raw data into actionable insights.

2. **Advanced Data Analysis Competence :**

- Enhance my ability to clean, preprocess, and analyse large datasets efficiently.
- Identify patterns, trends, and anomalies in data to support strategic decision-making.
- Apply advanced analytical techniques to derive meaningful insights from social media data.

3. **Expertise in Social Media Analytics:**

- Develop a deep understanding of key social media engagement metrics and their relevance.
- Analyse and interpret data from social media platforms, particularly Twitter, to inform strategic decisions.
- Assess the impact of various types of engagements (likes, retweets, replies) on overall social media strategy.

4. **Problem-Solving and Critical Thinking:**

    - Strengthen problem-solving skills by addressing real-world challenges in data analysis.
    - Enhance critical thinking abilities to derive insights and make datadriven recommendations.
    - Approach complex analytical tasks methodically and efficiently.

5. **Effective Communication and Presentation:**

- Improve my ability to communicate analytical findings effectively through visualizations.
- Present data insights clearly and compellingly to diverse stakeholders.
- Create comprehensive reports and presentations to summarize analytical results.

Activities & Tasks

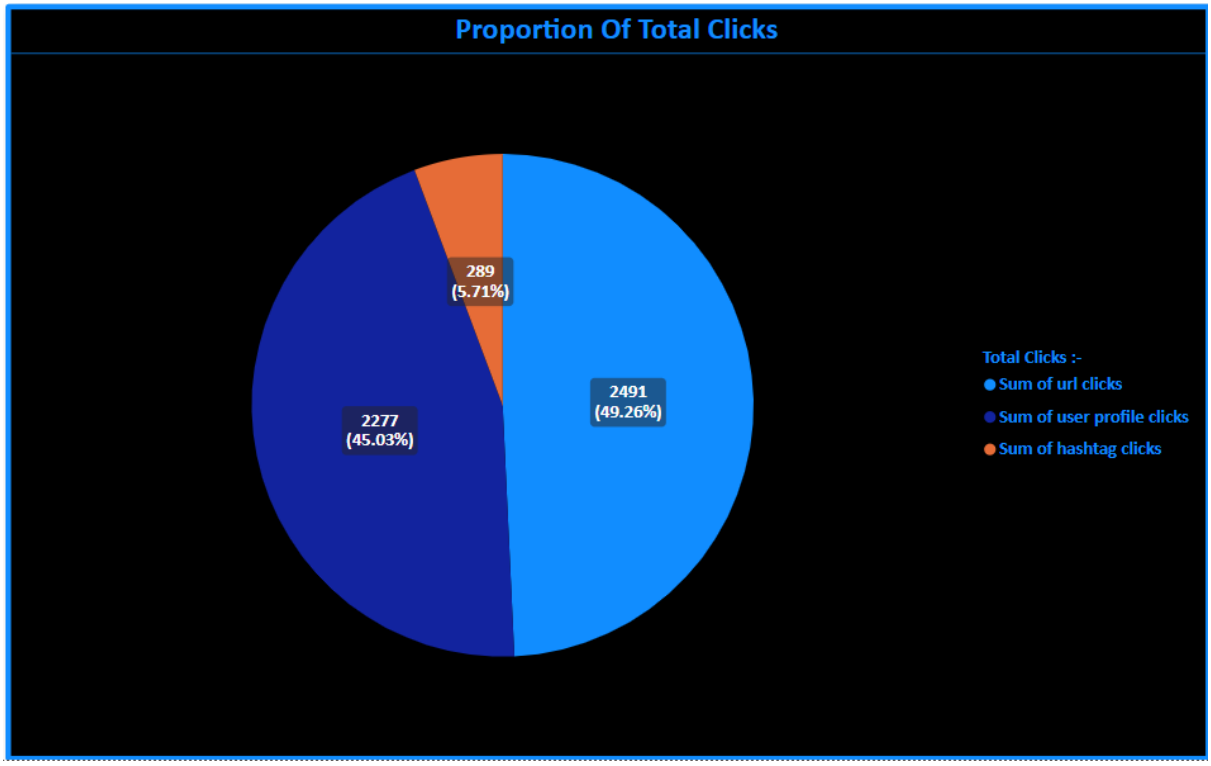
During my internship at Nullclass, I undertook a variety of activities and tasks that enabled me to apply and expand my data analytics skills in a professional setting. These tasks were primarily focused on the core project of analysing Twitter engagement metrics using Power BI. Below are the key activities and tasks I carried out:

1. **Data Collection:**
    - Retrieved data from Excel dataset, including metrics such as likes, retweets, replies, media views, and app opens.
    - Ensured data integrity and completeness by rigorously verifying the accuracy and relevance of the collected data.
2. **Data Cleaning and Preprocessing:**
    - Performed meticulous data cleaning to address missing values, duplicates, and inconsistencies.
    - Conducted data preprocessing to transform the data into an optimal format for analysis, including normalization and necessary transformations.
3. **Visualization Development:**

    Task 1 :-

    Build a pie chart that represents the proportion of total clicks (URL clicks, user profile clicks, and hashtag clicks) for tweets with more than 500

impressions. Include a drill-down to view the specific types of clicks for each tweet.

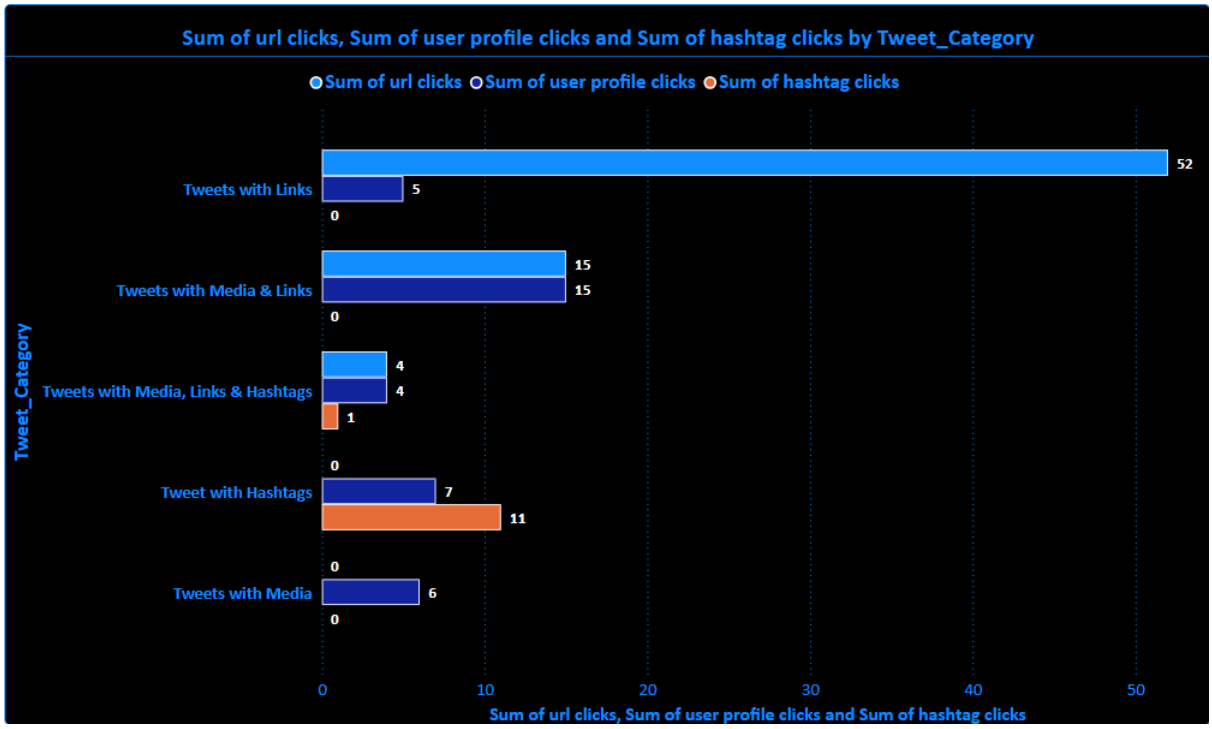


I have completed this task by creating the column name Total Clicks in which I had sum of all the clicks and then according to the requirement of task I have took only the impressions more than 500 and got the proportion of total clicks.

Task 2 :-

Create a clustered bar chart that breaks down the sum of URL clicks, user profile clicks, and hashtag clicks by tweet category (e.g., tweets with media, tweets with links, tweets with hashtags). Only include tweets that have at least one of these interaction types 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 date should be even number as well as tweet word count be above 40.

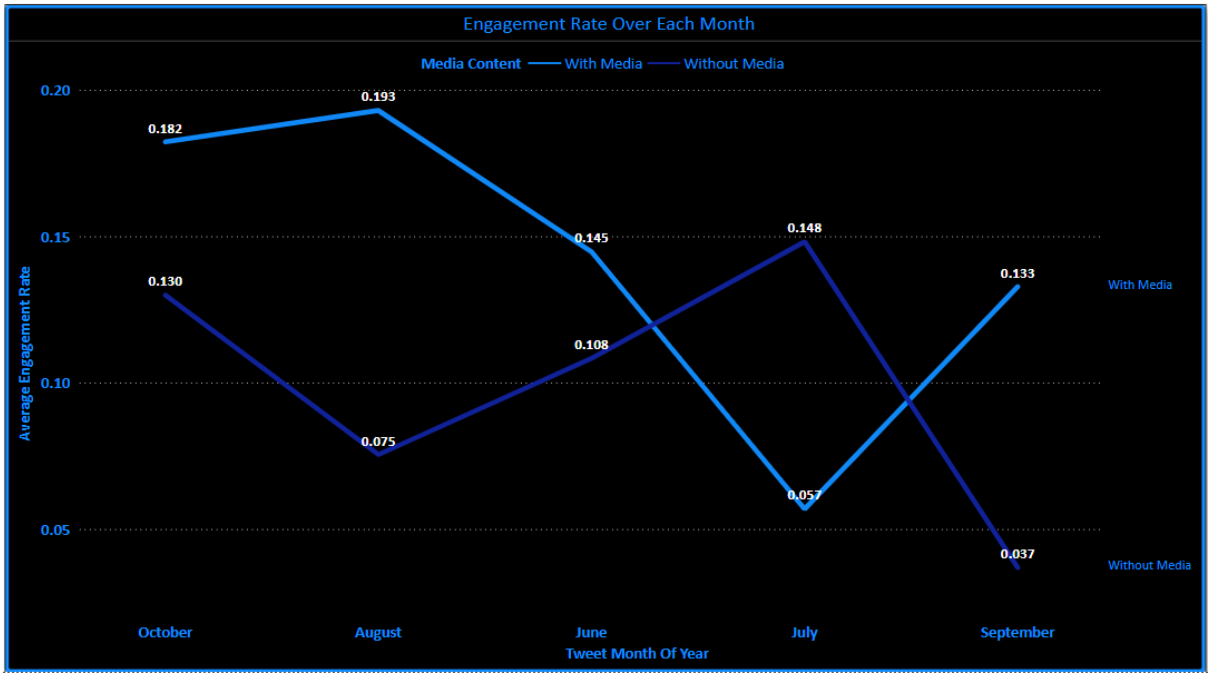


This task was completed by creating a clustered bar graph chart in which x axis contains tweet category which contains links, hashtags and media this graphs contains the tweets only between tweets 3PM to 5 PM and tweet count is above 40.

Task 3 :-

Create a line chart showing the trend of the average engagement rate over each month of the year. Separate the lines for tweets with media content and those without 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 the tweet engagement should be even number

and tweet date should be odd number as well as tweet character count should be above 20 and need to remove tweet word which has letter 'C'.



This task was completed by showing to lines which shows tweets with media and tweets without media basically this chart shows the lines between Average Engagement rate with tweets of each months. According to task this graph works only between 3PM to 5 PM and 7 AM to 11 AM count above 20 and does not content word which has letter C.

4. **Data Analysis and Insight Generation:**

   - Conducted in-depth data analysis to extract meaningful insights from the visualizations.
   - Identified patterns, trends, and anomalies in engagement metrics.
   - Formulated actionable recommendations for the marketing team based on the analytical findings.

5. **Report Compilation:**

- Compiled a comprehensive report detailing the project scope, methodologies, and key findings.
- Documented the processes of data collection, cleaning, and analysis.
- Presented visualizations and insights in a structured and coherent format.

Skills and Competencies

During the internship, I developed several key skills and competencies, including:

- **Technical Skills**:
  - Proficiency in Power BI for data visualization and analysis.
  - Advanced data cleaning and preprocessing techniques.
  - Expertise in analysing social media engagement metrics.
- **Analytical Skills**:
  - Ability to identify patterns, trends, and anomalies in data. o

    Proficiency in deriving actionable insights from data.

  - Strong problem-solving and critical thinking skills.
- **Communication Skills**:
  - Effective communication of analytical findings through visualizations.
  - Clear and compelling presentation of data insights to stakeholders.
  - Creation of comprehensive reports and presentations.

Evidence

GitHub Link :-

https://github.com/krishnazawar26/PowerBi_Twitter_Analysis

Challenges and Solutions

1 Challenges:

- Encountered missing values, duplicates, and inconsistencies in the dataset.
- Ensuring that you only include tweets can be tricky if the dataset contains a lot of irrelevant data.
- Ensuring that only tweets are in required IST are considered might be challenging, especially if time zones are misaligned or the timestamp isn't correctly adjusted.
- Filtering large datasets, especially with multiple conditions, can lead to performance issues.

2 Solutions:

- Applied meticulous data cleaning and preprocessing techniques to address data quality issues.
- Solved various DAX query to create various columns as per the requirements to get the proper results.
- Created the filters and columns in the way that the filtering logic is easily understandable for users.

Outcomes and Impact

The internship project had several positive outcomes and impacts, including:

- **Enhanced Data-Driven Decision-Making**: Provided actionable insights to improve social media strategy.
- **Improved Social Media Engagement**: Helped myself understand user behaviour and engagement trends, leading to better understanding of engagement on Twitter.
- **Personal and Professional Growth**: Enhanced my technical skills in Power BI, data analysis, and communication, contributing to my professional development.

Conclusion

The internship at NullClass Pvt. Ltd. provided me with invaluable practical experience in data analytics. I gained hands-on experience in analysing social media engagement metrics, developing interactive visualizations. The project helped me enhance my technical and analytical skills, improve my problem-solving abilities, and strengthen my communication skills. Overall, the internship was a highly rewarding and impactful experience that significantly contributed to my professional growth.