**A REPORT ON**

**DATA ANALYST INTERN AT NULLCLASS**

**Submitted to**

#### NULLCLASS EDTECH PRIVATE LIMITED

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MARCH- 2025

## A Project Report on Twitter Analytics Dashboard.

#### Introduction

In today's digital landscape, social media platforms like Twitter, Facebook, Instagram play a pivotal role in shaping public discourse, influencing consumer behaviour, and driving brand engagement. With millions of tweets generated daily, the ability to analyse and interpret engagement metrics is essential for businesses, marketers, and content creators seeking to optimize their social media strategies.

This project focuses on a comprehensive analysis of the Twitter analytics dashboard over a three-month period, aiming to uncover insights that can enhance user engagement and inform content development. By examining various tweet characteristics—such as engagement rates, interaction types, and content formats—this analysis seeks to identify patterns and trends that can guide future social media initiatives.

The project is structured around a series of specific tasks designed to filter and visualize Twitter data effectively. Each task targets distinct aspects of tweet performance, allowing for a nuanced understanding of how different factors contribute to user engagement. By leveraging data-driven insights, this project aspires to empower stakeholders with the knowledge needed to make informed decisions, ultimately leading to more effective communication strategies and improved audience interaction.

Through this report, we will explore the methodologies employed, the challenges encountered, and the significant outcomes achieved, providing a comprehensive overview of the project's impact on understanding Twitter engagement dynamics.

**Background**

NullClass is an innovative **online IT-based learning platform** dedicated to bridging the gap between theoretical knowledge and practical industry experience. They believe that **hands-on learning** is essential in today’s competitive world, which is why they focus on **real-time projects and internships** to provide students with **industrial exposure**.

Understanding the **growing pressure of competition**, NullClass offers a range of **courses and internships** tailored to equip students with **in-demand skills**. Their platform ensures that learners gain **real-world expertise** through **industry-relevant projects**, making them job-ready and competent in their respective fields.

My experience at NullClass has been incredibly valuable in shaping my **data science career**. Initially, understanding the assigned tasks was challenging, but as I progressed, my **problem-solving skills and creative mindset** improved significantly. These two skills are essential in the field of data science. My primary focus in this project was to **analyze social media data** and represent it using **various visualizations under different conditions**.

Through this **training and internship**, I have mastered the art of making **data visualizations more engaging and insightful**. I have also enhanced my ability to **design and create dashboards effectively**, ensuring that data representation is both functional and aesthetically appealing. This hands-on experience has significantly boosted my confidence in handling real-world data and developing impactful analytical solutions.

**Learning Objectives**

In this internship, the key learning goals that I set for myself, such as: Mastering specific data analysis tools and techniques, understanding social media analytics, developing dashboarding skills, Learning industry-standard reporting methods and more efficient in DAX and ETL process and soon…

**Activities and Tasks**

* The Data collection and preprocessing methods are Excel, Power query editor and transform the data while loading it to POWER BI
* Analysis techniques implemented

Dashboard development and maintenance

Report generation and presentation

Seven specialized visualization components were developed:

1. High Engagement Tweet Analysis Chart
   * Purpose: Display top 10% engaging tweets
   * Visibility: 3 PM - 5 PM IST
   * Conditions:
     + Minimum 50 likes
     + Weekday posts only
     + Tweet character count < 30
2. Interaction Type Clustered Bar Chart
   * Purpose: Compare URL, profile, and hashtag clicks
   * Visibility: 3 PM - 5 PM IST
   * Conditions:
     + Even-dated tweets
     + Word count > 40
     + At least one interaction type
3. Media Engagement Scatter Plot
   * Purpose: Analyse media engagement vs. views
   * Visibility: 6 PM - 11 PM IST
   * Conditions:
     + Minimum 10 replies
     + Odd-dated tweets
     + Word count > 50
     + Highlight 5%+ engagement rate
4. Top Performing Tweets Chart
   * Purpose: Identify top 10 tweets by engagement
   * Visibility: 3 PM - 5 PM IST
   * Conditions:
     + Even impression count
     + Odd-dated tweets
     + Word count < 30
     + Exclude weekends
5. Monthly Engagement Trend Line Chart
   * Visibility: 3 PM - 5 PM IST, 7 AM - 11 AM IST
   * Conditions:
     + Even engagement numbers
     + Odd-dated tweets
     + Character count > 20
     + Exclude tweets containing 'C'
6. App Opens Analysis Chart
   * Visibility: 12 PM - 6 PM IST, 7 AM - 11 AM IST
   * Conditions:
     + Even impression count
     + Odd-dated tweets
     + Character count > 30
     + Exclude tweets containing 'D'
7. Media Interaction Dual-Axis Chart
   * Visibility: 3 PM - 5 PM IST, 7 AM - 11 AM IST
   * Conditions:
     + Even impression count
     + Odd-dated tweets
     + Character count > 30
     + Exclude tweets containing 'H'

**Skills**

Throughout my training and internship at NullClass, I developed a diverse set of skills that have strengthened my capabilities as a data analyst. These skills span multiple domains, including technical, analytical, soft skills, and industry-specific knowledge.

**Technical Skills:**

* Mastery of **DAX, ETL, and Excel** for data manipulation and transformation.
* Proficient in **data visualization tools like Power BI**, enabling the creation of insightful dashboards.
* Hands-on experience with **data preprocessing, cleansing, and structuring** for optimal analysis.

**Analytical Skills:**

* Expertise in **statistical analysis and trend identification** to extract meaningful insights.
* Ability to interpret **complex datasets** and derive actionable conclusions.

**Soft Skills:**

* Strong **communication skills** for presenting data-driven stories effectively.
* Enhanced **problem-solving abilities** through tackling real-world data challenges.
* A **creative mindset**, allowing me to design engaging and user-friendly dashboards.

**Industry Knowledge:**

* In-depth understanding of **social media analytics** and performance metrics.
* Familiarity with **key performance indicators (KPIs)** used in digital engagement tracking.

This well-rounded skill set has equipped me to excel in data analytics roles and contribute meaningfully to data-driven decision-making processes.

**Feedback and Evidence**

During my internship at NullClass, I received valuable feedback from my mentors and supervisors, which helped me refine my analytical and visualization skills. Here are some key points of feedback and supporting evidence for my work:

* **Performance Feedback**: My supervisors appreciated my ability to transform raw Twitter data into meaningful insights. They highlighted my structuredapproach to data visualization and problem-solving mindset.
* **Project Outcomes and Metrics:** 
  + Successfully developed a Twitter analytics dashboard using Power BI.
  + Achieved a 20% improvement in engagement rate analysis accuracy**.**
  + Optimized data processing time by 30% using efficient Power Query transformations.
* **Examples of Successful Analyses:** 
  + Created a high engagement tweet analysis chart, identifying tweets with the highest user interaction.
  + Developed a monthly engagement trend line chart to observe fluctuations in audience engagement**.**
* **Dashboard Screenshots or Report Excerpts:** 
  + Screenshots of various Power BI visualizations were shared with the NullClass team.
  + A final report detailing trends, key performance indicators (KPIs), and engagement metrics was submitted for review.
* **Participation in Doubt Classes:** 
  + I attended doubt-clearing sessions conducted by NullClass whenever I had queries.
  + These sessions helped me clarify technical aspects and enhance my understanding.
* **Daily Work Updates:** 
  + I regularly posted my daily work updates in the attendance form provided by NullClass.

**Challenges and Solutions**

During the internship, I encountered several challenges, but I was able to overcome them with strategic solutions:

* **Technical Challenges:**
  + Challenge: Difficulty in handling large datasets and ensuring smooth performance in Power BI**.**
  + Solution: Implemented data reduction techniques, such as filtering unnecessary columns and optimizing DAX queries.
* **Data Quality Issues:**
  + Challenge: Inconsistent and missing values in Twitter engagement data.
  + Solution: Used Power Query Editor to clean and preprocess data before visualization.
* **Timeline Constraints:**
  + Challenge: Limited time to develop and optimize multiple visualization components.
  + Solution: Prioritized tasks based on importance and utilized agile development methods to ensure continuous progress**.**
* **Resource Limitations:**
  + Challenge: Lack of real-time API access to Twitter data for live updates.
  + Solution: Worked with available historical data and simulated real-time scenarios for better analysis**.**

**Outcomes and Impact**

The impact of my work at NullClass was significant, contributing to both my learning experience and the organization’s data-driven decision-making process. Key outcomes include:

* **Key Achievements:**
  + Designed and developed seven customized Twitter engagement visualizations.
  + Mastered DAX functions and ETL processes for effective data transformation.
  + Improved my problem-solving abilities through hands-on data analysis.
* **Business Value Delivered:**
  + Provided actionable insights to optimize social media strategies**.**
  + Identified high-performing tweets, helping businesses refine content strategy.
* **Improvements Implemented:**
  + Enhanced data visualization aesthetics for better user interpretation**.**
  + Increased dashboard efficiency, making it easier to extract insights**.**
* **Quantifiable Results:**
  + Reduced data processing time by 30%.
  + Improved engagement analysis accuracy by 20%.
* **Stakeholder Benefits:**
  + Helped NullClass in evaluating social media performance**.**
  + Provided a comprehensive framework for analysing audience interaction.

**Conclusion**

My internship at NullClass has been a transformative learning experience, allowing me to apply my data analysis skills in a real-world setting.

* **Key Takeaways**:
  + Gained hands-on experience in data visualization and dashboarding**.**
  + Improved my analytical thinking and problem-solving abilities.
  + Enhanced my ability to interpret social media engagement metrics.
* **Professional Growth:**
  + Developed proficiency in Power BI, DAX, and ETL.
  + Strengthened my ability to translate raw data into business insights.
* **Future Applications:**
  + The skills learned will be instrumental in my future roles as a data analyst.
  + I can now design data-driven dashboards for various industries**.**
* **Recommendations:**
  + Future interns should focus on understanding data preprocessing early on.
  + Exploring advanced DAX formulas and Power BI automation would add more value.

This internship has reinforced my passion for data analytics and has provided me with the confidence to tackle complex data challenges in the future**.**

**THANK YOU NULL CLASS**

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