# **INTERNSHIP REPORT TASK-3**

### **🏢 Organization: NullClass**

### **📅 Duration: 26-03-2025 to 26-04-2025**

### **💼 Project Title: Real-Time Twitter Analytics Dashboard – Power BI**

### **👨‍💻 Intern: [GEDELA PRAVEEN]**

## **🔷 1. Introduction**

During this internship, I worked on a real-time data analytics dashboard using Power BI focused on Twitter data. The goal was to create dynamic, time-sensitive visuals using DAX, filters, and conditional visibility controls.  
  
  
**🔷 TASK-3 OVERVIEW**

CCreate 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’.

## **🔷 2. Objectives**

* Create a line chart to show the **monthly trend of average engagement rate**
* Use filters like **odd tweet dates**, **even engagement numbers**, **minimum character count**
* Hide tweets with words containing "C"
* Show/hide visuals based on **system time** or a **manual toggle**
* Use DAX for all logic and filtering

## **🔷 3. DAX Columns Created**

### **✅ 1. HourIST**

Converts UTC tweet time to Indian Standard Time (UTC + 5.5 hrs):

HourIST = HOUR('SocialMedia (1)'[time]) + 5

### **✅ 2. CharacterCount**

Calculates number of characters in each tweet:

CharacterCount = LEN('SocialMedia (1)'[Tweet])

### **✅ 3. IsOddDate**

Checks if tweet date is odd (1st, 3rd, etc.):

IsOddDate = MOD(DAY('SocialMedia (1)'[time]), 2)

### **✅ 4. IsEngagementEven**

Checks if the engagement count is even:

IsEngagementEven = MOD('SocialMedia (1)'[engagements], 2)

### **✅ 5. remove\_C\_fromTweet**

Removes tweets that contain letter 'C' (case-insensitive):

remove\_C\_fromTweet = IF(CONTAINSSTRING(LOWER('SocialMedia (1)'[Tweet]), "c"), 1, 0)

## **🔷 4. Line Chart Creation**

* **Visual Type**: Line Chart
* **X-Axis**: Month of Tweet Date
* **Y-Axis**: Average of engagement rate
* **Legend**: Media flag (e.g., With Media / Without Media)
* **Visual-Level Filters**:
  + CharacterCount > 20
  + IsOddDate = 1
  + IsEngagementEven = 0
  + remove\_C\_fromTweet = 0

## **🔷 5. DAX Measures Created**

### **✅ 1. ShowGraphControl**

Shows or hides the graph based on button (manual toggle) **or** system time (auto):

ShowGraphControl =  
VAR ManualToggle = SELECTEDVALUE(TimeToggle[ShowChart]) = "Yes"  
VAR CurrentHour = HOUR(NOW())  
VAR TimeCondition =  
 (CurrentHour >= 7 && CurrentHour <= 11) ||  
 (CurrentHour >= 15 && CurrentHour <= 17)  
RETURN  
 IF(ManualToggle || TimeCondition, 1, 0)

### **✅ 2. GraphNoticeText**

Displays a warning message when the chart is not visible:

GraphNoticeText =   
VAR ManualToggle = SELECTEDVALUE(TimeToggle[ShowChart]) = "Yes"  
VAR CurrentHour = HOUR(NOW())  
VAR TimeCondition =   
 (CurrentHour >= 7 && CurrentHour <= 11) ||  
 (CurrentHour >= 15 && CurrentHour <= 17)  
RETURN  
IF(  
 ManualToggle || TimeCondition,  
 BLANK(),  
 "❌ This visual is only available between 3 PM – 5 PM IST & 7 AM – 11 AM IST"  
)

## **🔷 6. Additional Features**

* Created a slicer to manually toggle chart visibility (TimeToggle table)
* Used card visuals to display:
  + Current System Time (with FORMAT(NOW(), "hh:mm:ss AM/PM"))
  + Conditional message when the chart is hidden

## **🔷 7. Challenges Faced**

* Power BI does not support real-time auto-refresh for NOW() in desktop mode
* Had to use bookmarks or visibility tricks to simulate dynamic behavior
* Filtering based on character/string conditions was tricky without DAX functions

## **🔷 8. Outcomes and Learnings**

* Strong hands-on experience with **DAX**
* Learned to implement **conditional formatting** and **dynamic visuals**
* Enhanced knowledge of **Power BI visual interactions and filtering logic**

## **🔷 9. Conclusion**

This internship helped me gain real-time data analytics skills and build a highly interactive and smart Twitter dashboard using Power BI. I learned to integrate DAX logic to dynamically control visuals based on time and toggle switches.



