Project Report: Social Media Engagement Analysis

# 1. Project Title:

Social Media Engagement Analysis

# 2. Objective:

To analyze social media data in order to:  
- Measure user engagement across platforms  
- Identify high-performing content and formats  
- Understand posting patterns  
- Recommend data-driven posting strategies

# 3. Dataset Description:

The dataset used includes social media post-level data with the following columns:  
- Date – Post publication date  
- Platform – Platform used (Instagram, Facebook, Twitter, etc.)  
- Post Type – Type of content (Image, Video, Text)  
- Likes, Shares, Comments – Engagement actions  
- Reach – Total users reached by the post  
- Followers – Followers at the time of post  
- Engagement Score & Engagement Rate – Calculated fields

# 4. Key Performance Indicators (KPIs):

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| --- | --- |
| KPI | Description |
| Total Engagement | Likes + Shares + Comments |
| Engagement Rate (%) | (Engagement / Followers) × 100 |
| Average Engagement/Post | Total Engagement divided by number of posts |
| Reach Rate (%) | (Reach / Followers) × 100 |
| Top Performing Post Score | Weighted: Likes(1) + Shares(2) + Comments(3) |
| Post Frequency | Number of posts per week/month |
| Best Performing Platform | Based on highest average engagement |
| Most Effective Post Type | Post type with highest engagement rate |

# 5. Analysis Performed Using Pivot Tables:

## Pivot Table 1: Engagement by Platform

- Purpose: Identify which platform performs best.  
- Fields: Rows: Platform | Values: Sum of Likes, Shares, Comments, Engagement  
- Visualization: Clustered Column Chart  
- Insight: Instagram had the highest overall engagement.

## Pivot Table 2: Engagement by Post Type

- Purpose: Compare engagement across content types.  
- Fields: Rows: Post Type | Values: Sum of Engagement  
- Visualization: Pie Chart  
- Insight: Video posts drove the most engagement, followed by image posts.

## Pivot Table 3: Engagement Over Time

- Purpose: Observe how engagement changes over time.  
- Fields: Rows: Date (Grouped by Month) | Values: Average Engagement Rate  
- Visualization: Line Chart  
- Insight: Engagement peaked during the launch campaign month.

## Pivot Table 4: Top Performing Posts

- Purpose: Identify individual high-performing posts.  
- Fields: Rows: Content or Post\_ID | Values: Engagement Score  
- Sort: Descending | Format: Conditional formatting (Color scale)  
- Insight: Product demo videos were among the top 5 posts.

# 6. Tools Used:

Microsoft Excel – For data processing, pivot tables, KPI metrics, and dashboard visualization.

# 7. Insights and Recommendations:

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| --- | --- |
| Insight | Recommendation |
| Videos generate more engagement | Increase video content frequency |
| Wednesdays and Fridays have highest engagement | Post during mid-week and weekends |
| Instagram outperforms other platforms | Prioritize Instagram for campaign launches |
| Text-only posts perform poorly | Limit text-only content, add visuals or links |

# 8. Conclusion:

This project successfully used Excel-based analysis to uncover trends in social media performance. By focusing on key engagement metrics and identifying content trends, the company can now improve its posting strategy for maximum audience interaction.

# 9. Submission Details:

Internship: Pratinik Infotech  
Project: Data Analytics – Project 1  
Submitted by: Yemineni Balaji  
Dashboard Tool: Microsoft Excel, python  
Drive Link: <https://docs.google.com/spreadsheets/d/1Ss6wnp2FFrX71c0Nugw1iQKRGJHG0oh3/edit?usp=sharing&ouid=114552846398008660039&rtpof=true&sd=true>