

# TECHNICAL REPORT PROJECT 5

**NAME; AKINOLA MARY TOSIN**

**STUDENT ID; VEPH/20B/DA103**

## **TECHNICAL REPORT FOR PROJECT FIVE**

### **VIRAL SOCIAL MEDIA POSTS AND ENGAGEMENT ANALYSIS**

#### **Outlines**

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#### **Introduction**

The primary aim of this analysis is to explore the characteristics of viral social media posts and examine how users interact with them through likes, comments, shares, and overall engagement levels. This study will delve into the performance of different content types (such as images, videos, or text), the impact of hashtags, and how various social media platforms influence user engagement. Additionally, the analysis will identify regions with the highest number of views and highlight the top-performing posts in terms of visibility and interaction. By uncovering these patterns, the goal is to better understand what drives virality and engagement across different digital audiences.

## Key Datasets Required for This Analysis:

- Post ID
- Hashtag(s)
- Content Type (e.g., image, video, text)
- Region (geographical location of audience)
- Views
- Likes
- Comments
- Shares
- Platform (e.g., Facebook, Instagram, Twitter)
- Engagement Level (combined metric based on likes, comments, shares, etc.)

Microsoft Excel was used as the primary tool for data processing and visualization in this analysis of viral social media posts. PivotTables were instrumental in organizing and summarizing the data, allowing for a structured exploration of key factors such as content type, platform performance, and user engagement metrics. This approach made it easier to identify patterns and extract meaningful insights. Additionally, a range of charts and visualizations were created to represent the findings clearly, making the analysis more accessible and interpretable for a broader audience.

## Story of the Data

The data tells a compelling story about what drives engagement on social media. By analyzing posts across different platforms, the dataset reveals that certain content types tend to generate significantly higher levels of interaction compared to others.

The data was downloaded from kaggle.com and the data was well structured, the dataset consists of 1000 rows and 10 columns.

## Important Features and their Significance

Platform; Tiktok, instagram, facebook, youtube, twitter

Hashtags; #challenge, #education, #dance, #comedy, #gaming, #fitness

Content Type; videos, shorts, posts,tweets live stream, reel

## **Data Splitting and Preprocessing**

### **Data Cleaning**

To ensure a well-organized and user-friendly dataset, several formatting enhancements were applied. The top row was frozen, allowing for seamless navigation when scrolling through large amounts of data. This feature ensured that column headers remained visible at all times, making it easier to reference specific fields without losing context.

Additionally, proper casing was applied to all column headers, creating a consistent and professional appearance. Standardizing capitalization improved readability and maintained uniformity throughout the dataset.

The data was structured using a standard Excel table, which provided several advantages, including built-in filtering, sorting, and dynamic referencing. This table format enhanced data management by making it easier to create PivotTables, and update information efficiently. These formatting improvements contributed to a more organized, accessible, and visually appealing dataset, facilitating accurate analysis and interpretation of key insights.

Industry Type of Data

### **Industry Type of Data is as follows;**

- Digital Marketing – to optimize content strategy and improve audience engagement.
- Social Media Management – for tracking performance across platforms and refining posting tactics.
- Advertising – to measure campaign effectiveness and reach.
- Influencer Marketing – to assess the impact of content creators and partnerships.

- Media & Entertainment – to understand audience preferences and trends in content consumption.

This analysis holds significant value for the Digital Marketing and Social Media industry by offering data-driven insights that can directly impact content strategy, audience targeting, and platform optimization.

By identifying which content types, hashtags, and platforms generate the highest engagement, decision-makers can tailor their social media strategies to align with audience behavior and preferences.

## Pre Analysis

1. Top Performing Posts
2. The Region with the top Views
3. The shares by Platform
4. Engagement Level
5. Most Popular Content

Before diving into deeper insights, a high-level snapshot of key metrics provides a clear understanding of the overall social media performance landscape. This pre-analysis board outlines the foundational data points that guide further exploration.

### 1. Top Performing Posts

Highlights the posts with the highest combined engagement metrics—including likes, comments, shares, and views. These posts serve as benchmarks for what type of content resonates most with audiences.

### 2. Region with the Highest Views

Identifies the geographical location generating the most views across all platforms. This insight is critical for targeting high-potential markets and tailoring content to regional preferences.

### 3. Shares by Platform

Breaks down how content is shared across different platforms (e.g., TikTok, Instagram,

Facebook, Twitter, YouTube). Understanding where users are most likely to share content helps refine platform-specific strategies.

**4. Engagement Level**

Analyzes the overall interaction rate based on likes, comments, and shares relative to views. This metric helps assess content effectiveness and audience involvement, offering a deeper measure than views alone.

**5. Most Popular Content Type**

Determines which content format—such as videos, reels, shorts, posts, or live streams consistently drives the highest engagement. This helps guide future content production decisions and creative direction.

**In Analysis**

Twitter recorded the highest engagement across all platforms, with a total of 678,156,820 interactions. YouTube followed closely, accumulating 646,727,861 engagements, highlighting their dominance in driving user interaction.

1. The most viral post in the dataset is Post 676, which achieved an impressive 4,999,430 views, making it a standout in terms of audience reach.
2. Among all content formats, videos attracted the highest number of comments, totaling 4,656,735 on viral posts. In contrast, live streams received the lowest number of comments, indicating varying levels of audience interaction based on content type.
3. Viral posts on Twitter generated the highest number of shares, totaling 13,046,822, followed by Instagram with 12,304,939 shares. YouTube had the fewest shares among the top platforms, with a total of 11,837,253, suggesting different user behaviors on each platform.
4. The United Kingdom led in views, with viral posts reaching 393,675,484 views, followed by the United States with 342,366,013 views, and Australia with

309,574,427 views. This indicates high levels of engagement in English-speaking regions.

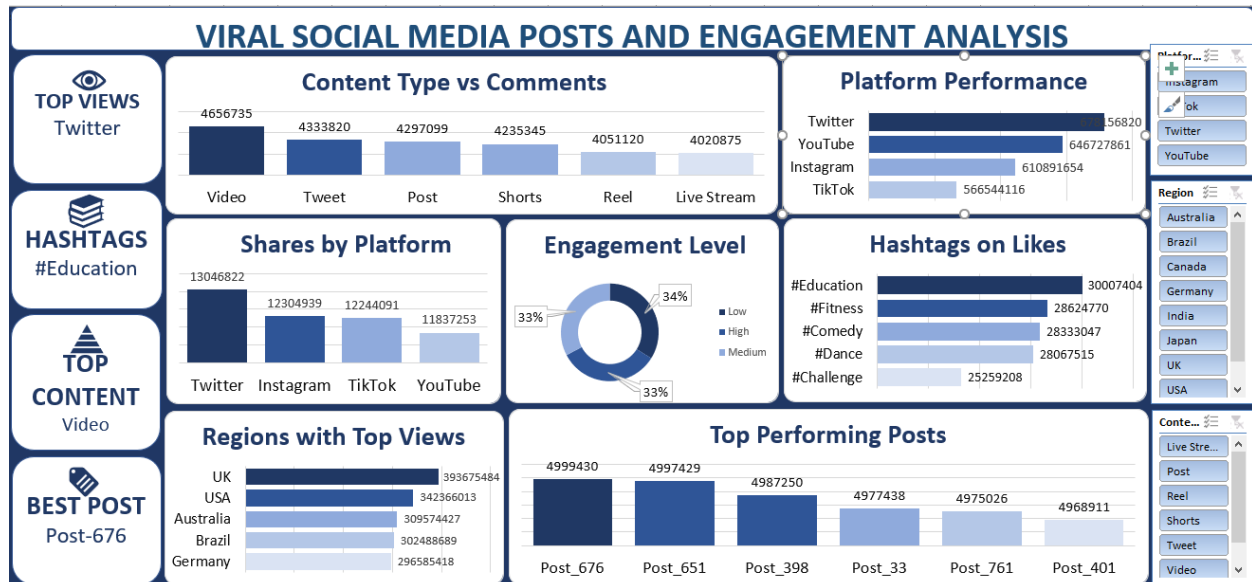
5. The hashtag #Education received the highest number of likes—30 million, indicating strong audience interest in informative content. Other top-performing hashtags like #Fitness, #Comedy, and #Dance also showed high engagement, reflecting a healthy balance of interest across entertainment and lifestyle categories.

### **Recommendations**

1. Since Twitter has the highest engagement, focus on short, engaging tweets, trending hashtags, and interactive posts (polls, retweets, discussions).
2. Analyze why post 696 generated much views and replicate its success.
3. Since live streams had the lowest comments, they encouraged audience interaction by asking open-ended questions during the stream and using polls, Q&A sessions, or live giveaways to drive participation.
4. Improve youtube shares by adding engaging heading titles.
5. Capitalize on the UK's high engagement by tailoring content to UK trends and audience preferences.
6. Leverage Education by creating more informative and value-driven posts and Maintain engagement in Fitness, Comedy, and Dance by experimenting with trends and interactive elements.

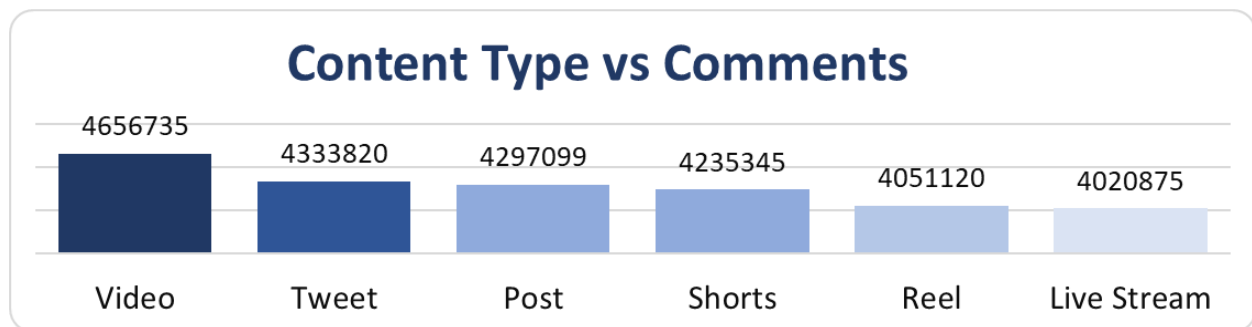
## Data Visualization and Charts

### Dashboard



The dashboard was built using microsoft excel and the dashboard consists of 7 charts

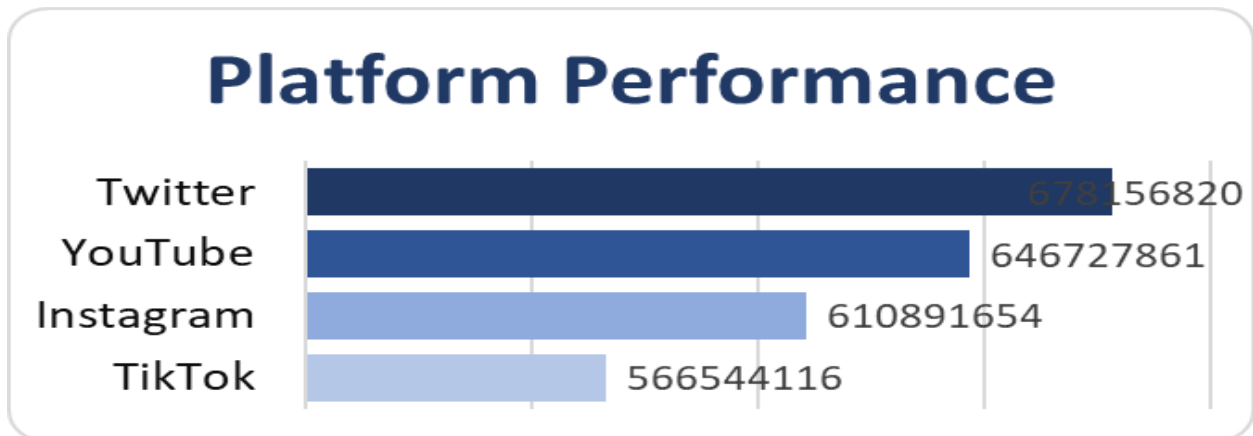
### Content Type vs Comments



This is a bar that represents the content type vs comments, The video content has the highest number of comments in this chart followed by Tweet, Post and Shorts, the live stream content has the least comments.

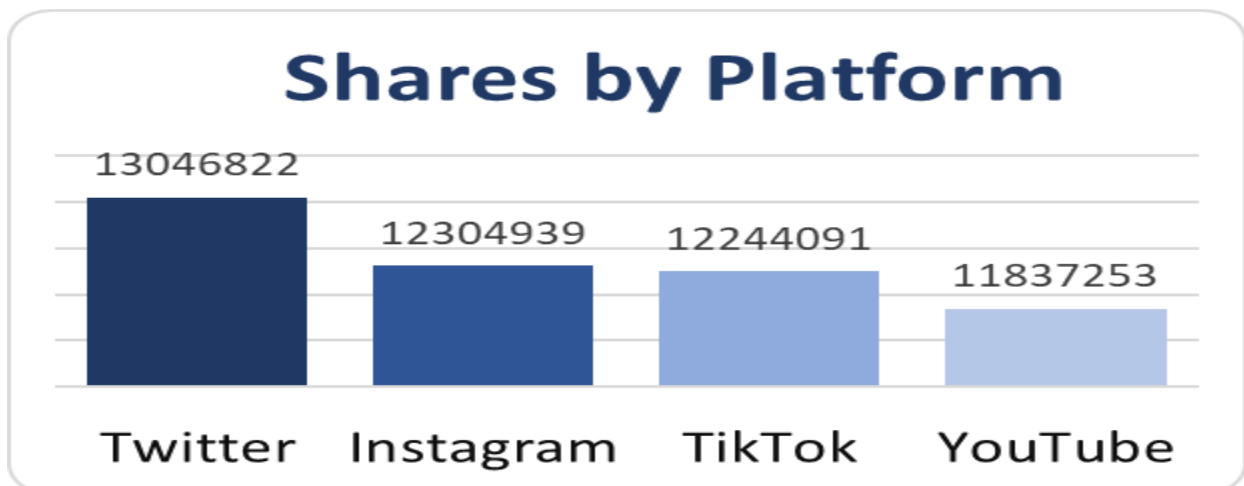


## Platform Performance



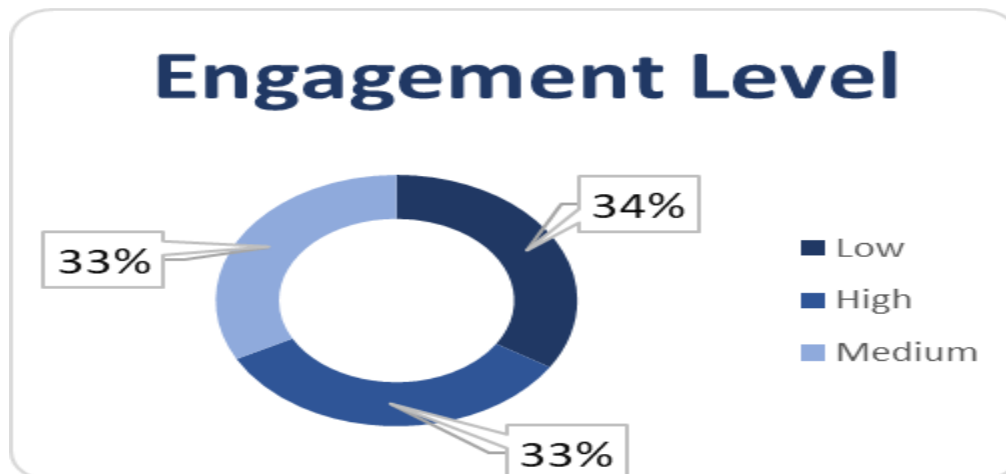
Platform Performance is represented on a bar chart and the platform with the highest engagement is Twitter followed by Youtube, Instagram and Tiktok.

## Shares by Platform



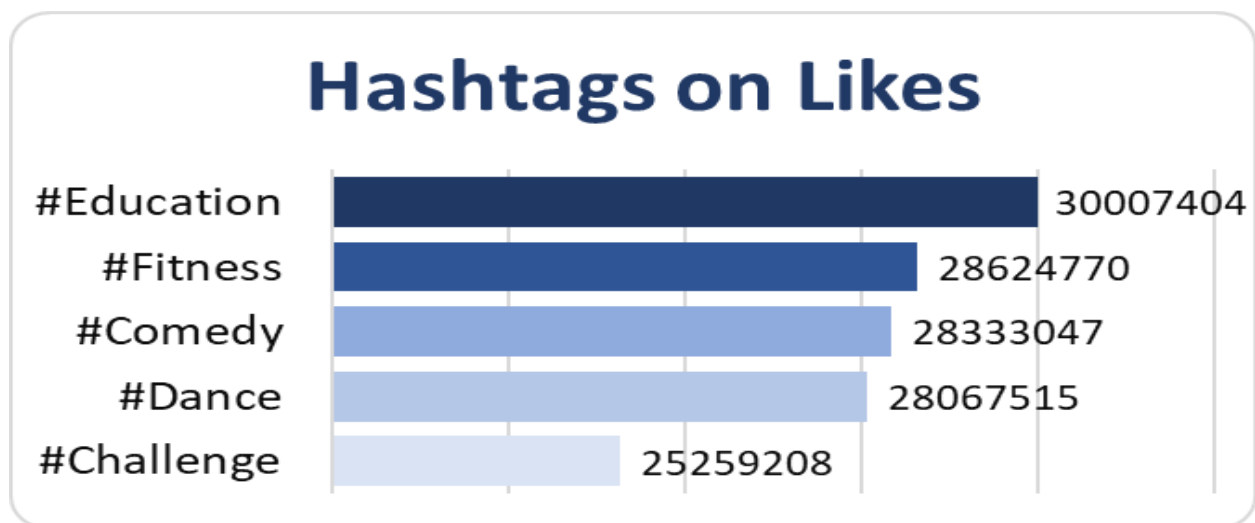
Twitter tops the chart with over 13M shares and instagram had over 12M shares. Followed by tiktok and youtube had the least shares

## Engagement Level



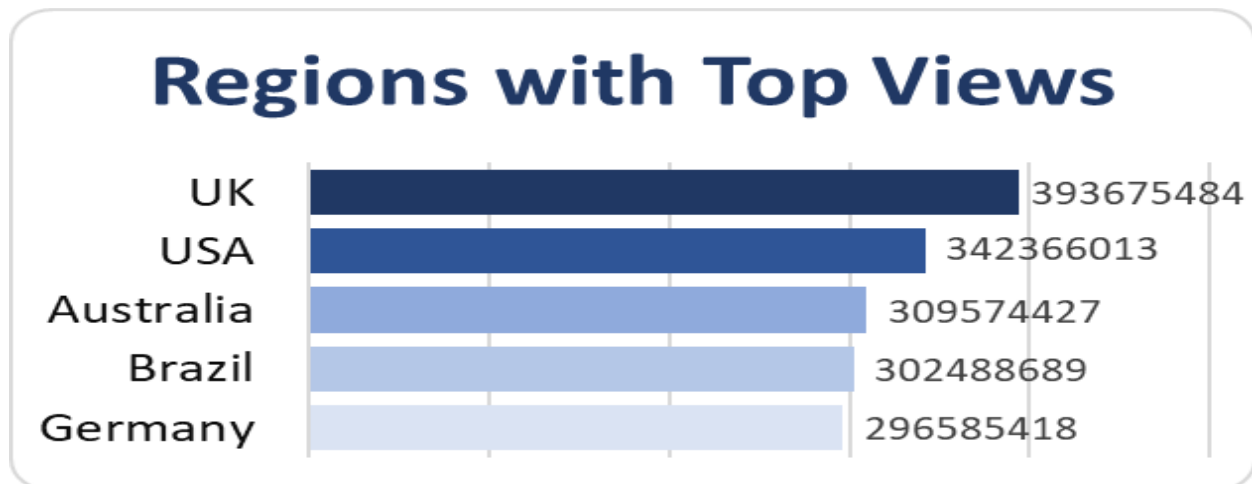
The level of engagement is represented on a doughnut chart and this shows that posts that had the highest level of engagement is 34%

### Hashtags on Likes



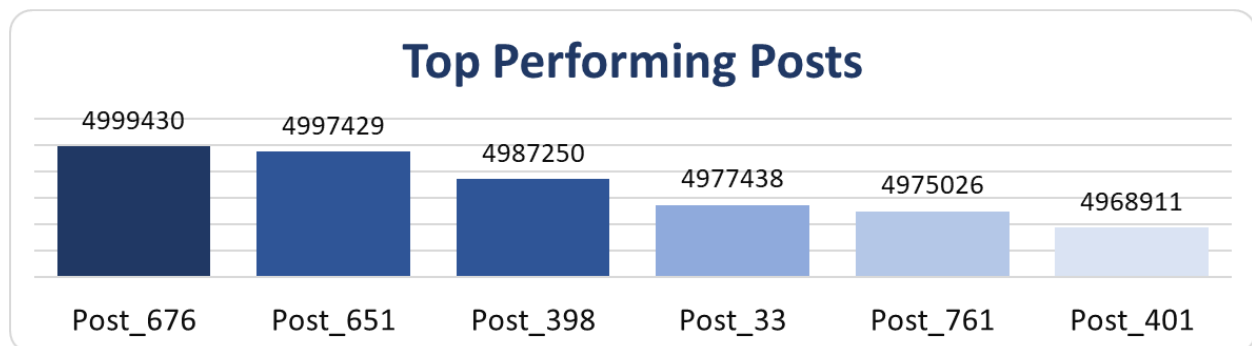
#Education tops the chart for the number of likes on this bar chart with over 30M likes and it is followed by #Fitness, #Comedy, #Dance thst has 28M likes

### Regions with Top Views



The highest region with the highest views is the UK followed by USA, Australia, Brazil and Germany. I used the filter option to get the top 5 regions that had the highest views

### Top Performing Posts



The top performing post which is the last chart on the dashboard represented the post that had the highest engagement and that is post-676

### Observations and Recommendations

#### Observations

- Twitter emerged as the leading platform in terms of total views, recording an impressive 678,156,820 views. It also had the highest number of shares at 13,046,822, indicating that Twitter users are highly engaged and likely to spread content. The hashtag #Education received the highest number of likes on the platform, followed by other popular hashtags such as #Comedy, #Fitness, #Fashion, and #Music. In terms of regional performance, the USA led with the most

views (105,347,954), followed by Brazil, the UK, Australia, and Japan. The most successful post on Twitter was Post-651, which generated 4,997,429 views, making it a significant driver of platform engagement.

- YouTube recorded the lowest number of shares among all platforms, totaling 11,837,253. However, it saw strong engagement with hashtags, particularly #Challenge, which received the highest number of likes (8,772,728). Other top-performing hashtags included #Dance, #Education, #Fitness, and #Comedy. Regionally, the UK topped YouTube viewership with 88,642,393 views, followed by Canada, USA, Japan, and Brazil. Post-671 was the most-watched content on the platform, aligning with the strong performance of challenge-themed content.
- Instagram also performed well, accumulating 610,891,654 views across its viral posts. It ranked second in total shares, with 12,304,939 shares, showing that users are actively engaging with and distributing content. The hashtag #Dance led on Instagram with 8,777,116 likes, followed by #Education, #Music, #Comedy, and #Tech. The UK again ranked highest in terms of likes (106,582,094), with India, USA, Canada, and Australia also showing strong engagement. The standout post on the platform was Post-761, which received 4,975,026 views.
- For video content, it was the top performer in terms of user interaction, generating the highest number of comments at 4,656,735. Twitter had the most video views (115,059,132), followed by TikTok, YouTube, and Instagram. Engagement for video content was categorized as moderate, but Twitter also led in shares. Videos using the hashtag #Education attracted the most likes (6,460,045), followed by #Viral and #Dance. The best-performing video was Post-407, which garnered 4,952,299 views.
- Tweet content came next after video in terms of engagement, with 4,333,820 comments. Hashtag-wise, #Comedy led with 6,363,060 likes, followed by #Education (6,036,051 likes), #Gaming, #Fitness, and #Music. The most successful tweet was Post-180, which reached 4,888,613 views, reflecting the strong performance of humorous and educational tweet formats.
- Post content also saw substantial interaction, generating 4,297,099 comments across platforms. Twitter again dominated in views for this content type, with

116,946,767 views, followed by YouTube, TikTok, and Instagram. Engagement for post content was labeled low, with TikTok recording the highest number of shares (2,282,097). The hashtag #Comedy was the most liked under post content. Post-651 stood out as the best-performing post overall with 4,997,429 views.

- Lastly, shorts content received 4,235,345 comments, with Instagram leading in views (119,047,785). Engagement was considered moderate for this content type. The hashtag #Challenge received the most likes (6,086,324), reinforcing the popularity of quick, challenge-style videos. The most successful shorts content was Post-398, which earned 4,987,250 views, highlighting the appeal of short, punchy content.

## **Recommendations**

- Given Twitter's dominant performance in total views and shares, brands and content creators should prioritize Twitter as a key distribution channel, especially for campaigns that aim to spark widespread engagement. The strong performance of #Education and #Comedy on Twitter suggests that content blending value with entertainment can significantly boost engagement. Additionally, regional targeting in the USA, Brazil, and the UK should be emphasized, as these countries demonstrated the highest viewership.
- For YouTube, despite its lower share numbers, the platform performs well with challenge-themed content and has a strong following in the UK, Canada, and the USA. To enhance engagement, creators should focus on short-form, high-energy content aligned with trending hashtags like #Challenge and #Dance. Increasing the use of community features (like polls and comments) could also help boost shares.
- On Instagram, the popularity of #Dance and visual content types like shorts and reels should be leveraged. Since Instagram performed second-best in terms of shares, enhancing shareable content formats such as behind-the-scenes clips, interactive stories, or collaborations with influencers in top-performing regions like the UK and India could further maximize reach.

- Video content, being the most commented-on format across platforms, should be central to content strategy. Emphasizing educational and viral themes, particularly on platforms like Twitter and TikTok, could significantly boost interaction. Brands should consider embedding calls to action within videos to encourage users to comment and share.
- Tweet and post content also show strong potential, especially for hashtags like #Comedy, #Education, and #Gaming. These formats are ideal for quick updates, announcements, or teaser content. Twitter's high engagement with these formats suggests that brands should maintain an active posting schedule with timely, witty, or informative tweets.
- For shorts, creators should focus on challenge-based and snackable content to maintain user interest and drive likes. Given Instagram's strong performance with shorts, using platform-native tools like Instagram Reels can help maximize exposure. Aligning shorts content with trending hashtags and leveraging music or challenges can drive further engagement.
- In general, to optimize across platforms, decision-makers should invest in data-driven content planning, focusing on high-performing hashtags, content types, and regions. Regularly analyzing engagement metrics will help refine strategies, enhance audience targeting, and ultimately drive higher engagement, brand visibility, and ROI.

## **Conclusion**

This analysis has provided valuable insights into the performance of viral social media posts across various platforms, content types, hashtags, and regions. By leveraging Microsoft Excel's PivotTables and data visualization tools, I was able to uncover key patterns in user engagement—measured through views, likes, comments, and shares.

Twitter emerged as the top-performing platform, showcasing the highest levels of engagement and share activity, particularly with educational and comedic content. YouTube, while lower in shares, excelled with challenge-based content, while Instagram

showed strong engagement in dance and lifestyle-related posts. Video content received the highest number of comments, highlighting its strong user interaction potential across all platforms.

Regionally, countries like the USA, UK, Brazil, and India consistently appeared among the top viewers, pointing to key geographic markets for targeted campaigns. Additionally, hashtags such as #Education, #Dance, #Challenge, and #Comedy consistently drove high engagement, suggesting their importance in future content strategies.

Overall, this analysis supports data-driven decision-making for content creators, marketers, and social media managers. It highlights the importance of platform-specific strategies, hashtag optimization, and content format selection to enhance visibility, boost engagement, and maximize campaign impact.

