BY - SHRUTI SHIVANKAR

YouTube Trending Video Analytics Report

Objective

To uncover cross-regional patterns in trending YouTube videos by analyzing large-scale datasets. The focus was on identifying dominant genres, viewer sentiment, and the relationship between trending duration and engagement metrics such as views and likes.

Tools & Technologies Used

• Python: Data cleaning, transformation, sentiment analysis (pandas, TextBlob, matplotlib, seaborn)
• SQL: Category-level ranking using average views
• Tableau: Visual storytelling, dashboard creation, trend comparison across categories and regions

Methodology Overview

1. Data Cleaning & Standardization

• Combined datasets from different countries
• Unified schema, parsed dates, removed duplicates, handled missing values
• Mapped category_id to category_name from JSON files

2. Sentiment Analysis

• Analyzed video titles and tags using TextBlob
• Classified sentiment into: positive, neutral, negative

3. SQL-Based Category Ranking

• Queried average views grouped by category_id

4. Time-Series Analysis

• Measured how long each video stayed trending
• Analyzed correlation between trending duration and views

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Key Insights

1. Genre Popularity

• Music dominates monthly view charts, followed by Entertainment and Education.
• Music averages ~96.4M views per video.

2. Seasonal Trends

• Views spike between February and May, with a sharp drop in June.
• Seasonal factors or content availability may influence this pattern.

3. Sentiment Distribution

• Neutral sentiment dominates (~80%)
• Positive sentiment leads to ~2x more likes, especially in Canada, India, and Germany.

4. Trending Duration Impact

• Longer trending videos gain more views (~4% increase per additional day)
• Music shows strong sustained performance over time.

Dashboard Highlights (Tableau)

• Monthly Genre Views – Music dominates in May
• Sentiment vs Region – Positive sentiment strong in CA & IN
• Views vs Days Trending – Music sustains views 20+ days

Recommendations

• Content Creators: Focus on music/education & early traction
• Marketers: Launch campaigns in high-traffic months (Mar–May)
• Analysts: Monitor early signals to predict trending success
• Future Work: Add live YouTube API and advanced NLP

Conclusions

• Music is the most influential genre
• Sentiment impacts engagement – aim for neutral/positive tone
• Trending longevity predicts visibility
• Seasonal timing matters (March–May)

Deliverables

✔ Cleaned dataset for analysis & Tableau use
✔ SQL and Sentiments insights notebook
✔ Interactive Tableau dashboard
✔ Summary report (this document)