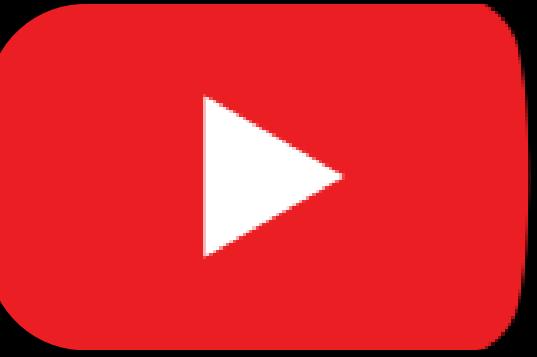




# YOUTUBE SONG ANALYSIS REPORT



YouTube



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# PROBLEM STATEMENT

This project aims to conduct a comprehensive analysis of YouTube song data using Power BI.

The dataset contains key attributes such as video ID, channel title, title, description, tags, published date, view count, like count, favorite count, comment count, video duration, video definition, and caption details.

The data for the YouTube Songs Analysis was obtained from a comprehensive dataset containing various attributes related to YouTube song videos. The data covers multiple videos from different genres and channels, providing a robust basis for analysis.

The goal is to create insightful visualizations and reports that better understand YouTube songs' performance, popularity, and user engagement. The analysis aims to uncover trends, preferences, and patterns in the data to aid content creators and stakeholders in optimizing their YouTube song content.



# DATA DESCRIPTION

1. **Video\_id:** Unique identifier for each YouTube video.
2. **ChannelTitle:** Title of the YouTube channel publishing the song.
3. **Title:** Title of the YouTube song video.
4. **Description:** Description provided for the YouTube song video.
5. **Tags:** Tags associated with the YouTube song video.
6. **PublishedAt:** Date and time when the YouTube song video was published.
7. **ViewCount:** Number of views received by the YouTube song video.
8. **Like count:** Number of likes received by the YouTube song video.
9. **FavoriteCount:** Number of times the YouTube song video has been marked as a favorite.
10. **CommentCount:** Number of comments posted on the YouTube song video.
11. **Duration:** Duration of the YouTube song video.
12. **Definition:** Video definition or quality (e.g., HD, SD).
13. **Caption:** Availability of captions for the YouTube song video.

## Additional columns

**Duration Category:** Video durations in categories(e.g.,Short, Medium, Long)



# PROJECT OBJECTIVE

1

## DATA CLEANING AND PREPARATION:

- Clean and preprocess the dataset, handling missing values or outliers.
- Convert relevant columns to appropriate data types.

2

## EXPLORATORY DATA ANALYSIS (EDA):

- Explore patterns and distributions in view counts, like counts, and comments.
- Identify trends in the popularity and engagement of YouTube song videos.

5

## USER ENGAGEMENT INSIGHTS:

- Investigate relationships between likes, comments, and views.
- Identify factors influencing user engagement with YouTube song videos.

3

## CONTENT AND CHANNEL ANALYSIS:

- Analyze the distribution of videos across different channels.
- Identify popular tags and their correlation with view counts.

4

## TEMPORAL TRENDS:

- Explore how YouTube song video metrics vary over time.
- Identify peak publishing times and their impact on engagement.



# POWER BI DASHBOARD

The interactive Power BI dashboard created for this analysis includes visualizations such as:

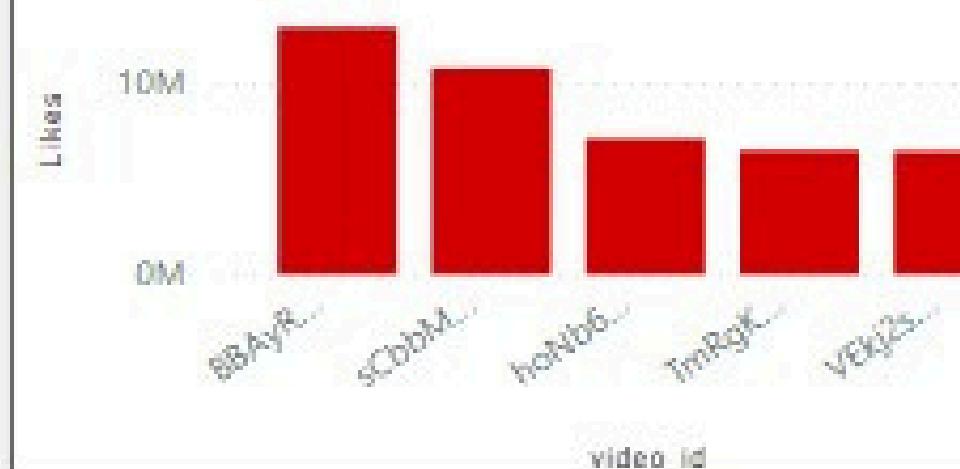
- View counts and like counts distribution.
- Key Influencers
- Tag correlation with view counts.
- Temporal trends and publishing times impact.
- User engagement metrics.
- Video definitions with the view count





# YouTube Songs Analysis Report

## Top 5 Liked Videos



**T-Series**



**231bn**



**2bn**



**19.35K**



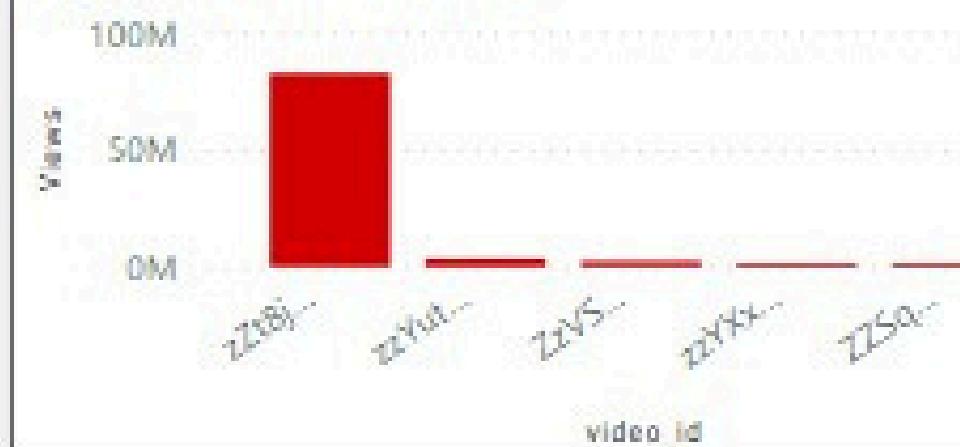
**51M**



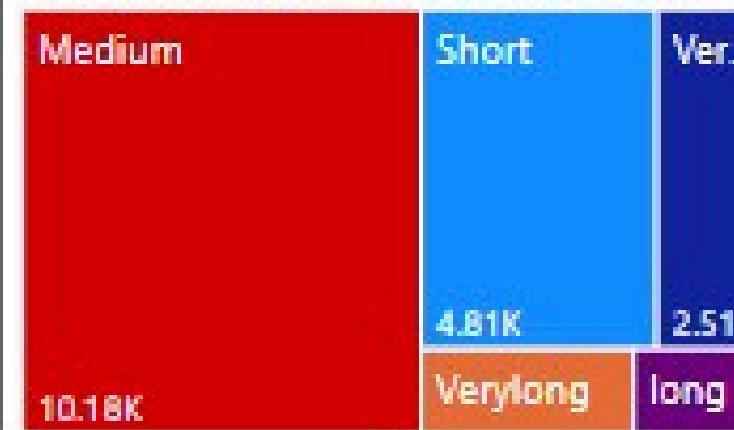
**14.61K**



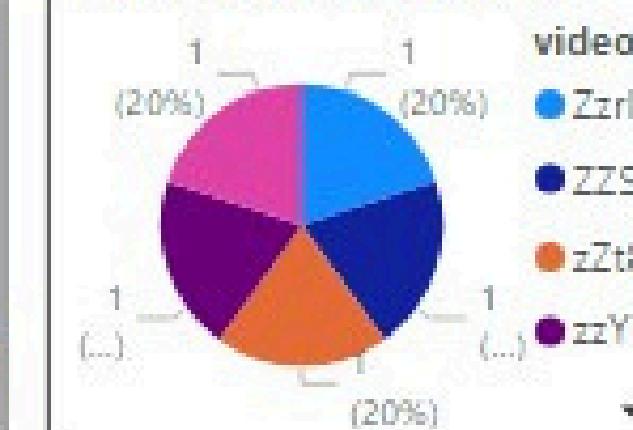
## Top 5 viewed videos



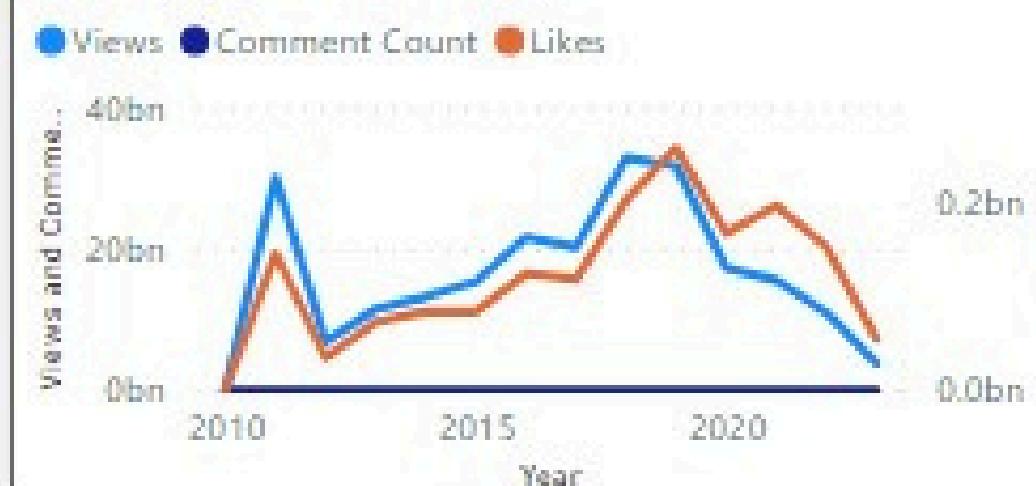
## Video durations categories



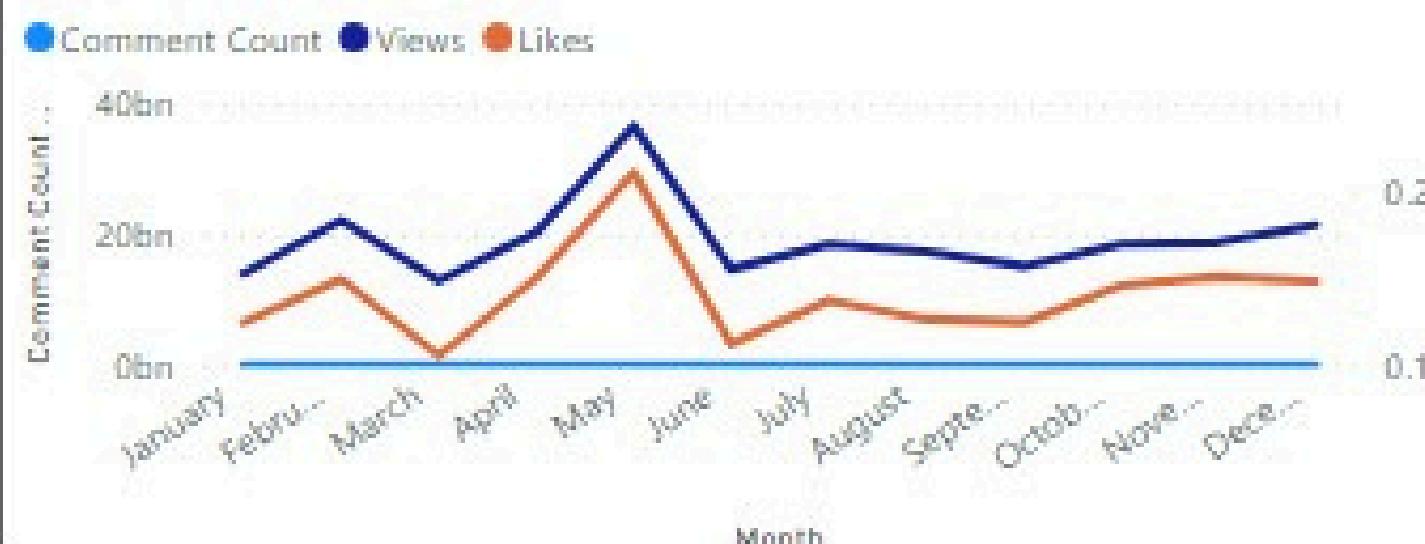
## Top 5 Tagged Videos



## Views, Comment Count and Likes by Year



## Comment Count, Views and Likes by Month



Publish Date

12/23/2010

8/20/2023

## Definition and Comment Influence on views

Key influencers Top segments



What influences Views to

Increase



When...

...the average of Views increases by

43.06M

Comment Count goes up 12691.90

definition is hd

12.62M

Duration Categories is Medium

10.17M

# ANALYSIS, INSIGHTS AND FINDINGS

## DATA CLEANING AND MANIPULATION

To ensure accurate analysis, the dataset was cleaned to accommodate missing values, the duration column was converted to the minutes data types, and additional columns were generated.

We created another column for the categorization of the duration using the (Dax query if function) into the following:

1. Very short <= 1 minutes
2. Short <= 5 minutes
3. Medium <= 10 minutes
4. Long <= 15 minutes
5. Very Long > 15 minutes

The screenshot shows the Microsoft Power BI Data Editor interface. The top navigation bar includes File, Home, Insert, Modeling, View, Help, Table tools, and Column tools. The Column tools tab is currently selected. Below the tabs, there are sections for Name (set to "Duration Categories"), Data type (set to "Text"), and various summarization and data category options. On the far right, there are buttons for Sort by column, Data groups, Manage relationships, and New column. In the bottom left, there's a preview pane showing a table titled "Top 5 Likes" with columns for Likes and Duration Cat... (with values 10M, 0M, 88A). The main workspace displays DAX code for generating the categories:

```
1 Duration Categories = if (
2     Sheet1[duration] <= 1, "Very Short",
3     if (
4         Sheet1[duration] <= 5, "Short",
5         if (
6             Sheet1[duration] <= 10, "Medium",
7             if (
8                 Sheet1[duration] <= 15, "long", "Verylong"
9             )
10        )
11    ))
```

# ANALYSIS INSIGHTS AND FINDINGS

## EXPLORATORY ANALYSIS AND FINDINGS

### View Counts

- Variation by Duration and Tags: Views significantly vary depending on the video's duration, definition, comments, and tags. Some videos garner millions of views.

### Like Counts and Comments

- Positive Correlation: There is a positive correlation between like counts and comment counts, indicating that videos with more likes tend to have more comments, reflecting higher engagement.

### Top Tags

- Engaging Tags: The tags that drive the most engagement include:
  - 'Hindi songs'
  - 'Latest songs'
  - 'Vaaste lyrics'
  - 'Dilbar'
  - 'High rated gabru'

### Total Engagement Metrics

- Views: 231 billion total views
- Likes: 2 billion total likes
- Comments: 51 million total comments

### Top Liked and Commented Videos

- Top Liked Videos: "Vaaste" and "Lut Gaye" are the most liked videos.
- Top Commented Videos: These videos also receive the highest number of comments, reinforcing the strong correlation between likes and comments.



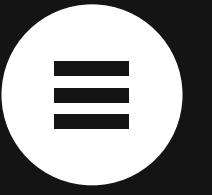
# ANALYSIS INSIGHTS AND FINDINGS

## EXPLORATORY ANALYSIS AND FINDINGS

### Factors Influencing Views

- Definition: High-definition (HD) videos significantly boost view counts, increasing views by 12,885,474.12.
- Monthly Trends:
- May: The month with the highest views at 36,639,909,131, which is 183.72% higher than March, the month with the lowest views at 12,914,287,614.
- Contribution: May accounted for 15.87% of the total views.
- Views vs. Likes: In May, views and likes diverged the most, with views being 36,429,159,786 higher than likes.
- Correlation Analysis
- Views and Likes: A positive correlation exists between views and total likes, indicating that videos with more views generally receive more likes.





# CONCLUSION

This analysis of YouTube song analysis reveals critical insights into factors that drive viewership and engagement. High-definition videos, optimized video duration, and the use of popular tags significantly increase view counts. A strong correlation exists between likes and comments, underscoring the importance of fostering audience interaction. Notably, May emerges as a peak month for views, highlighting the importance of strategic content planning.

For content creators and marketers, leveraging these insights can enhance content strategies, leading to higher engagement and greater visibility. By prioritizing HD video quality, incorporating engaging tags, and actively encouraging likes and comments, creators can optimize their content for maximum impact. Continuous analysis and adaptation to audience preferences will ensure sustained success on YouTube.

# THANK YOU



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