



YouTube Songs Analysis With Power BI

Presented By
Manjiri Sawant





Demystifying YouTube Song Performance

- 1 Conduct a comprehensive analysis of YouTube song data.
- 2 Gain insights into song performance, popularity, and user engagement.
- 3 Identify trends and patterns in user behavior.
- 4 Develop actionable recommendations for content creators and stakeholders.



Project Objectives



Data Cleaning & Preparation

- Ensure data accuracy by addressing missing values and outliers.
- Convert data to appropriate formats for analysis.



Exploratory Data Analysis (EDA)

- Uncover patterns in views, likes, and comments.
- Identify trends in song popularity and user engagement.



Content Analysis

- Analyze popular tags and their impact on view counts.



Project Objectives



Temporal Trends

- Investigate how metrics change over time.



User Engagement Insights

- Understand relationships between likes, comments, and views.
- Discover factors influencing user engagement.



Utilize Power BI

- Create insightful visualizations and reports.
- Provide a deeper understanding of YouTube songs' performance, popularity, and user engagement.



Data Exploration

- **video_id:** Unique identifier for each YouTube video.
- **channelTitle:** Title of the YouTube channel publishing the song.
- **title:** Title of the YouTube song video.
- **description:** Description provided for the YouTube song video.
- **tags:** Tags associated with the YouTube song video.
- **publishedAt:** Date and time when the YouTube song video was published.
- **viewCount:** Number of views received by the YouTube song video.
- **likeCount:** Number of likes received by the YouTube song video.
- **favoriteCount:** Number of times the YouTube song video has been marked as a favorite.
- **commentCount:** Number of comments posted on the YouTube song video.
- **duration:** Duration of the YouTube song video.
- **definition:** Video definition or quality (e.g., HD, SD).
- **caption:** Availability of captions for the YouTube song video.



Screenshot of the Dataset with highlighted key fields :

	video_id	channelTitle	title	description	tags	publishedAt	viewCount	likeCount	favoriteCount	commentCount	duration	definition	caption
0	F44TK5EHCF	T-Series	RAFTA RAFTA	Presenting the ['hindi son	2023-08-20T17299		241	0	59	PT4M42S	hd	false	
1	adx8Rsjp-c0	T-Series	TUM HO MER	/ Presenting the ['hindi son	2023-08-20T14212		144	0	32	PT5M27S	hd	false	
2	36nQLyrR7S	T-Series	ISHQ HOTHON	Presenting the ['hindi son	2023-08-20T02849		79	0	31	PT6M10S	hd	false	
3	TKbifi5AMQ	T-Series	HUMKO PYAR	Presenting the ['hindi son	2023-08-20T03991		116	0	36	PT5M59S	hd	false	
4	NNA21SoGq	T-Series	Har Har Maha	T-Series Prese	['hindi son	2023-08-20T0101950	6230	0	434	PT3M37S	hd	false	
5	ebT4ZaNMr	T-Series	Tere Pyaar Me	Presenting a r	['hindi son	2023-08-19T123308	667	0	213	PT3M	hd	false	
6	6jiSbd5NHX	T-Series	Kaatil Ada 🎵	Yaariyan 2 🎵	['hindi son	2023-08-19T193558	2113	0	30	PT12S	hd	false	
7	-iFUxfFzL4	T-Series	You Talking Tc	Presenting "Yc	['hindi son	2023-08-19T186467	4037	0	255	PT2M19S	hd	false	
8	22uRdxFIPG	T-Series	Divya & Yash	(Yaariyan 2 🎵	['hindi son	2023-08-19T067312	2461	0	30	PT16S	hd	false	
9	yABMnVw-5	T-Series	MALANG SAJN	Presenting the	['hindi son	2023-08-19T0110292	5583	0	221	PT3M20S	hd	false	
10	mdCL8diDi6	T-Series	Jai Jai Radha R	Presenting the	['hindi son	2023-08-19T04992	169	0	37	PT4M53S	hd	false	
11	VpL8HfAouv	T-Series	Kissey Aur Kah	T-Series Prese	['hindi son	2023-08-18T111699	211	0	65	PT16M14S	hd	false	
12	KnxwVKkXqJ	T-Series	Radha Raman	Watch the full	['hindi son	2023-08-18T19538	538	0	19	PT16S	hd	false	
13	c_G2sU_O0I	T-Series	Ganjedi Dulha	Yaariyan 2 🎵	['hindi son	2023-08-18T1120682	2734	0	21	PT21S	hd	false	
14	YCbfDYs9yA	T-Series	Dive into the r	Watch the full	['hindi son	2023-08-18T1115322	7821	0	61	PT10S	hd	false	
15	ABg4Ci91Z0	T-Series	Jaani Ye (Lyric	: Presenting the	['hindi son	2023-08-18T014344	289	0	104	PT3M42S	hd	false	
16	g5E932_G_v	T-Series	Life Ne Diya MYaariyan 2 🎵	['hindi son	2023-08-18T0184972		6951	0	41	PT21S	hd	false	
17	Re_1K_1T_S-1		Call Back	("Presenting the	['hindi son	2023-08-18T018755	279	0	79	PT3M45S	hd	false	



Data Preparation and Cleaning

- ✓ Handle missing values (description, tags)**
- ✓ Converting data types(e.g. duration to mins)**
- ✓ Creating new columns and measures for analysis (e.g., like-to-view ratio, comment to view ration, duration categories, comment count bins, tag category)**
- ✓ Creating new tables (e.g., top 10 songs, top 10 tags)**



Key Metrics & Visualization

 **Total Songs**

 **Total Views**

 **Like Count**

 **Comment Count**

 **Like to View Ratio**

 **Comment to View Ratio**

 **Duration**

 **Engagement Rate**

 **Card**

 **Stacked Column Chart**

 **Stacked bar chart**

 **Line Chart**

 **Donut Chart**

 **Scatter Plot**

 **Table**

 **Treemap**



Power BI : Unlocking Song Data Insights

[Power BI Dashboard](#)

YouTube Songs Performance Dashboard

12/23/2010

8/20/2023

Channel Title

T-Series

Video Definition Vs Average Views

hd

13.77M

Total Songs
19.35K

Total Views
231bn

Total Likes
2bn

Total Comments
51M

Total Watch Time
1595:23:39

Engagement Rate
1%

Average Watch Time
00:04:57

Video Views By Year



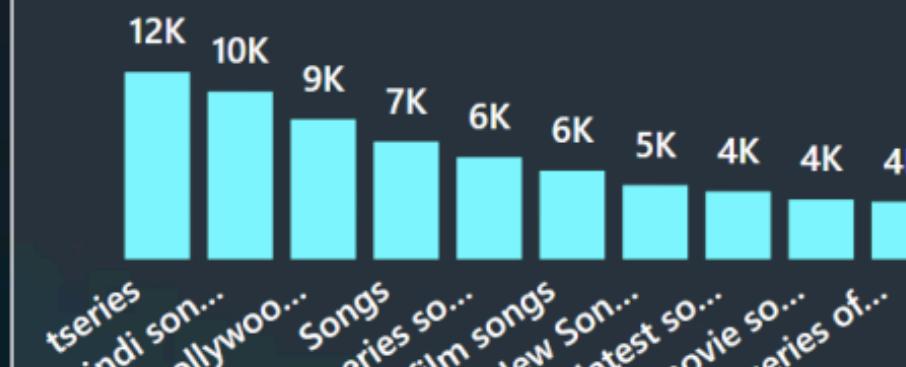
Impact of Captions On Views

True
72M
False
11M

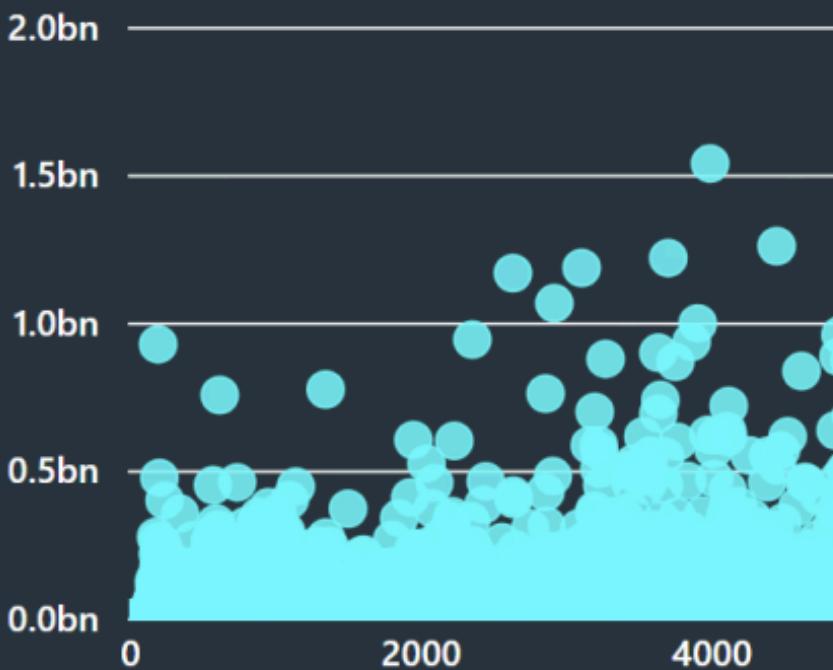
Average Likes vs. Comment Count Bins



Top 10 Tags By Frequency



Impact of Description Length On Views



Song Rank Song Title

- 1 Vaaste Song:
Dhvani
Bhanushali,
Tanishk Bagchi
- 2 Lut Gaye (Full
Song) Emraan
Hashmi, Yukti
- 3 DILBAR Lyrical
- 4 SIMMBA: Aankh
Marey Lyrical
- 5 Guru Randhawa:
High Rated Gabru
Official Song

Top 10 Songs By Like to View Ratio



Top 10 Songs By Comment to View Ratio



Average Views by Tag Category



Average Views By Video Duration Category



Insights & Recommendations



Video Views By Year

Video views have significantly decreased over the years, indicating a potential shift in viewer preferences or content strategy.



Impact of Caption On Views

Videos with captions received 72 million views, significantly higher than the 11 million views for videos without captions, indicating the importance of accessibility features in reaching a broader audience



Impact of description Length on Views

Videos with a description length of around 2000-4000 characters received over 500 million views, with some even surpassing 1 billion views, highlighting the importance of detailed descriptions in engaging viewers



Average Views By Duration Category

Short duration videos (less than 10 minutes but greater than 5 minutes) received the highest views at 16 million, while videos between 10 and 20 minutes received less than zero million views, indicating a preference for shorter content.



Insights & Recommendations



Average Views By Tag Category

Tagged videos received 77.19% of the total views, while untagged videos accounted for only 22.81%, emphasizing the significant role of tags in driving video visibility and engagement.



Average Likes Vs Comment Count Bin

Comment counts over 400K correlate with the highest average likes, whereas videos in the 0-50K comment count bin exhibit the lowest average likes, indicating a strong relationship between engagement through comments and likes.





Conclusion

- 1 Understanding these insights can empower content creators and stakeholders to make informed decisions to improve their YouTube song content strategy.
- 2 Moving forward, continual monitoring and adaptation of strategies based on viewer behavior and platform trends will be crucial to maintaining and increasing audience engagement.





Thank You

MENTORNESS

Manjiri Sawant

