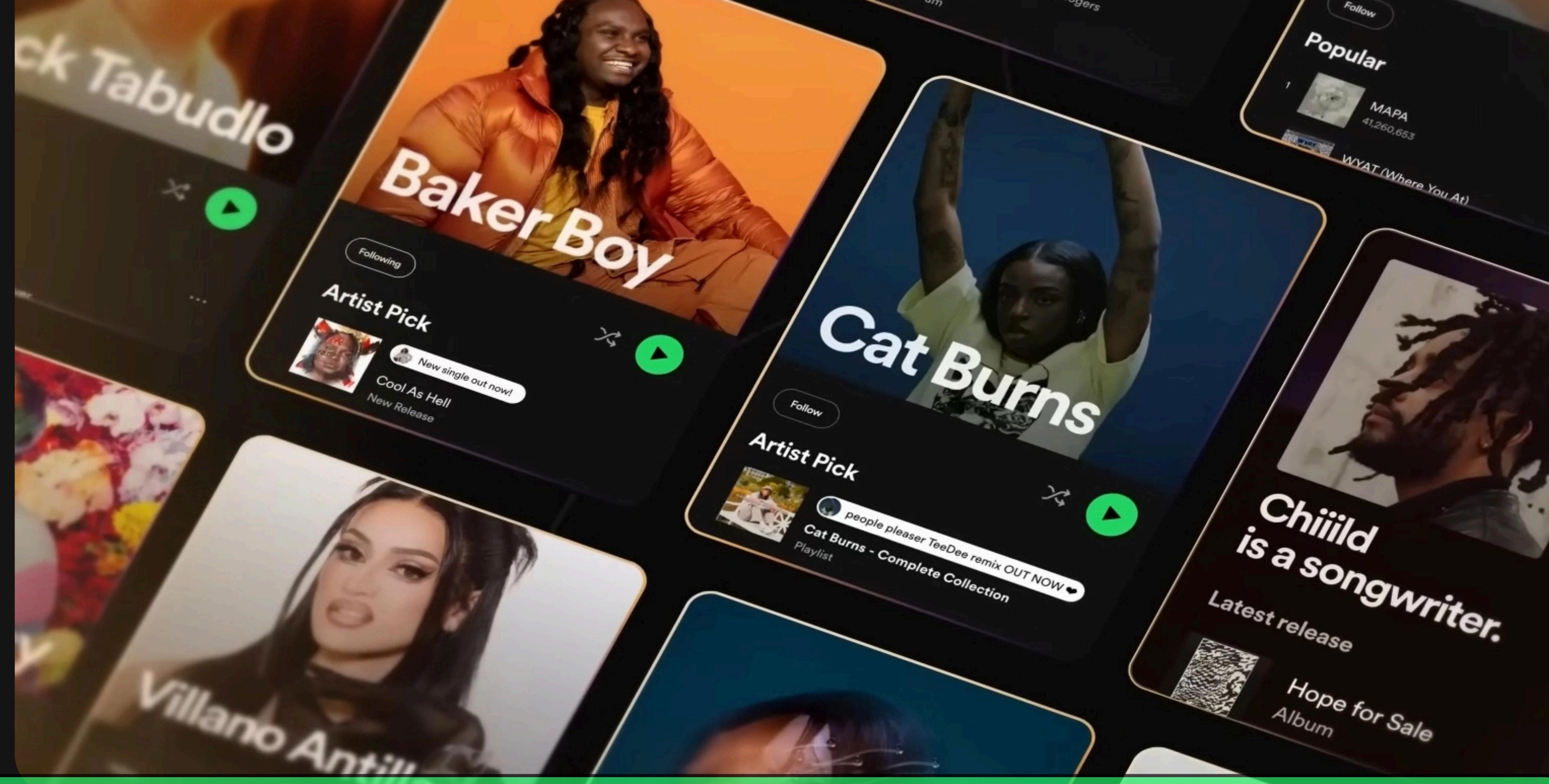


YOUTUBE & SPOTIFY ANALYSIS



BUSINESS UNDERSTANDING

- The music streaming industry is highly competitive, with platforms like Spotify, YouTube among others, offering millions of tracks for users.
- While the music collections across platforms are similar, user engagement and song popularity depend on more than just availability.
- Key differentiators for success in streaming platforms:
 - User experience
 - Effective search and recommendation systems
 - Personalization of content based on user preferences.





PROBLEM STATEMENT

- With every audio streaming site providing essentially similar song collections, the common opinion is that there is no room for commercial difference, thus transforming music streaming companies into generic companies.
- There is a lack of data-driven understanding of how song performance differs across platforms like Spotify and YouTube, which prevents artists and record labels from creating targeted strategies to maximize reach and monetization.

OBJECTIVES

Primary Objective:

- To analyze the relationship between song attributes and the popularity metrics of Spotify tracks.

Sub-objectives:

- Identify which song attributes (e.g. danceability, energy, loudness) are most correlated with high engagement (Spotify streams, YouTube likes and YouTube views).
- Examine the impact of licensed content on song popularity.
- Offer recommendations for how Spotify and YouTube can use these insights to enhance user experience and engagement.

DATA UNDERSTANDING

Our data is sourced from Kaggle, containing information on songs from various artists globally.

Data Composition:

- Includes 28 columns related to the songs, covering both Spotify and YouTube metrics.

Spotify Metrics:

- Detailed audio features such as Danceability, Energy, Tempo, etc.
- Streams: Number of plays on Spotify.

YouTube Metrics:

- Views: Number of views on YouTube for the song's official music video.
- Likes and Comments of the respective tracks from various artists.

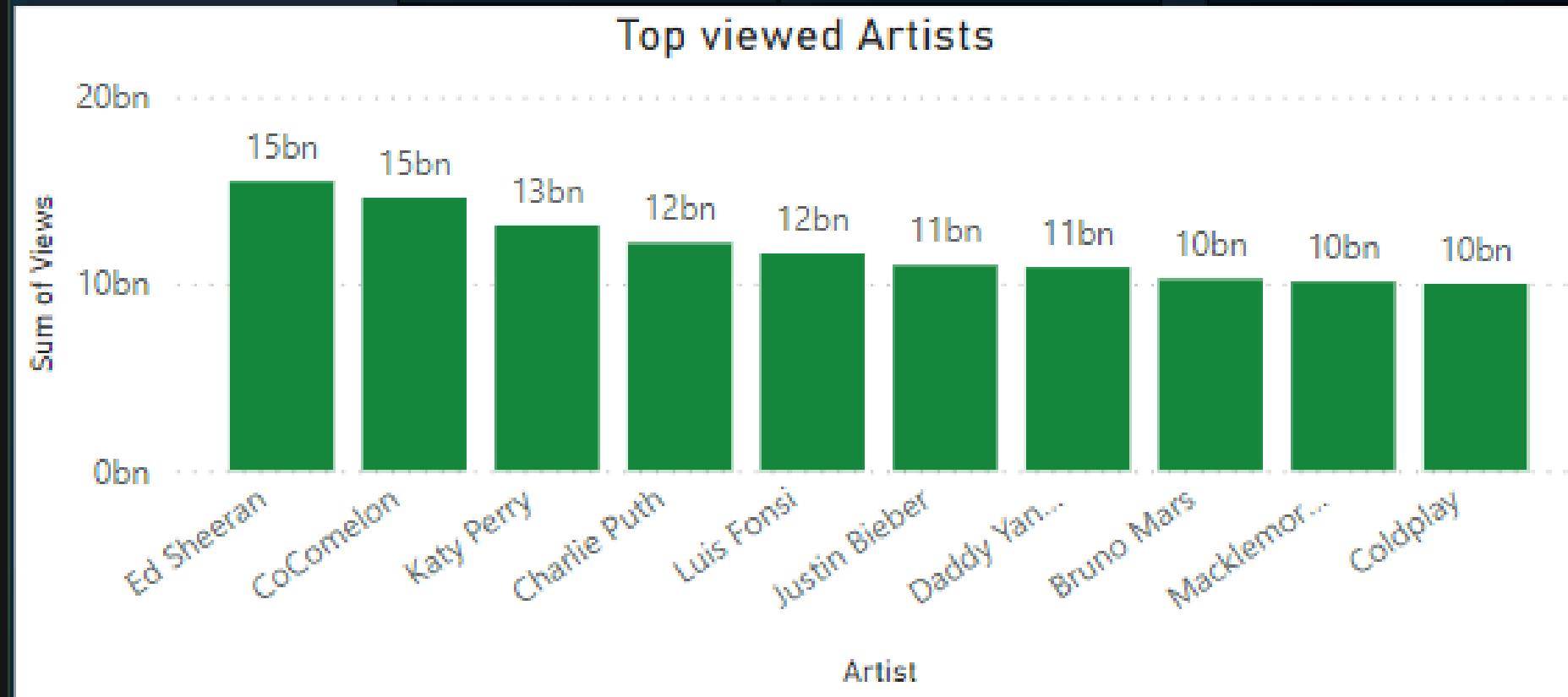
EXPLORATORY DATA ANALYSIS

TOTAL METRICS

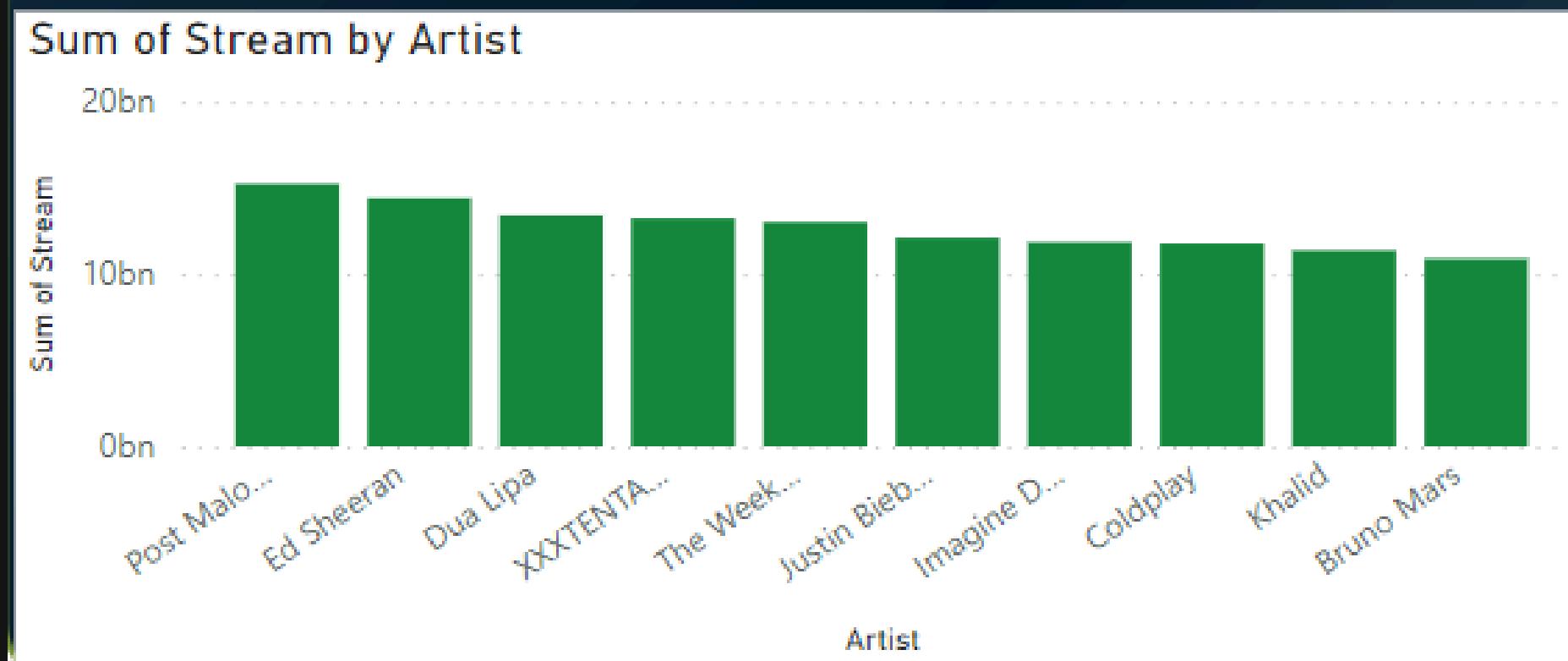
- Total Tracks: 20.25K
- Total Artists: 2,063
- Total Streams: 3 trillion
- Total Views: 2 trillion
- Total Likes: 13 billion
- Total Comments: 554 million



EXPLORATORY DATA ANALYSIS

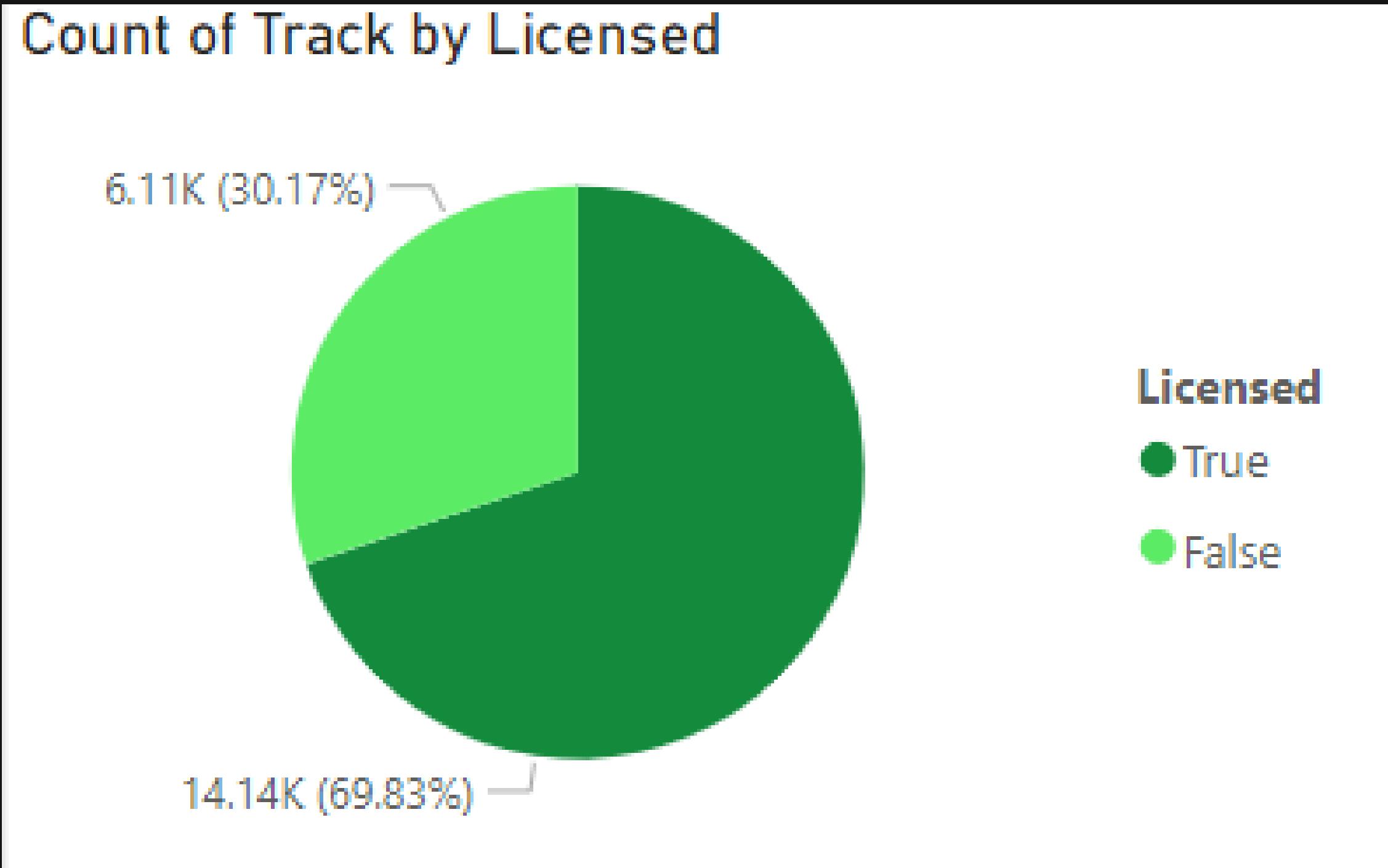


The top viewed artist is Ed Sheeran with 15 billion views, followed by Katy Perry, Charlie Puth. These artists significantly contribute to the viewership.



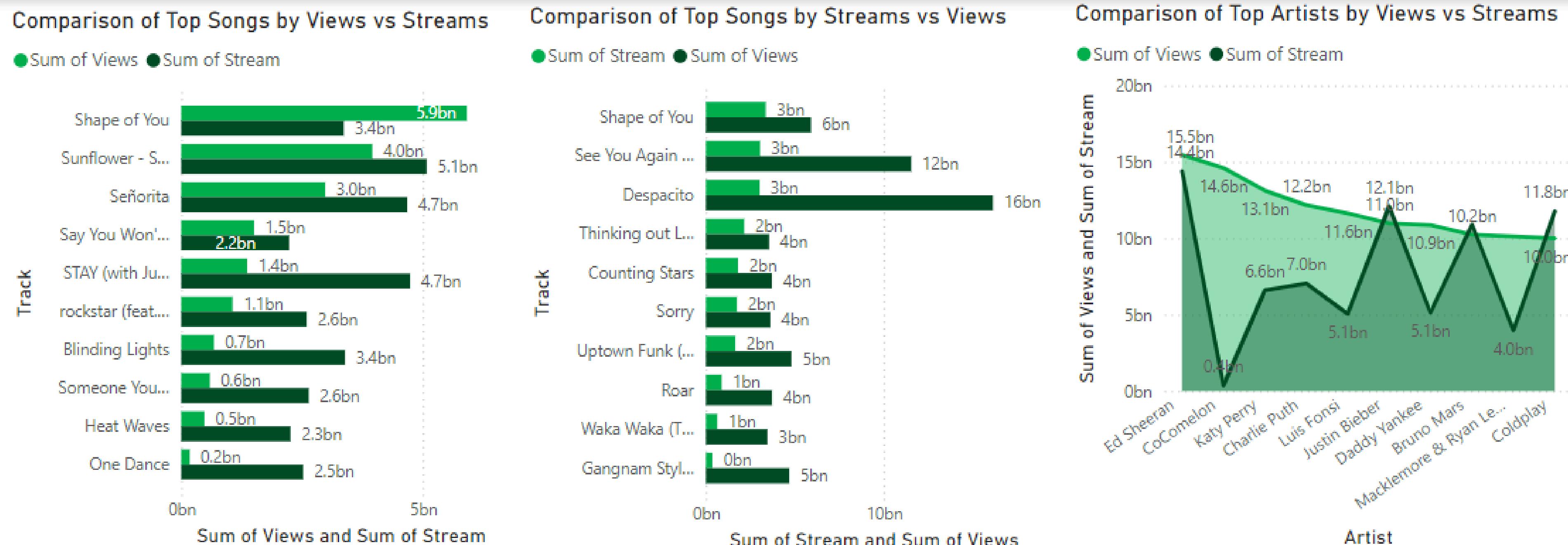
Post Malone leads with the highest number of streams (15 billion), followed by Ed Sheeran (13 billion), Dua Lipa, and others. This highlights which artists dominate streaming.

EXPLORATORY DATA ANALYSIS



- The majority of tracks, 69.83%, are licensed, indicating that most of the content complies with official licensing agreements.
- A smaller portion, 30.17%, are non-licensed, meaning they do not have formal licensing, which could potentially indicate either user-generated content or tracks without official permissions.

EXPLORATORY DATA ANALYSIS

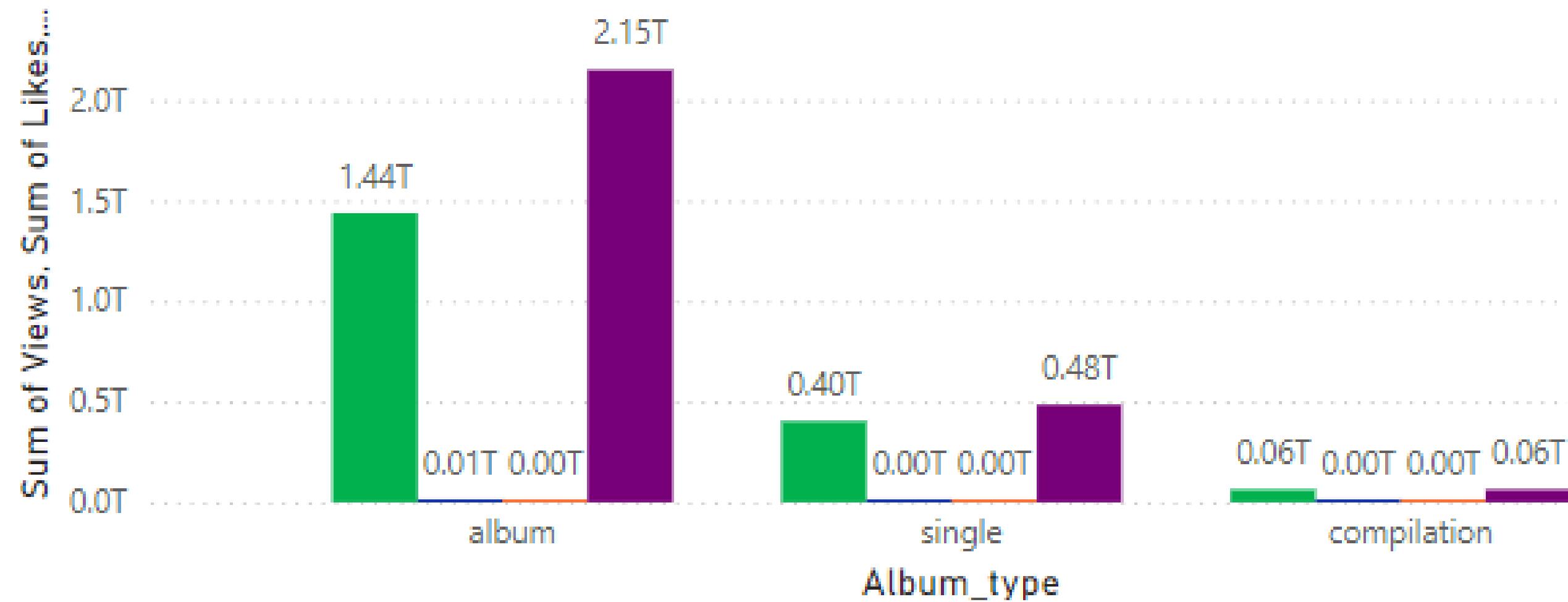


Songs and artists that perform well on one platform do not necessarily achieve the same level of engagement on the other.

EXPLORATORY DATA ANALYSIS

Engagement by Album Type

● Sum of Views ● Sum of Likes ● Sum of Comments ● Sum of Stream



Engagement levels vary based on album type. Full albums tend to have the highest engagement across both platforms, followed by singles, with compilations showing the lowest levels of engagement.



FINDINGS

Energy and Engagement:

- There's a positive relationship between a song's energy and its likelihood to engage listeners on platforms like Spotify and YouTube. Songs with higher energy levels tend to attract more engagement. Energy levels around 0.5-1.0 have the highest likes and views.

Danceability and Engagement:

- More danceable songs tend to have higher audience engagement, likely due to their appeal in social and party settings. Songs with a Danceability score between 0.5-1.0 generate the highest engagement with spikes observed in engagement as danceability increases.

Key Distribution:

- The most common keys are C, G, D-Flat, and D, with C and G being particularly dominant. The preference for certain musical keys may reflect trends in music composition across different genres, with popular keys offering versatility for different musical moods and styles.



FINDINGS

- There is no consistent correlation between high engagement on YouTube and Spotify. Songs and artists that perform well on one platform do not necessarily achieve the same level of engagement on the other.
- Engagement levels vary based on album type. Full albums tend to have the highest engagement across both platforms, followed by singles, with compilations showing the lowest levels of engagement.
- Albums and singles tend to generate more Spotify streams than YouTube views, while compilations see higher YouTube views. However, the difference between views and streams for compilations is minimal.
- Spotify tends to have more streams for albums and singles because users on the platform prefer continuous music listening. YouTube sees higher views for compilations, as users often prefer curated video playlists or mixes for passive listening, though the difference between views and streams is smaller for compilations.

RECOMMENDATIONS



Focus on Danceability and Energy:

- Prioritize creating and promoting songs with high Danceability and Energy, as these attributes correlate with higher engagement (streams, likes, views) on platforms like Spotify and YouTube.

Promote with Music Videos:

- Official YouTube videos drive engagement and boost Spotify streams.

Use Popular Keys:

- Tracks in common keys like C and G tend to perform well. Producers and artists, especially emerging ones, should consider using these keys and optimal tempos to appeal to a broader audience.



►NEXT STEPS

1

Research genre and geographical data:

- Analyze how different genres impact song popularity and engagement. Explore Geographical Data: Track artist performance and song engagement across various regions.

2

Analyze Time Trends:

- Investigate how songs and artists perform over time, identifying patterns in engagement.

3

Integrate User Preferences:

- Study listener behavior and preferences to further refine recommendations and song production.

4

Enhance Cross-Platform Insights:

- Compare performance across multiple platforms (e.g., Spotify, YouTube, Apple Music) for a more complete view.

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