



# Spotify

## Data DNA – Dataset Challenge



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# Welcome

Welcome to this Power BI visualization crafted by Amir FARES for the Data DNA – Dataset Challenge hosted by onyxdata. This presentation showcases insights derived from the Spotify Most Streamed Songs 2023 Dataset. Explore the data, uncover trends, and discover what makes the top songs of 2023 tick. Enjoy your journey through the world of music analytics!

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# Our Goals

Imagine you're an aspiring artist, an average musician with a passion for creating music. You have dreams of making your music go viral, capturing the hearts of listeners around the world. But where do you start? How can you increase your chances of creating that chart-topping hit?

In our quest to help the average musician achieve stardom, we dive deep into the world of music analytics. Our journey begins with a fundamental question: What factors contribute most to the popularity of songs on Spotify? To answer this, we embark on an exploration of audio and contextual elements, seeking to uncover the secrets that make songs resonate with audiences.

We believe that by understanding the key ingredients behind song popularity, we can provide invaluable insights to artists like you. Our mission is to unravel the mysteries of the music industry, offering data-driven guidance that can help transform your creative vision into a viral sensation. So, let's embark on this musical journey together and discover the melodies of success!



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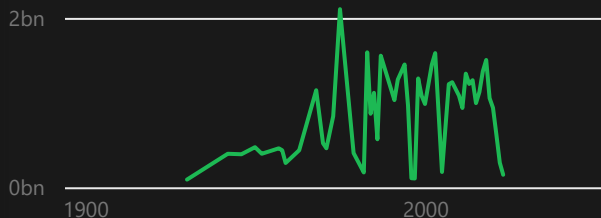
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Initially, we considered utilizing various columns such as `in_spotify_playlists`, `in_spotify_charts`, `streams`, `in_apple_playlists`, `in_apple_charts`, `in_deezer_playlists`, `in_deezer_charts`, and `in_shazam_charts` to create a complex calculated field with weighted factors and normalization. However, for simplicity, we've decided to use the average number of streams as our straightforward indicator of song popularity.

Sum of Streams by Released Year



Average of Streams by Released Year

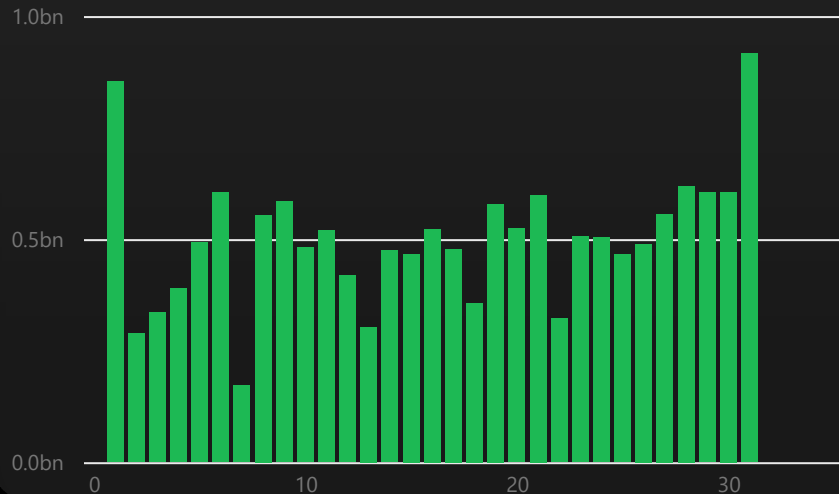


Looking at these two graphs, it's evident that over the years, the number of listeners has experienced exponential growth. However, this growth has been accompanied by a significant increase in competition, with numerous artists and songs emerging each year.

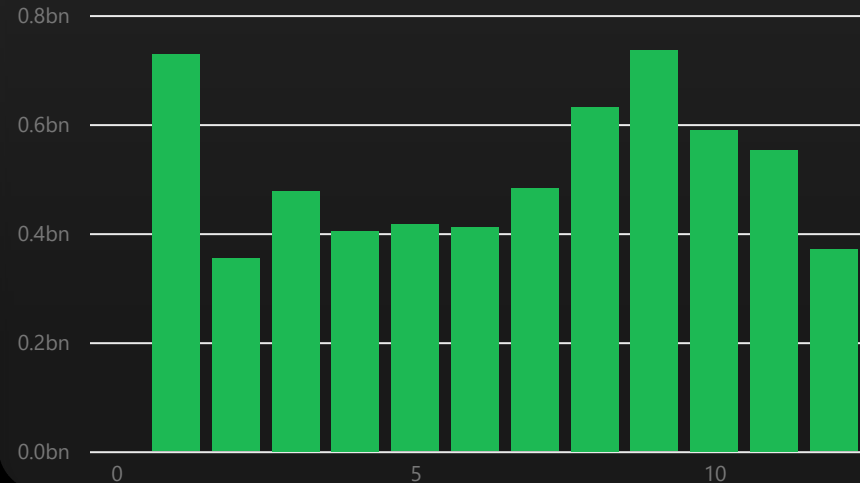
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Average of Streams by Released Day



Average of Streams by Released Month

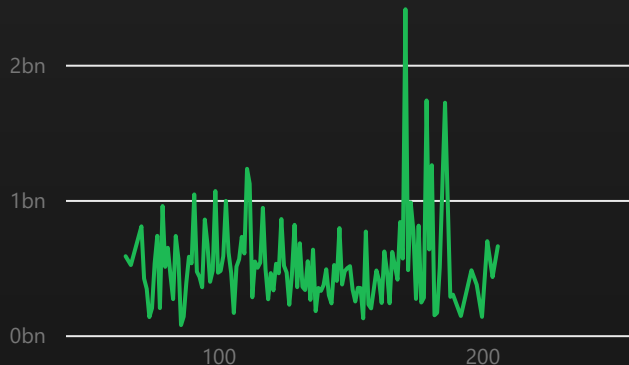


It's clear from the data that optimal release days tend to be at the beginning or end of the month. Additionally, starting the year and around September appear to be favorable periods, with a subsequent decline until the new year begins.

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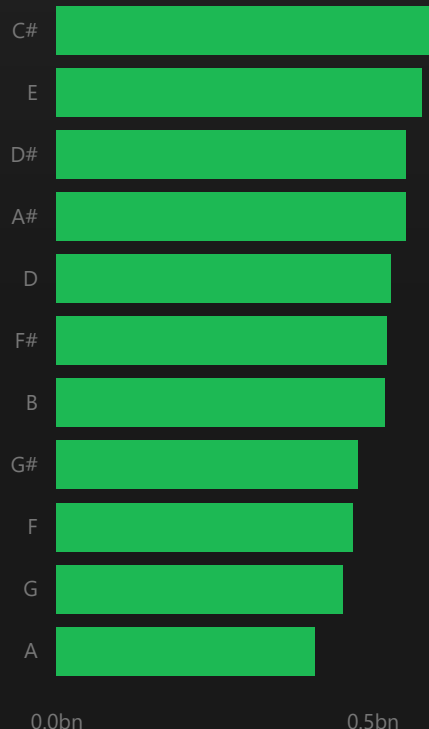
### Average of Streams by BPM



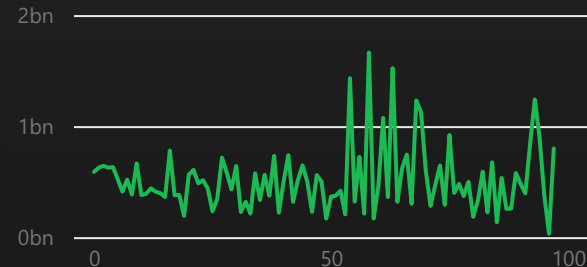
### Average of Streams by Mode



### Average of Streams by Key



### Average of Streams by Acousticness Percentages



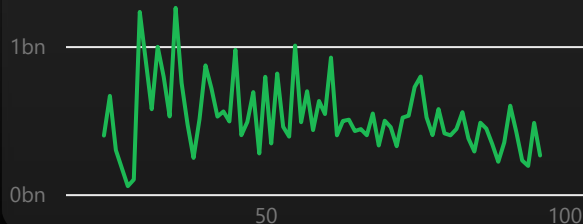
Analyzing the charts, it becomes evident that the top three BPMs, in descending order, are 171, 179, and 186. In terms of the musical mode, while both major and minor are notable, major mode tends to be more popular. Furthermore, a comprehensive examination of the key reveals that the top three selections are C#, E, and D#. Additionally, when it comes to the acousticness attribute, the top three percentages are 58, 63, and 54. These findings provide valuable insights into the musical preferences of listeners and can inform decisions in songwriting and production.

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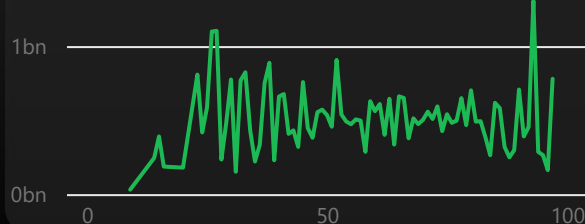
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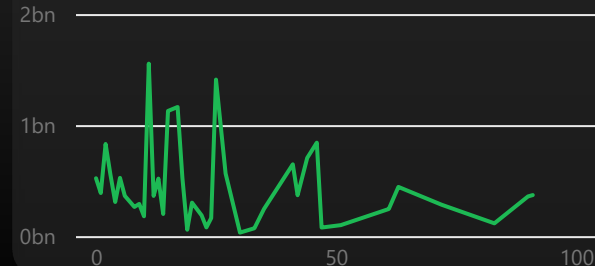
Average of streams by danceability\_%



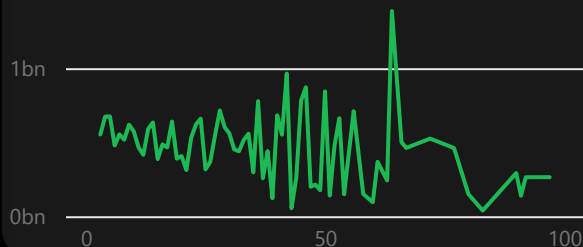
Average of streams by energy\_%



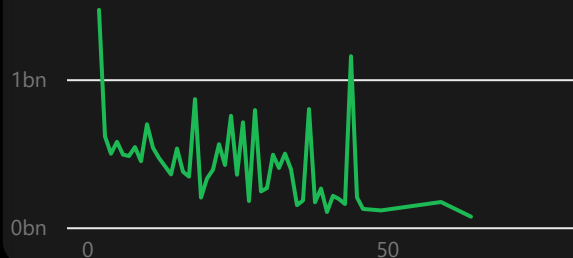
Average of streams by instrumentalness\_%



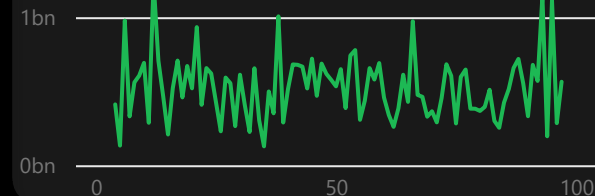
Average of streams by liveness\_%



Average of streams by speechiness\_%



Average of streams by valence\_%



By examining these graphs, we can determine the optimal percentage ranges for each factor that lead to the highest average streams.

# FULL Gallery

2023

2023

Upon a careful analysis of the data and its evolving trends year by year, it becomes apparent that in our quest to assist a musician in creating a new popular song, the most recent year, 2023, holds significant importance. Notably, we observe dramatic shifts in various charts during this period. Consequently, we opt for the key 'D,' a choice bolstered by the fact that the majority of highly popular songs are unveiled in February, typically around the middle of the month. We are presented with two strategic options: either ride the wave and compete during February's music boom or bide our time for a strategic release when listeners are eager for fresh content.

In terms of musical mode, the preference leans toward 'minor' for this key. The ideal BPM settles at 122. When it comes to acousticness, a 27% threshold appears to be the most favorable. For danceability percentages, we have two promising options, with 81% followed by 51% being our top contenders. Energy levels suggest two competitive ranges as well, with 63% and 48%. Instrumentalness leans toward the absence of instrumentals at 0%. Liveness registers at approximately 9%, while speechiness tends to thrive at 33%. Lastly, valence percentages present two equally compelling choices, with 50% and 56% at the forefront. It's worth noting that these insights, while remarkable, represent just the beginning of the creative journey. With the guidance of a music production expert and further experimentation with filters, the potential for even more refined results is within reach.

