

# ANUDIP FOUNDATION



## A PROJECT REPORT ON SPOTIFY INSIGHTS DASHBOARD

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### INTRODUCTION

The Spotify Power BI Dashboard is a data visualization project designed to analyse and interpret Spotify streaming data, offering valuable insights into music trends and audience preferences. It highlights key metrics such as top-streamed tracks, artist contributions, playlist impact, and changes in streaming behaviour over time. By presenting this data through interactive charts, graphs, and filters, the dashboard enables users to explore patterns and correlations between track attributes like dance ability and acousticness with streaming performance. This project aims to bridge the gap between raw data and actionable insights, benefiting artists, producers, and researchers in understanding the evolving dynamics of music consumption.

### OBJECTIVE

The primary objective of this project is to visualize Spotify track and playlist data effectively to identify trends in streaming, assess the impact of songs and artists, and explore the evolving nature of music consumption.

- The most streamed tracks of all time.
- Streaming activity correlate with track attributes like dance ability and acousticness.

- Trends emerge over time in music consumption.

## METHODOLOGY

- **Data Collection:** Extracted Spotify streaming data including metrics like track names, artists, acousticness, danceability, and total streams.
- **Data Cleaning:** Ensured the data was accurate, removing duplicates and outliers.
- **Dashboard Design:**
  - **KPIs:** Highlighted average streams, total streams, and top tracks.
  - **Visualizations:** Utilized bar charts, pie charts, and line graphs to showcase trends.
  - **Filters:** Integrated filters for date range, track names, and artists for user interactivity.
- **Analysis:** Explored key metrics like track streams by year, average streams per track, and the contribution of playlists.

## KEY FINDINGS

### 1. Top Tracks:

- *Blinding Lights* emerged as the most streamed track with over 4 billion streams.
- Other popular tracks include *Shape of You* and *Someone You Loved*.

### 2. Streaming Trends Over Time:

- Significant growth in streaming activity post-2000, with peak streaming observed in the 2020s.
- The highest streaming activity was in 2023, reaching over 3.7 billion streams for top tracks.

### 3. Track Attributes:

- Average dance ability of 50% and liveness of 9% were observed across the dataset.
- Acoustic tracks had minimal contributions compared to danceable ones.

### 4. Playlist Contribution:

- Playlists play a crucial role, with certain tracks appearing in thousands of playlists, amplifying their popularity.

### 5. Comparison Metrics:

- The "Top song vs AVG" metric highlighted that certain tracks performed over 200% better than the average.

## SOFTWARE AND HARDWARE REQUIREMENTS

- **Software:**

- Microsoft Power BI for visualization.
- Data preparation tools like Excel.

- **Hardware:**

- A computer with at least 8 GB of RAM and a modern processor for smooth Power BI operations.
- Storage for data files, ideally 256 GB SSD

## IMPLICATIONS

- **For Artists and Labels:** Insights into the popularity of tracks can inform marketing strategies and playlist placements.
- **For Spotify Users:** Helps users discover popular music trends.
- **For Researchers:** Provides a case study on streaming trends and the impact of playlists on song popularity.

## RESULT

The result of the project demonstrates a comprehensive understanding of Spotify streaming trends through interactive visualizations.

1. **Most Streamed Tracks:**

- "Blinding Lights" tops the list with over 4 billion streams, followed by "Shape of You" and "Someone You Loved."

2. **Trends in Streaming:**

- Streaming activity has seen exponential growth since 2000, peaking in the 2020s with the highest activity observed in 2023.

### 3. Track Attributes and Performance:

- Danceable tracks consistently outperform acoustic tracks, with an average dance ability of 50%.
- Tracks with higher playlist presence exhibit significantly better performance.

### 4. Playlist Influence:

- Playlists amplify the reach of tracks, making them vital to an artist's success on the platform.



Fig 1: Spotify Dashboard

## CONCLUSION

This Spotify Power BI dashboard highlights the evolving nature of music streaming, emphasizing the importance of track attributes and playlists in shaping listener preferences. The project demonstrates the utility of Power BI for transforming raw data into actionable insights, making it an essential tool for stakeholders in the music industry.

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