



Spotify®

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# Table of contents

**01** What is Spotify?

**02** Data Analysis

**03** Final Recommendations

# 01

## Overview

- Spotify
- Datasets
- Industry Overview
- Porter's Five Forces
- Business Objectives
- Business Strategy

# What is Spotify?

- Streaming Service
  - ◆ Music
  - ◆ Podcasts
- Used in over 180 countries
  - ◆ MacOs, Windows, Amazon Echo, Google Nest
- Spotify Wrapped
- Spotify DJ
  - ◆ Limitations for smaller creators



# Datasets

- Spotify track list
  - ◆ Audio features, tracks, genre, popularity
  - ◆ Comparing ^
- Spotify user behavior set
  - ◆ Music and podcast preferences
  - ◆ Age and gender of users
  - ◆ User preferences



# Industry Overview

## Music Streaming Industry



- Delivering data to a streamer in small amounts, so that the users can get pre-buffered music.
- Main competitors:
  - Apple
  - Alphabet
  - Amazon
  - Meta
  - ByteDance
- Different types of marketing through digital media:
  - Owned media → Utilizing their social media to promote their new features
  - Paid media → emails
  - Earned media → word-of-mouth

# Porter's Five Forces

## Competitive Rivals

**High**

There are several competitors in the industry, such as Apple, Meta, Amazon, and others.

## Potential for New Entrants

**Low**

The industry is saturated with different companies offering various types of services.

## Supplier Power

**High**

The artists uploading through these music streaming platforms have a big influence on the customers.

## Customer Power

**Medium**

While there is a large consumer base, consumers can always easily switch out products.

## Threats of Substitutes

**High**

Several platforms that offer similar services, especially with many competitors with their in-house ecosystem advantage.

# Business Objectives

- Utilize more metrics to analyze users' behaviors to improve content recommended to users.
- With a more accurate algorithm, Spotify will encourage more small artists to upload through their platform.



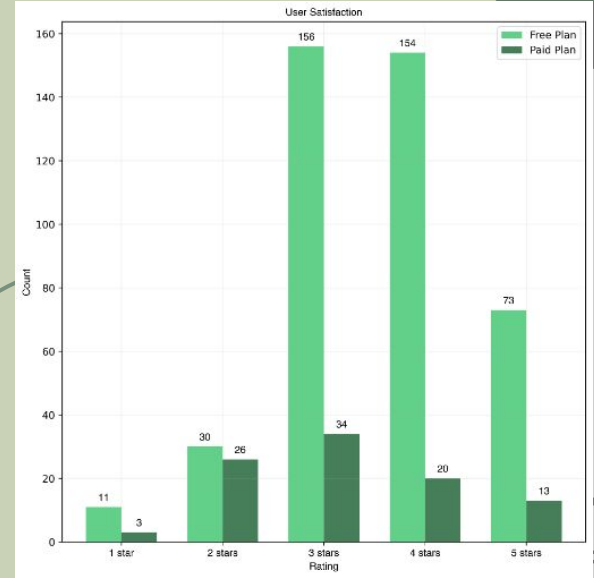
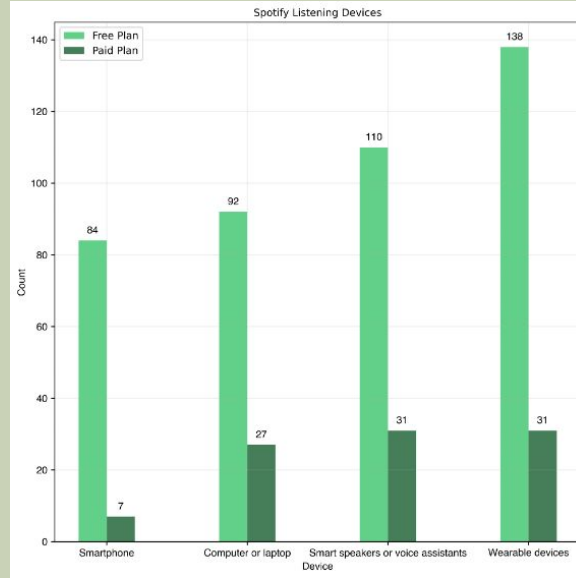
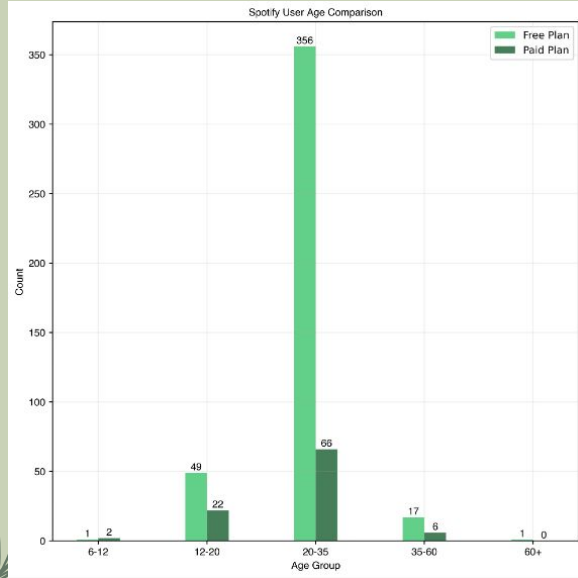
# Business Strategy

- Spotify earns revenue off non-subscribed users through displaying ads from advertisement companies.
- Spotify also provide a variety of subscription plans and offers discount for family, duo, and student plans to attract new users and potential customers.



# 02 Data Analysis

# Understanding our users



Target age group 20 - 35 years

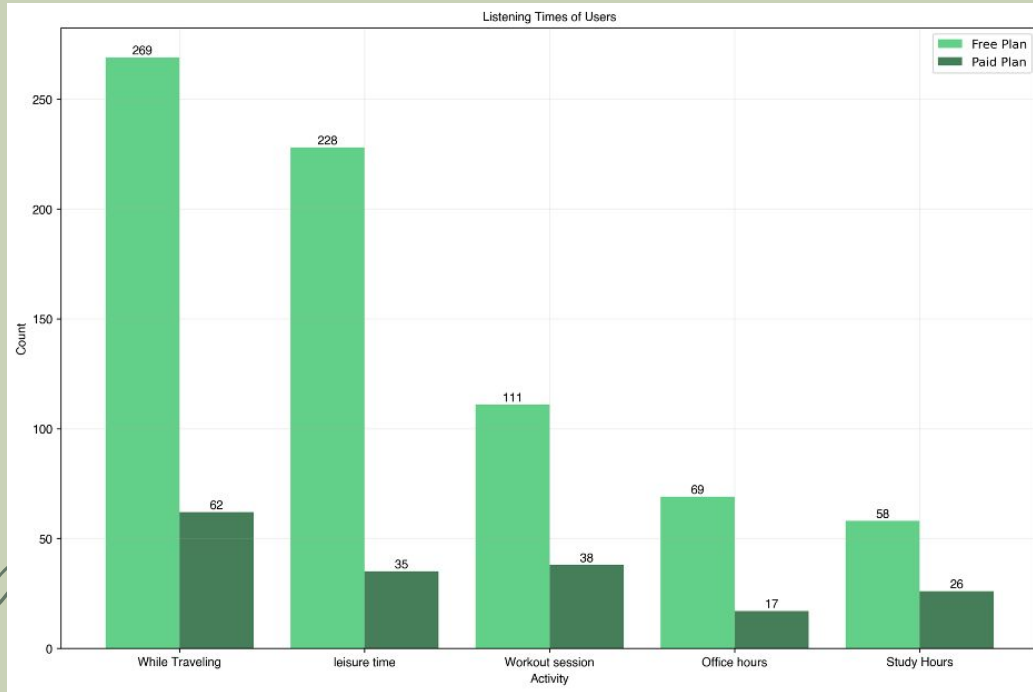
Listening on Wearable devices (watches)

Satisfaction Mostly satisfied, with a somewhat normal distribution around the median

About the same pattern between paying and non-paying members

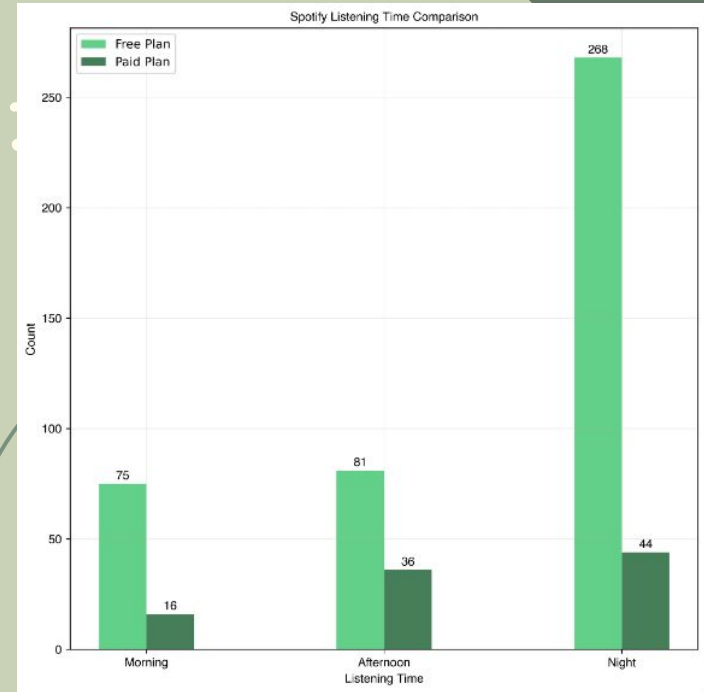
For the most part, we have a tech-savvy young-adult userbase, with many opportunities for marketing

# When do users listen?



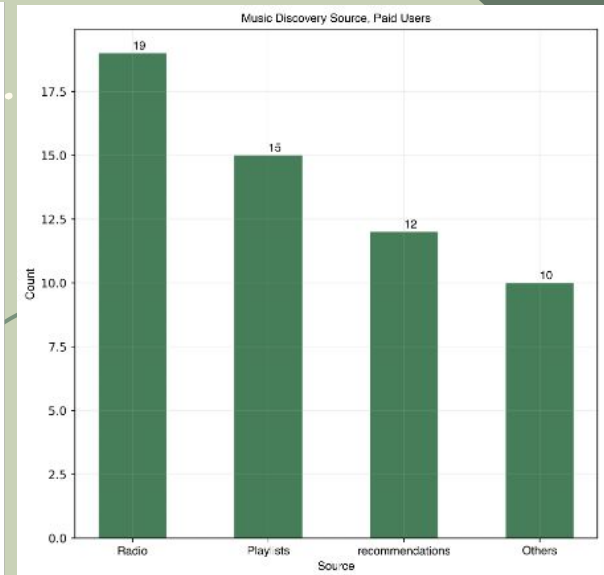
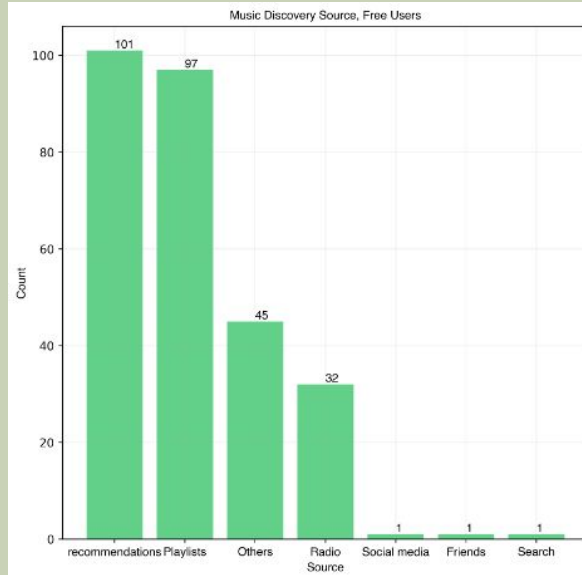
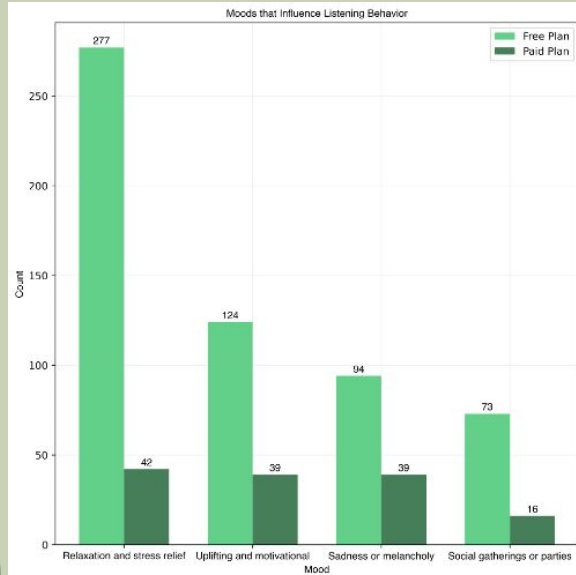
Most users are listening at **night** for **relaxation** and stress relief

Most users prefer **uplifting** music for **positivity** and relaxation:



People listen to music while:  
Traveling, Relaxing, or Working out

# How do users find new music?



Users are most likely to be listening while feeling relaxed or motivated and to find these through recommendations and playlists

Create playlists for different moods and activities (happy/sad, workout, dance)  
Utilize these playlists for artist visibility  
Influencer marketing

# Marketing Strategies

## Market in popular times

- Premium deals (sales, etc)
- Encourage listening at other times
- Playlist for each time of day

## Market on popular platforms

- Influencer marketing
- Partner with YouTubers & Streamers
- Athletes

## Boost up-and-coming artists & influencers

- New artists with low listeners
- Smaller niche influencers

- Push deals and **sales** at night
- Create **playlists for moods** and activities(sad, happy, workout, study)
- Encourage new premium subscribers

## Influencer curated playlists

- Sponsor streamers & **youtubers**
- Marketing with **Athletes**

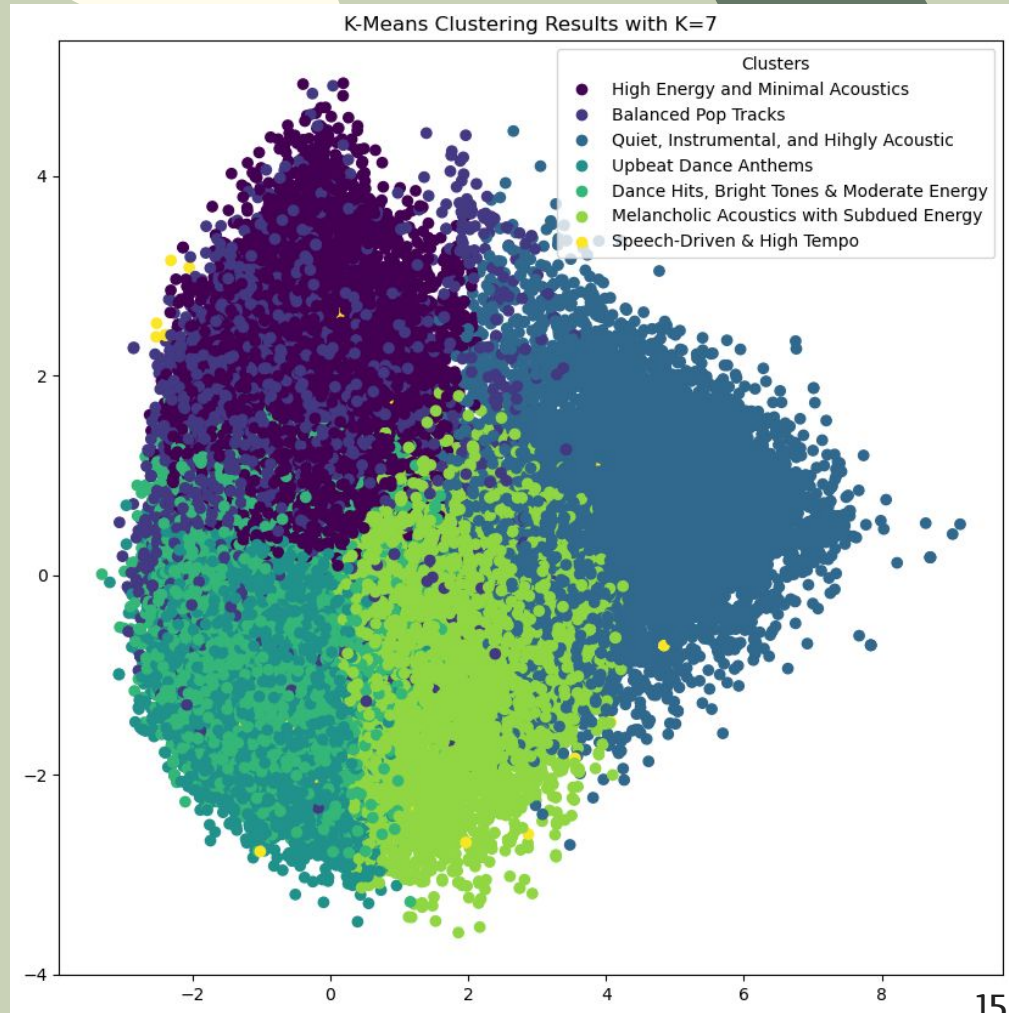
## 'Bedroom pop' & **small artists**

- Work with **niche** influencers to expand the reach of marketing efforts

# Clustering

## Fine-Tune Algorithm

- 7 clusters for tracks based on a variety of audio features including:
  - Danceability
  - Energy
  - Acousticness
  - Loudness
  - Speechiness
  - Instrumentalness
  - Liveness
  - Valence
  - Tempo



# Cluster Variation



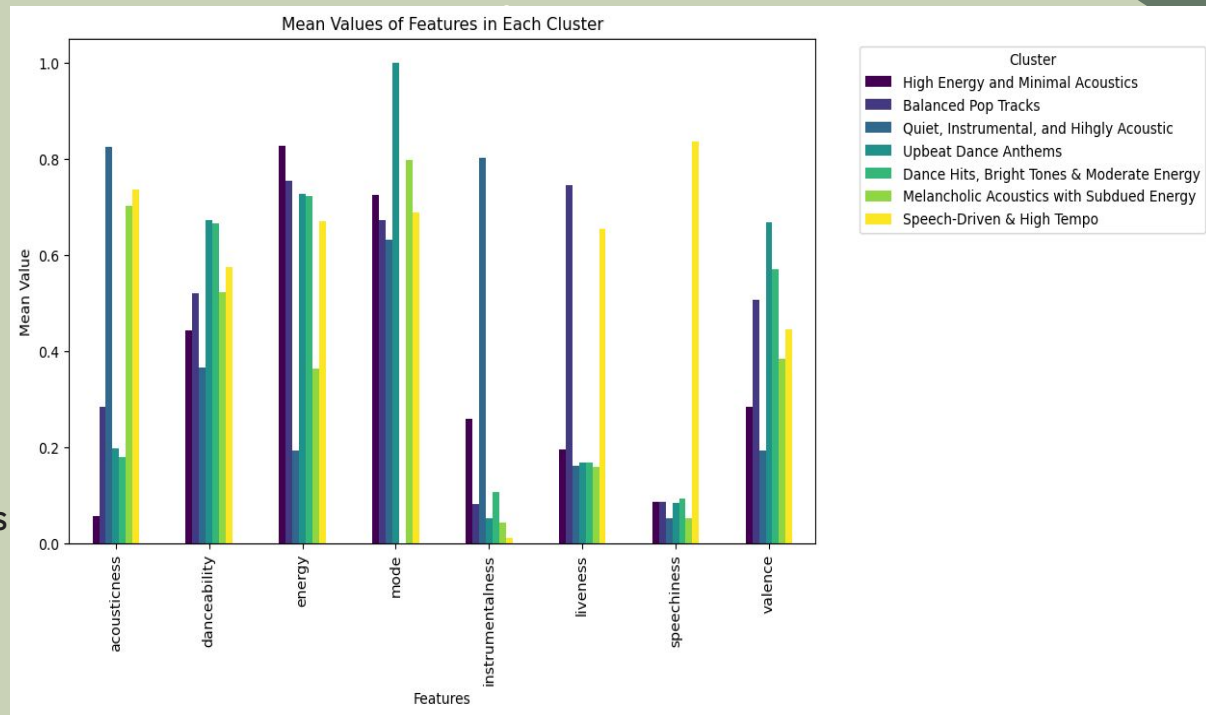
Clusters named after most prominent features



Means within each cluster suggest the type of songs expected

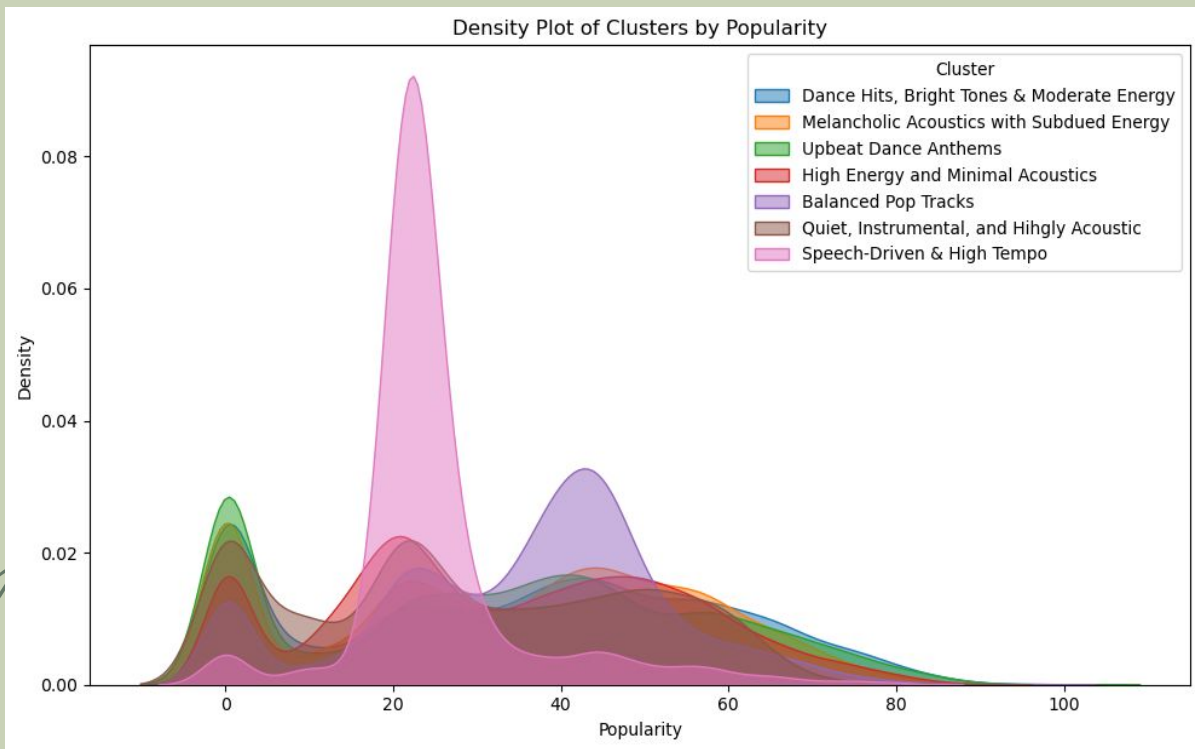


Clear variation in means suggest appropriate clustering





# Popularity Distribution



Assessing the distribution of popularity in each cluster identifies if tracks within a cluster are pushing more recommendations aligning with a certain range of popularity scores or if less common tracks are also being recommended to encourage the discovery of new music.



# 03 Recommendations

# Advanced User Data Analytics

## Behavioral Insights:

- Track detailed user behaviors, such as:
  - Skipped tracks vs. full plays.
  - Frequency of adding tracks to playlists or favorites.
  - Peak listening times and context (e.g., workout, study, or relaxation playlists).
- Identify patterns for niche preferences, allowing recommendations to highlight lesser-known creators that align with users' tastes.

## Genre and Mood Mapping:

- Use AI to map user preferences for specific moods, genres, or tempos and match them with smaller creators producing similar tracks.





# Promoting Lesser-Known Creators

## **Algorithmic Adjustments:**

- Set exposure quotas for tracks from smaller creators in curated playlists like Discover Weekly.
- Introduce a feature that highlights trending tracks with low initial exposure.
- Regularly rotate highlighted artists to increase diversity in user libraries.

## **User Engagement Features:**

- Create an explore mode which exclusively recommends tracks from new or less popular creators.
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# Thank you!

Questions?