



Spotify Music Trends Analysis

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Introduction

Music consumption has evolved rapidly over the past decade, driven by digital streaming platforms like Spotify. These platforms not only shape listening habits but also generate vast amounts of data that can be used to analyze trends in musical style, artist popularity, and listener preferences.

This report explores a curated Spotify excel dataset containing information on song titles, artists, genres, release years, and key audio features such as danceability, energy, tempo, duration, and popularity. Using Excel-based analysis techniques—including Pivot Tables, sorting, and charts—this report aims to answer the following key questions:

1. Music Trends Over Time

- How has song popularity changed over the years?
- Are songs getting faster or slower over time?

2. Artist and Genre-Based Analysis

- Which artist appears most frequently in the dataset?
- What are the top genres by average popularity?
- Which genre is most energetic?

3. Best Songs by Feature

- What are the top 10 most danceable songs?
- What is the most common tempo range?
- Which year had the longest average song duration?

By identifying patterns across genres and time, this analysis provides insights into how music has adapted to changing cultural and technological trends. All visualizations and findings are derived directly from Excel-based Pivot Tables and charts created from the dataset.

1. Music Trends Over Time

1.1 How has song popularity changed over the years?

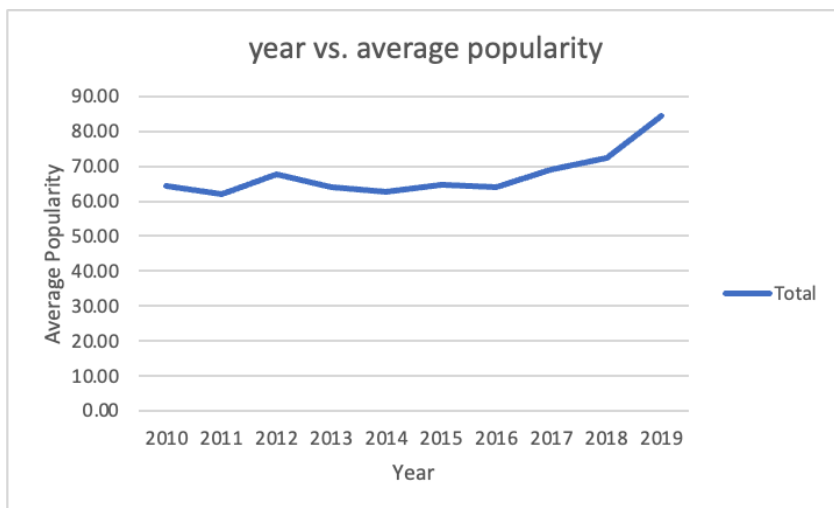
To understand shifts in mainstream appeal, the average popularity score was analyzed across different years. The data reveals a noticeable trend: from 2010 to 2017, average popularity remained relatively stable in the 60s range. However, in 2019, there was a sharp increase, with the average popularity reaching a peak of **84.35**—a significant leap from **72.44** in 2018.

This spike may reflect the influence of global streaming algorithms, viral content on social platforms, and the rise of artists with wide-reaching audiences. The trend suggests that newer songs have become more optimized for listener engagement and mass appeal.

Pivot Table: *Average Popularity by Year*

Year	Average of popularity
2010	64.25
2011	61.87
2012	67.77
2013	63.99
2014	62.71
2015	64.57
2016	64.16
2017	69.02
2018	72.44
2019	84.35
Grand Total	66.52

Line Chart: *“Average Song Popularity Over Time”*



1.2 Are songs getting faster or slower over time?

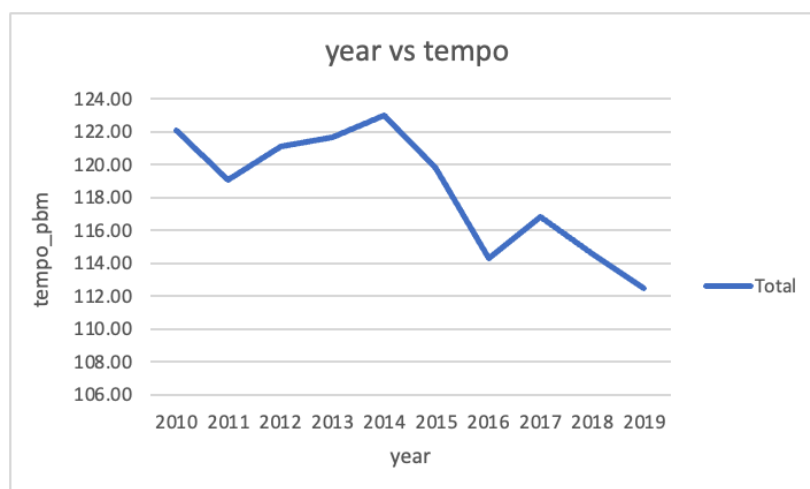
Tempo trends were analyzed by calculating the average BPM (beats per minute) of songs over the years. The findings indicate that songs are generally **slowing down** over time. The dataset shows a **peak in average tempo in 2014 at 123 BPM**, after which tempo values have gradually declined in the following years.

This slowing trend may be influenced by the growing popularity of genres such as R&B, lo-fi, and alternative pop, which typically favor more relaxed tempos compared to earlier EDM or upbeat pop styles.

Pivot Table: *Average Tempo (BPM) by Year*

Year	Average of tempo_bpm
2010	122.06
2011	119.08
2012	121.09
2013	121.68
2014	123.00
2015	119.77
2016	114.33
2017	116.80
2018	114.59
2019	112.45
Grand Total	118.55

Line Chart: *“Average Song Tempo Over Time”*



2. Artist and Genre-Based Analysis

2.1 Which artist appears most frequently in the dataset (2010–2019)?

Analyzing the frequency of artist appearances from 2010 to 2019 highlights which musicians maintained a consistent presence in the mainstream music scene during the decade.

Katy Perry leads with **17 appearances**, followed closely by **Justin Bieber (16)**, **Maroon 5 (15)**, **Rihanna (15)**, **Lady Gaga (14)**, and **Bruno Mars (13)**. These artists represent a mix of pop, R&B, and electronic-influenced genres, underscoring the dominance of upbeat and broadly appealing music throughout the decade.

Pivot Table: *Artist Count (2010–2019)*

Artists	 Count of title
Katy Perry	17
Justin Bieber	16
Maroon 5	15
Rihanna	15
Lady Gaga	14
Bruno Mars	13

Insight:

The data confirms that pop icons like Katy Perry and Justin Bieber had consistent mainstream success, contributing heavily to the sound of the 2010s.

2.2 What are the top 6 genres by average popularity?

To identify which genres are most favored by listeners, the dataset was sorted by average popularity score across all genres. The top six genres by popularity are:

1. **Escape Room**
2. **Brostep**
3. **Alternative R&B**
4. **Irish Singer-Songwriter**

5. Danish Pop

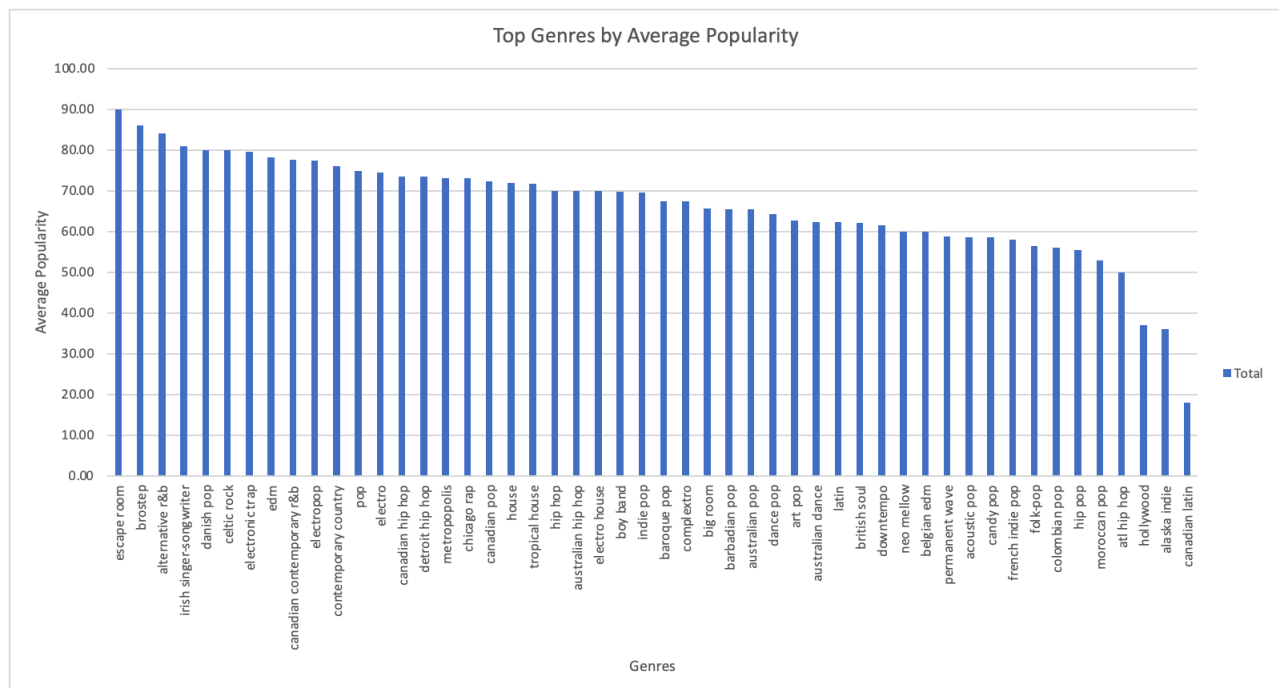
6. Celtic Rock

These genres, though some niche or regional, demonstrate that highly popular tracks often come from experimental or culturally rich backgrounds. This may reflect shifts in streaming behaviors that favor unique soundscapes and genre-blending.

Pivot Table: *Average Popularity by Genre*

Genre	Average of popularity
escape room	90.00
brostep	86.00
alternative r&b	84.00
irish singer-songwriter	81.00
danish pop	80.00
celtic rock	80.00

Horizontal Bar Chart: *“Top Genres by Average Popularity”*



Insight:

The prominence of niche or hybrid genres suggests that modern listeners are engaging with more diverse and exploratory music styles than in previous decades.


2.3 Which genre is most energetic?

Energy levels—measured on a scale from 0 to 1—reveal how intense or lively songs tend to be within each genre. The six most energetic genres in the dataset are:

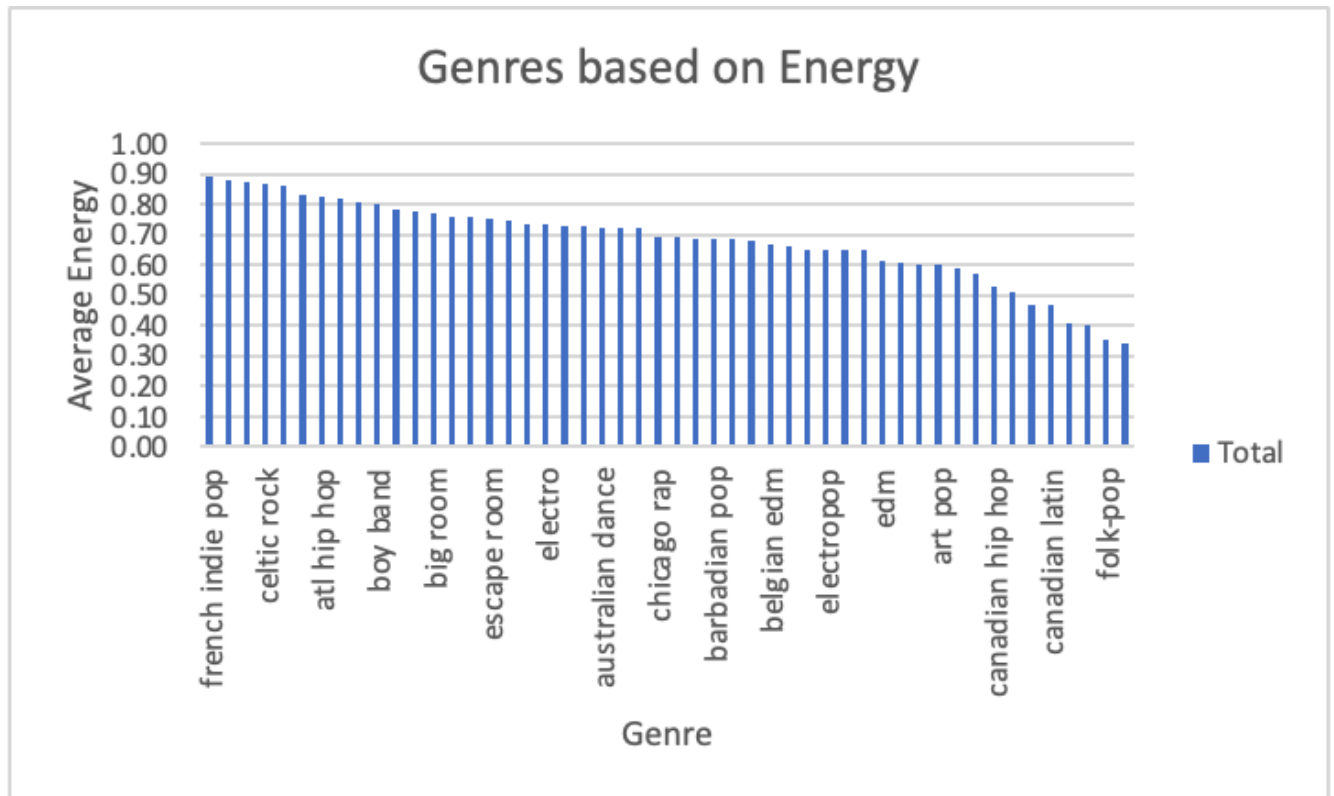
1. **French Indie Pop**
2. **Electro House**
3. **Indie Pop**
4. **Celtic Rock**
5. **Candy Pop**
6. **Colombian Pop**

These genres are characterized by high tempo, dense instrumentation, and dynamic production—features often associated with high-energy tracks suitable for dance, festivals, or workout settings.

Pivot Table: *Average Energy by Genre*

Genre	 Average of energy
french indie pop	0.89
electro house	0.88
indie pop	0.88
celtic rock	0.87
candy pop	0.86
colombian pop	0.83

Bar Chart: *“Top 6 Most Energetic Genres”*



Insight:

The presence of multiple international and electronic-influenced genres emphasizes the global and rhythm-driven nature of high-energy music in recent years.

3. Best Songs by Feature

3.1 What are the top 10 most danceable songs?

Danceability is a key audio feature that reflects how suitable a track is for dancing, based on tempo, rhythm stability, beat strength, and overall groove. The top 10 most danceable songs in the dataset, sorted in descending order, are:

1. **Drip (feat. Migos)**
2. **Bad Liar**
3. **Anaconda**

Sorted Table: *Top 10 Songs by Danceability*

1	title
2	Drip (feat. Migos)
3	Bad Liar
4	Anaconda
5	Come Get It Bae
6	Me Too
7	WTF (Where They From)
8	Bodak Yellow
9	Lemon
10	Fancy
11	Dangerous

Insight:

These tracks combine strong rhythmic patterns with consistent tempo and energetic beats, making them highly suitable for clubs, parties, and playlists centered on movement.

3.2 What are the common tempo ranges?

Tempo was categorized into two main groups:

- **Slow (<100 BPM)**
- **Fast (≥ 100 BPM)**

The distribution showed that:

- **Fast tempos** dominate the dataset with **475 songs**
- **Slow tempos** account for **128 songs**

Pivot Table: *Tempo Category Counts*

Binning	Count of tempo_bpm
Fast	475
Slow	128
Grand Total	603

Insight:

The clear dominance of fast-tempo songs reflects modern preferences for energetic and upbeat tracks—especially in pop, electronic, and hip hop genres.

3.3 Which year had the longest average song duration?

Average song duration was calculated by year to determine which period favored longer compositions. The analysis revealed that **2011 had the longest average song duration**, with songs averaging **242.6 seconds (approximately 4 minutes and 2 seconds)**.

Pivot Table: *Average Duration (s) by Year*

Year	Average of duration_s
2011	242.6
2013	234.5
2010	229.8
2012	224.4
2014	224.2
2015	223.4
2017	222.2
2016	220.2
2018	217.2
2019	200.6
Grand Total	224.7

Insight:

Longer average durations in earlier years may reflect less emphasis on short-form content, whereas newer releases are increasingly tailored to streaming and social media consumption behaviors that favor brevity.

Conclusion

This analysis of Spotify's music dataset reveals clear and interesting trends shaping the modern music landscape. Over the years, song popularity has shown notable growth, especially peaking in 2019, suggesting an evolving listener preference and the impact of streaming platforms on music success. Meanwhile, tempos have generally slowed down since their 2014 peak, reflecting a shift toward more relaxed or diverse rhythmic styles.

Artist and genre analysis highlights dominant figures like Katy Perry and Justin Bieber, who maintained consistent visibility through the 2010s. The popularity of niche and hybrid genres such as Escape Room and Alternative R&B also points to an increasingly eclectic listener base, eager for diverse and experimental sounds. Energy levels are highest in genres with electronic and global influences, underscoring the internationalization of upbeat music trends.

Examining individual track features shows that highly danceable songs are predominantly fast-paced and rhythmically engaging, with a clear preference in the dataset for fast-tempo tracks. The longest average song durations were observed around 2011, before the recent trend toward shorter, streaming-friendly formats.

Overall, this report demonstrates how combining audio features with metadata allows for a richer understanding of evolving music trends. These insights can guide artists, producers, and marketers in tailoring music and campaigns to better connect with today's dynamic audience.
