Question 2

Vincent Reinshagen[a]

[a]*Stellenbosch University, Stellenbosch, South Africa*

Abstract

The music industry has experienced profound changes over the last two decades with the emergence of music streaming services, fundamentally altering its business landscape. This study investigates the impact of these transformations on renowned bands such as Metallica and Coldplay. Utilizing a Spotify dataset, I analyze their song metrics and compare their performance dynamics with those of other artists, aiming to discern trends and adaptations amidst this evolving industry landscape.

1. Introduction

The music industry has undergone significant transformations over the past two decades since the advent of music streaming services, reshaping its entire business model. To examine whether these changes have impacted established bands like Metallica and Coldplay, I will analyze their songs in relation to a Spotify dataset and compare their performance with that of other artists.

While the dataset primarily comprises song data, one hypothesis to explore is the perfect correlation between a song's success and the album's popularity. If validated, focusing on album-level analysis could greatly streamline data processing. The following box plot illustrates the popularity distribution of songs per album.

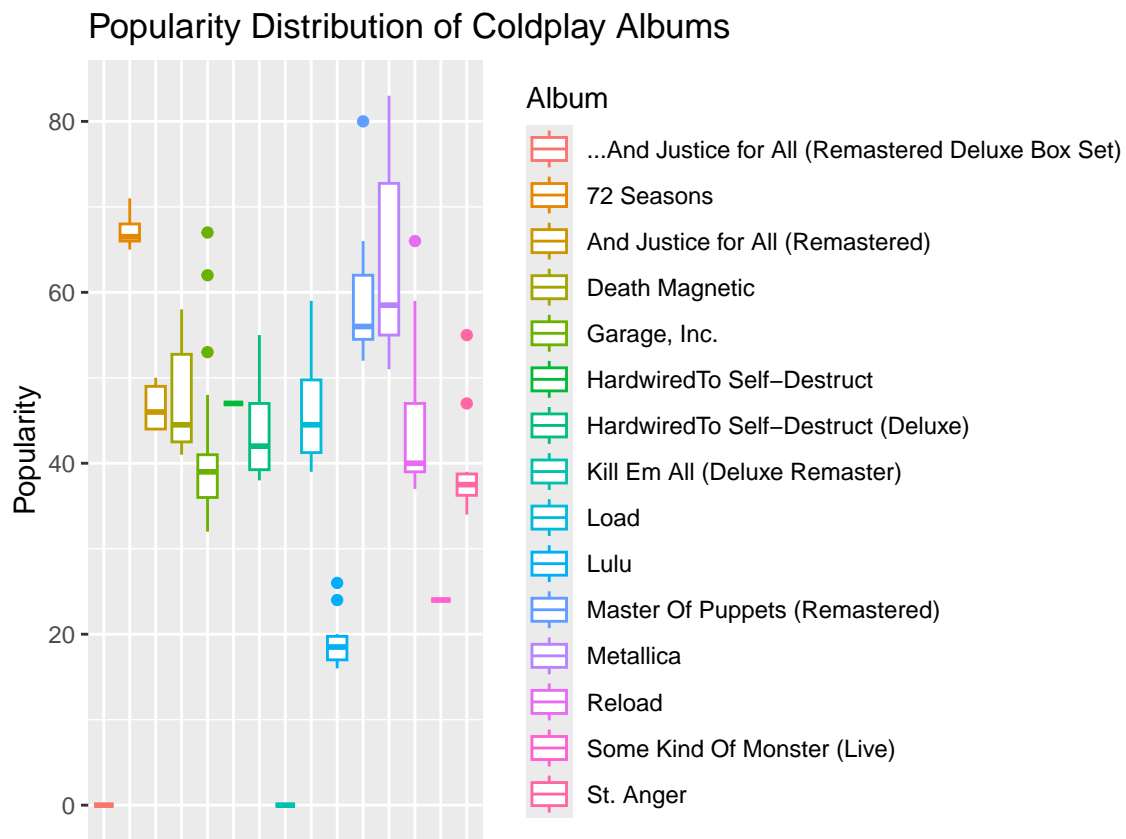## Popularity Distribution of Coldplay Albums

Figure 1.1: Box Plot Popularity per Album

The popularity of songs per album shows considerable variability, indicating that analyzing at the album level may not yield conclusive insights.

Both bands have extensive histories, but it's intriguing to assess their current activity. The following plot illustrates the number of song releases per band over time.
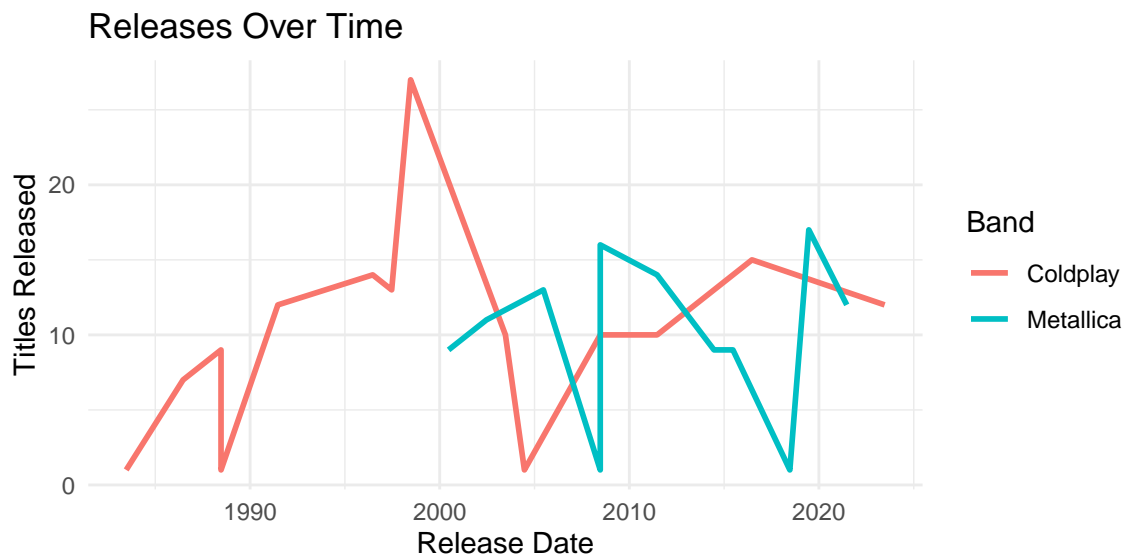
Figure 1.2: Releases over Time

The plot highlights two key observations. Firstly, Metallica's data is missing pre-2000, limiting comparisons to the period post-2000. Secondly, it reveals that since 2000, Coldplay has consistently released songs more regularly than Metallica.

In recent years, a hypothesis has emerged that songs have become shorter for two reasons. Firstly, algorithms purportedly favor shorter songs, and secondly, the rise of social media values brief, impactful segments for video content. To test this theory and its applicability to Coldplay and Metallica, I will plot the song durations below.
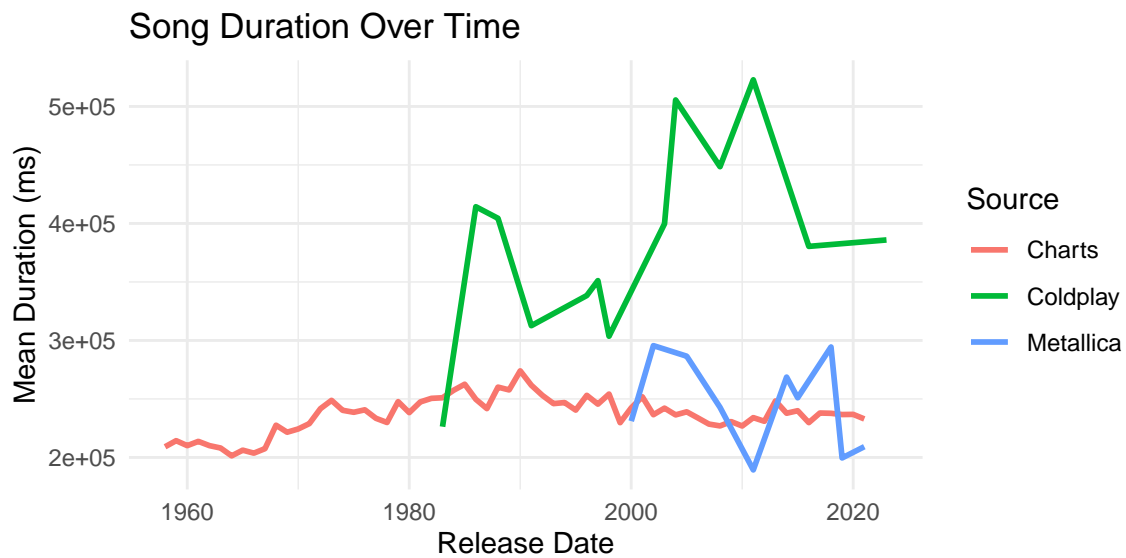
Figure 1.3: Song Duration over Time

It is evident that since the 1990s, there has been a noticeable downward trend in the average song length across all Spotify songs. Although the sample size is limited, Metallica shows a slight decreasing trend in song duration. Conversely, Coldplay exhibits a clear upward trend in song duration over the same period.