

# **A Comparative Analysis of Covid-19's Impact on Movies**

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**Abstract** - The COVID-19 pandemic significantly disrupted the global film industry, prompting this comprehensive analysis of its impact using data from The Movie Database (TMDB) between 2016 and 2023. This study examines key metrics including movie release patterns, genre popularity shifts, audience ratings, and content trends across pre-pandemic, pandemic, and post-pandemic periods. Findings reveal a dramatic 14% decrease in movie releases during 2020, followed by a strong recovery with record highs of 20,480 releases in 2022. The research identifies notable shifts in release scheduling, with post-pandemic periods showing increased activity in September and October while traditional spring releases declined. Genre analysis indicates resilience in drama and comedy, while horror saw unexpected growth from 1,143 to 1,295 releases post-pandemic. The study also observes changes in language distribution, with English-language productions decreasing slightly while Spanish and Korean content increased. Additionally, audience ratings remained relatively stable across genres throughout the period, suggesting consistent quality despite industry disruptions. These findings provide valuable insights into the film industry's adaptability and evolution in response to global crises.

**Index Terms** - COVID 19 impact analysis, film industry trends, movie release patterns, genre distribution, audience rating analytics

## I. INTRODUCTION

The COVID-19 pandemic had a major impact on many industries, including the global film industry. Movie production stopped suddenly, release dates were delayed, and audience preferences changed. This study looks at how the pandemic affected the movie industry by analyzing data from The Movie Database (TMDB) between 2016 and 2023. It focuses on key areas like the number of movie releases, changes in popular genres, audience rating, and trends in adult content. The goal is to identify patterns and trends during and after the pandemic, offering insights into how the film industry adapted and how audience tastes evolved in the post-pandemic world.

## II. HYPOTHESES

*H1: The number of movie releases in 2020 will be significantly lower than the average number of releases in the preceding five years.*

*H2: The number of movie releases will gradually increase from 2021 onwards, but may not fully recover to pre-pandemic levels in the short term.*

*H3: During the pandemic, there will be a significant increase in the popularity of escapist genres like action and fantasy compared to pre-pandemic levels.*

*H4: Post-pandemic, there will be a significant increase in the popularity of genres like drama and thriller compared to pandemic levels.*

*H5: During the pandemic, there will be a significant increase in the consumption of adult content compared to pre-pandemic levels.*

*H6: Post-pandemic, there will be a shift in adult content consumption trends, with a potential decline in certain segments.*

## III. Methodology

This study aims to analyze the impact of COVID-19 on the global movie industry, focusing on movie releases, genres, popularity, and audience engagement during the years 2016–2023. Both quantitative and qualitative data were utilized to explore how the pandemic influenced the industry and consumer preferences. Data for this study were obtained from **The Movie Database (TMDB)** using its API. A Python bot was developed to automate data extraction and prepare datasets in CSV format.

The scope of this analysis is global, incorporating data from multiple countries without focusing on a specific region. As the film industry operates across borders, this approach allows for a broader understanding of the pandemic's worldwide effects. Data preprocessing steps included cleaning for missing values, removing outliers, and normalizing specific attributes for consistency. The cleaned datasets were imported into **RStudio**, where statistical analyses and visualizations were conducted using R scripts.

#### IV. Descriptive Analysis

This section provides an overview of the data used to analyze the impact of COVID-19 on the global movie industry from 2016 to 2023.

- **Table 1:** Demonstrates the descriptive analysis for ratings across the years, showing trends in audience engagement and rating distributions before and after the pandemic.
- **Table 2:** Highlights the annual percentage change in the total number of movie releases between 2016 and 2023, focusing on production fluctuations during the pandemic.
- **Table 3:** Examines the percentage change in adult movie releases during the same period, reflecting how specific movie categories were affected.
- **Table 4:** Provides descriptive statistics for ratings segmented by genres, identifying shifts in audience preferences across different movie types over the years.

These tables collectively illustrate the pandemic's impact on movie ratings, release trends, and genre-specific audience engagement.

|      | n    | mean | sd   | median | trimmed mean | mad  | min  | max  | Q1   | Q3   | skewness | kurtosis | se   |
|------|------|------|------|--------|--------------|------|------|------|------|------|----------|----------|------|
| 2016 | 2380 | 5.89 | 1.45 | 6.10   | 6.06         | 1.09 | 2.73 | 8.65 | 5.30 | 6.80 | -0.19    | 3.39     | .029 |
| 2017 | 2380 | 6.04 | 1.33 | 6.20   | 6.19         | 1.03 | 2.60 | 9.80 | 5.50 | 6.87 | 0.03     | 3.60     | .027 |
| 2018 | 2380 | 6.02 | 1.58 | 6.24   | 6.29         | 1.10 | 2.60 | 8.60 | 5.50 | 6.90 | 0.17     | 3.73     | .032 |
| 2019 | 2380 | 6.11 | 1.59 | 6.40   | 6.39         | 1.03 | 2.50 | 8.80 | 5.62 | 7.0  | -0.05    | 3.73     | .032 |
| 2020 | 2380 | 5.74 | 2.08 | 6.20   | 6.34         | 1.18 | 3.0  | 9.10 | 5.35 | 7.0  | 0.02     | 3.76     | .042 |
| 2021 | 2380 | 5.87 | 1.96 | 6.30   | 6.45         | 1.03 | 1.80 | 9.60 | 5.50 | 7.0  | 0.27     | 3.89     | .040 |
| 2022 | 2380 | 5.92 | 1.84 | 6.30   | 6.37         | 1.03 | 2.90 | 9.44 | 5.50 | 7.0  | 0.22     | 3.90     | .037 |
| 2023 | 2380 | 5.93 | 1.88 | 6.30   | 6.38         | 1.04 | 2.60 | 8.90 | 5.50 | 7.0  | 0.01     | 3.67     | .038 |

Table 1. Descriptive Analysis for Ratings over the Years

|            | n | mean | sd   | median | mad  | min    | max   | Q1    | Q3   | skewness | kurtosis |
|------------|---|------|------|--------|------|--------|-------|-------|------|----------|----------|
| Percentage | 8 | 1.38 | 8.60 | 0.81   | 3.46 | -14.38 | 15.53 | -1.17 | 4.16 | -0.18    | 3.10     |

Table 2. Number of Released Movie Change Between years 2016-2023

|            | n | mean | sd   | median | mad  | min    | max  | Q1    | Q3   | skewness | kurtosis |
|------------|---|------|------|--------|------|--------|------|-------|------|----------|----------|
| Percentage | 8 | 0.23 | 9.51 | 1.31   | 2.99 | -21.27 | 9.26 | -0.22 | 4.61 | -1.50    | 4.51     |

Table 3. Number of Released Adult Movie Change Between years 2016-2023

|      | Genres   | n    | mean | sd   | median | trimmed mean | mad  | Q1   | Q3   | skewness | kurtosis |
|------|----------|------|------|------|--------|--------------|------|------|------|----------|----------|
| 2016 | Action   | 362  | 5.91 | 1.19 | 6.0    | 6.10         | 1.03 | 5.42 | 6.80 | 0.13     | 3.27     |
|      | Comedy   | 680  | 5.91 | 1.15 | 6.0    | 6.08         | 0.88 | 5.50 | 6.66 | 0.09     | 2.66     |
|      | Drama    | 1055 | 6.00 | 1.51 | 6.2    | 6.40         | 0.88 | 5.80 | 7.00 | 0.32     | 3.13     |
|      | Romance  | 431  | 5.76 | 1.66 | 6.0    | 6.22         | 0.76 | 5.69 | 6.70 | 0.56     | 3.77     |
|      | Thriller | 468  | 5.58 | 1.20 | 5.6    | 6.25         | 0.79 | 5.70 | 6.70 | 0.68     | 3.84     |
| 2017 | Action   | 343  | 6.09 | 1.05 | 6.11   | 6.32         | 0.88 | 5.70 | 6.93 | 0.11     | 2.20     |
|      | Comedy   | 653  | 6.05 | 1.17 | 6.10   | 6.23         | 0.88 | 5.60 | 6.80 | 0.27     | 3.27     |
|      | Drama    | 1020 | 6.11 | 1.27 | 6.30   | 6.42         | 0.74 | 5.90 | 6.92 | 0.38     | 3.31     |
|      | Romance  | 423  | 5.87 | 1.60 | 6.20   | 6.09         | 0.74 | 5.70 | 6.60 | -0.44    | 2.61     |
|      | Thriller | 454  | 5.81 | 0.94 | 5.80   | 6.06         | 0.59 | 5.70 | 6.50 | -0.43    | 2.46     |
| 2018 | Action   | 287  | 6.17 | 1.14 | 6.20   | 6.31         | 1.05 | 5.60 | 7.00 | 0.42     | 3.61     |
|      | Comedy   | 612  | 6.16 | 1.05 | 6.20   | 6.31         | 0.88 | 5.70 | 6.90 | 0.30     | 3.54     |
|      | Drama    | 878  | 6.15 | 1.45 | 6.37   | 6.41         | 0.88 | 5.80 | 7.00 | 0.25     | 3.75     |
|      | Romance  | 403  | 5.70 | 2.16 | 6.20   | 6.33         | 0.76 | 5.80 | 6.90 | -0.08    | 2.37     |
|      | Thriller | 385  | 5.84 | 1.05 | 5.90   | 6.20         | 0.74 | 5.76 | 6.70 | -0.33    | 2.28     |
| 2019 | Action   | 301  | 6.28 | 1.02 | 6.40   | 6.51         | 0.74 | 6.00 | 7.00 | 0.47     | 3.18     |
|      | Comedy   | 592  | 6.18 | 1.15 | 6.31   | 6.35         | 0.87 | 5.80 | 6.90 | 0.10     | 3.17     |
|      | Drama    | 924  | 6.17 | 1.59 | 6.48   | 6.47         | 0.74 | 6.00 | 7.00 | -0.18    | 2.42     |
|      | Romance  | 401  | 5.77 | 2.29 | 6.40   | 6.43         | 0.68 | 6.00 | 6.90 | -0.41    | 3.06     |
|      | Thriller | 436  | 5.99 | 0.99 | 6.00   | 6.45         | 0.60 | 6.10 | 6.90 | -0.27    | 2.44     |
| 2020 | Action   | 246  | 6.07 | 1.34 | 6.30   | 6.39         | 1.03 | 5.70 | 7.0  | 0.16     | 2.53     |
|      | Comedy   | 529  | 6.11 | 1.27 | 6.20   | 6.32         | 0.88 | 5.74 | 6.90 | 0.20     | 3.55     |
|      | Drama    | 918  | 5.82 | 2.06 | 6.30   | 6.43         | 0.93 | 5.80 | 7.10 | 0.11     | 3.81     |
|      | Romance  | 523  | 5.02 | 2.81 | 6.10   | 6.38         | 0.77 | 5.88 | 6.92 | -0.37    | 2.77     |
|      | Thriller | 384  | 5.78 | 1.18 | 5.90   | 6.26         | 0.72 | 5.80 | 6.80 | -0.38    | 2.27     |
| 2021 | Action   | 282  | 6.12 | 1.55 | 6.38   | 6.53         | 0.88 | 5.91 | 7.1  | 0.33     | 2.86     |
|      | Comedy   | 577  | 6.12 | 1.38 | 6.40   | 6.37         | 0.82 | 5.83 | 6.90 | -0.005   | 3.33     |
|      | Drama    | 961  | 5.92 | 1.91 | 6.40   | 6.48         | 0.81 | 5.98 | 7.07 | 0.10     | 4.12     |
|      | Romance  | 449  | 5.35 | 2.62 | 6.28   | 6.44         | 0.79 | 5.90 | 7.00 | -0.08    | 6.44     |
|      | Thriller | 404  | 5.86 | 1.28 | 6.0    | 6.32         | 0.59 | 5.92 | 6.80 | -0.42    | 2.59     |
| 2022 | Action   | 284  | 6.06 | 1.59 | 6.30   | 6.32         | 0.74 | 5.80 | 6.80 | -0.04    | 2.31     |
|      | Comedy   | 653  | 6.16 | 1.32 | 6.30   | 6.37         | 0.88 | 5.80 | 6.95 | 0.41     | 4.26     |
|      | Drama    | 837  | 6.01 | 1.76 | 6.40   | 6.49         | 0.74 | 5.97 | 7.00 | 0.29     | 3.99     |
|      | Romance  | 381  | 5.93 | 1.68 | 6.30   | 6.39         | 0.80 | 5.80 | 6.90 | 0.22     | 3.33     |
|      | Thriller | 420  | 5.64 | 1.35 | 5.90   | 6.44         | 0.76 | 5.90 | 6.94 | 0.42     | 3.36     |
| 2023 | Action   | 346  | 6.00 | 1.56 | 6.30   | 6.40         | 0.88 | 5.80 | 7.0  | 0.18     | 3.12     |
|      | Comedy   | 658  | 6.15 | 1.47 | 6.32   | 6.40         | 0.88 | 5.80 | 7.0  | 0.17     | 3.63     |
|      | Drama    | 984  | 5.95 | 1.98 | 6.40   | 6.52         | 0.93 | 5.90 | 7.1  | 0.04     | 3.99     |
|      | Romance  | 399  | 5.73 | 2.33 | 6.30   | 6.47         | 0.88 | 5.90 | 7.1  | -0.21    | 2.43     |
|      | Thriller | 463  | 5.80 | 1.43 | 6.00   | 6.31         | 0.77 | 5.90 | 6.87 | -0.29    | 2.15     |

Table 4. Descriptive Analysis for Rating From Genres over the Years

## V. Movie Trends: Pre-Pandemic and Post-Pandemic

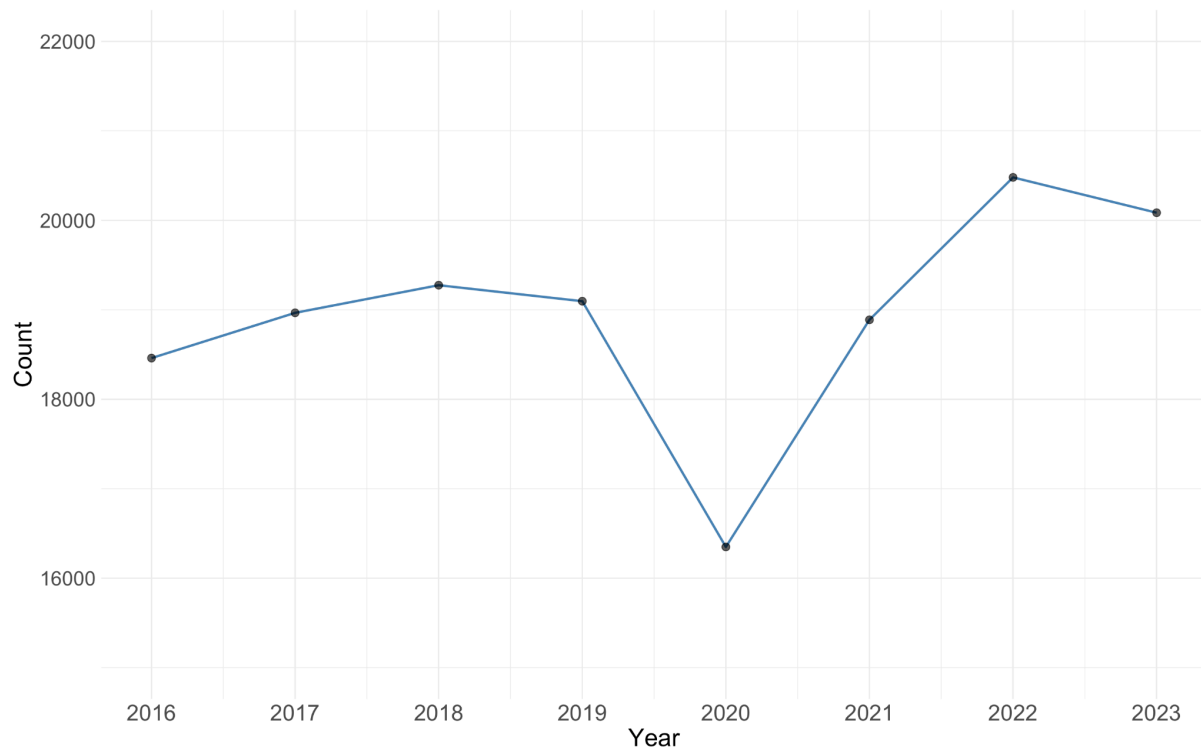
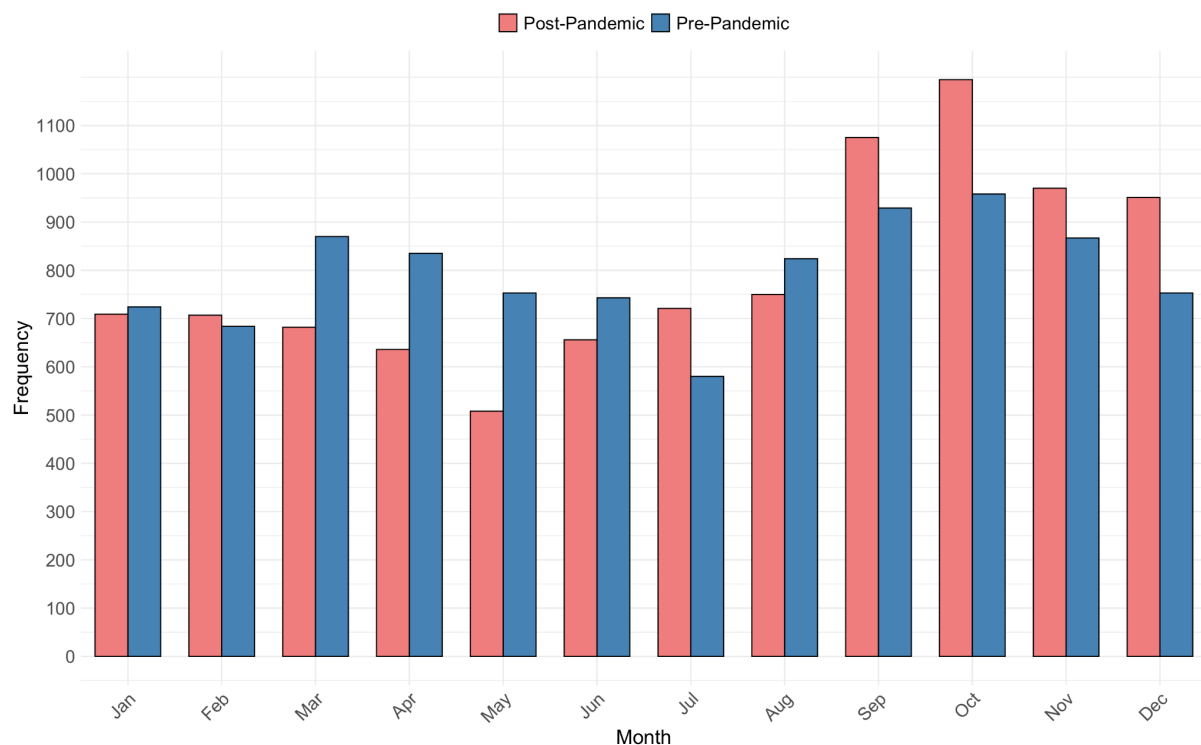


Figure 1. Movie Trends Released between 2016-2023

The COVID-19 pandemic disrupted nearly every aspect of the global movie industry, halting productions, closing theaters, and altering consumer viewing habits. **Figure 1** illustrates the number of movies released globally from 2016 to 2023, providing a clear picture of how the industry was affected. Pre-pandemic, the industry showed steady growth, with releases increasing from 18,460 in 2016 to a peak of 19,275 in 2018, reflecting an era of expansion fueled by technological advancements and global accessibility. However, in 2020, the number of releases dropped dramatically to 16,349, a 14% decrease compared to 2019. This decline highlights the immediate effects of the pandemic, including production delays, postponed releases, and reduced audience access to traditional cinemas.

The film industry started to recover strongly after the peak of the pandemic. In 2021, movie releases bounced back to 18,888, then hit record highs of 20,480 in 2022 and 20,085 in 2023. This shows how resilient the industry is, as studios caught up on delayed projects and met growing audience demand. Streaming platforms like Netflix and Disney+ were especially important during the pandemic, allowing new movies to reach audiences even when theaters were closed. This period also marked a big shift in how movies were released, with a mix of theater and digital streaming becoming the new normal. **Figure 1** highlights how the industry adapted and

became stronger by using new ways to release and produce movies, showing its ability to overcome challenges and change with the times.



*Figure 2. Movie Released Trend by Month (Comparing Pre-Pandemic and Post-Pandemic)*

**Figure 2** provides a detailed comparison of movie release frequencies by month for the pre-pandemic period (2016–2019) and post-pandemic period (2020–2023). The data reveals shifts in release patterns, reflecting how the global movie industry adapted to the challenges posed by the COVID-19 pandemic.

In the pre-pandemic period, movie releases were more evenly distributed throughout the year, with peak activity in March (870 releases), August (824 releases), and October (958 releases). These months align with established industry patterns of targeting spring and late summer for blockbuster releases and fall for awards-season contenders. However, the post-pandemic period shows significant changes. While months such as September (1,075 releases), October (1,195 releases), and November (970 releases) saw increases in activity, traditionally strong months like March (682 releases) and May (508 releases) experienced sharp declines. This shift suggests a reorganization of release schedules to accommodate delayed projects and changing audience behaviors.

The spike in releases during September and October post-pandemic highlights the industry's strategy to capitalize on the reopening of theaters and the rise in audience demand for new content. Studios may have shifted toward these months to optimize revenue potential and reduce competition from summer blockbusters [6].

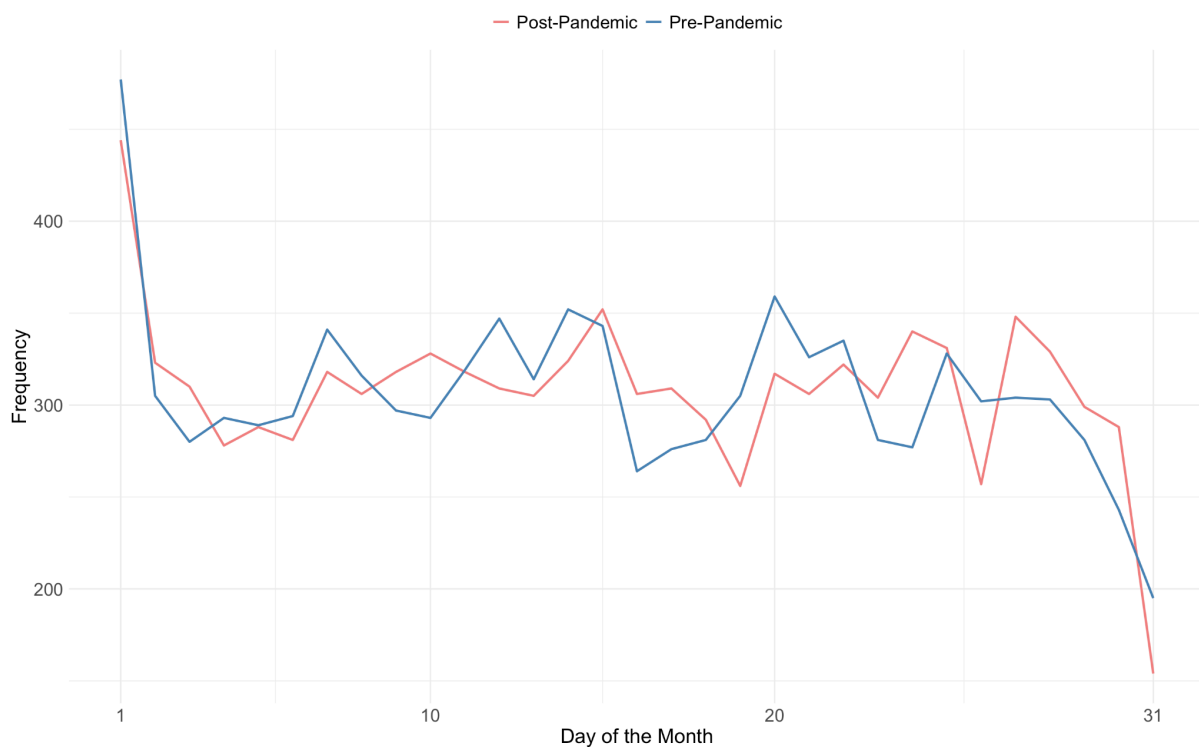


Figure 3. Movie Released Trends by Days of the Month (Pre-Pandemic and Post-Pandemic Period)

In the pre-pandemic period, release frequencies were relatively stable throughout the month, with minor peaks on the 15th (343 releases) and 20th (359 releases). These mid-month spikes correspond to established practices of aligning releases with key promotional periods or audience preferences, especially for theatrical launches. Post-pandemic, while overall trends remain similar, there is an increase in release frequency on certain days, such as the 15th (352 releases) and 27th (348 releases), reflecting strategic efforts by studios to maximize visibility and audience engagement in a crowded market.

The most notable differences appear at the extremes of the month. In the post-pandemic period, release activity decreased on the 31st (154 releases) compared to the pre-pandemic period (195 releases), likely due to fewer months with



31 days in a four-year dataset. Meanwhile, movies released earlier and mid-month had more evenly spread out activity. This suggests that the pandemic caused changes in when movies were released, adjusting to new production schedules and audience viewing habits. Streaming platforms were also important during this period, as their digital-first approach allowed more flexible release schedules, especially on days that weren't traditionally used for movie releases [1].

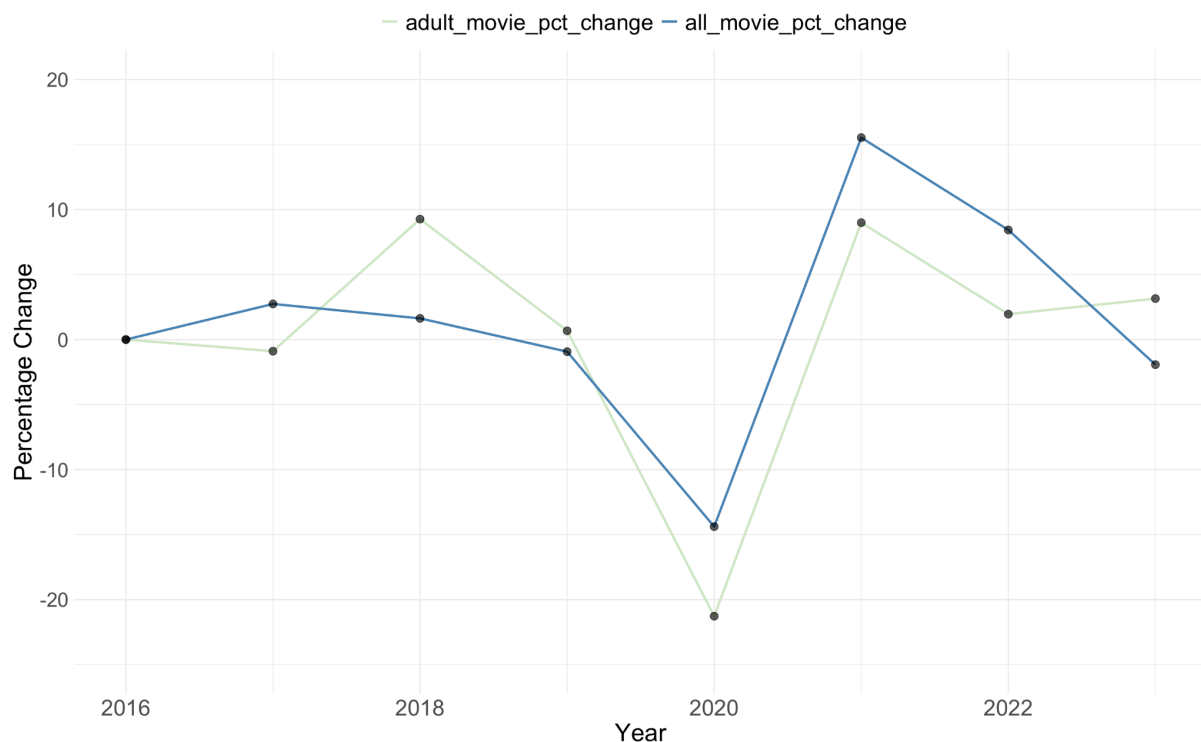


Figure 4. Percentage Change Trends (Comparing All Released Movies and Released Adult Movies)

During the pre-pandemic period, the annual change in total movie releases remained modest, fluctuating between a 2.74% increase in 2017 and a slight decline of -0.93% in 2019. For adult movies, variations were similarly modest, with changes such as -0.89% in 2017 and a notable 9.26% increase in 2018. These steady trends reflect a stable market where adult movies maintained a consistent share, driven largely by niche audiences and lower production costs compared to mainstream cinema.

The pandemic in 2020 marked a sharp decline across both categories. Overall movie releases dropped by -14.4%, while adult movie releases fell even more significantly, by -21.3%. This disparity underscores how the adult film segment, which often relies on smaller production teams and independent studios, faced greater logistical challenges and budgetary constraints during the pandemic [1]. Post-pandemic

recovery, however, reveals differing dynamics. From 2021 to 2023, total releases rebounded with increases of 15.5% in 2021 and 8.43% in 2022, before stabilizing in 2023 with a minor decline of -1.93%. In contrast, adult movie releases recovered more gradually, with a notable 8.99% rise in 2021 and smaller gains in subsequent years.

The sharper decline and slower recovery of adult films reflect the segment's vulnerability during the pandemic and its reliance on independent distribution models. Meanwhile, the overall movie industry's stronger post-pandemic recovery highlights the role of larger studios and hybrid distribution strategies, including theatrical and streaming releases, in driving the industry forward [1].

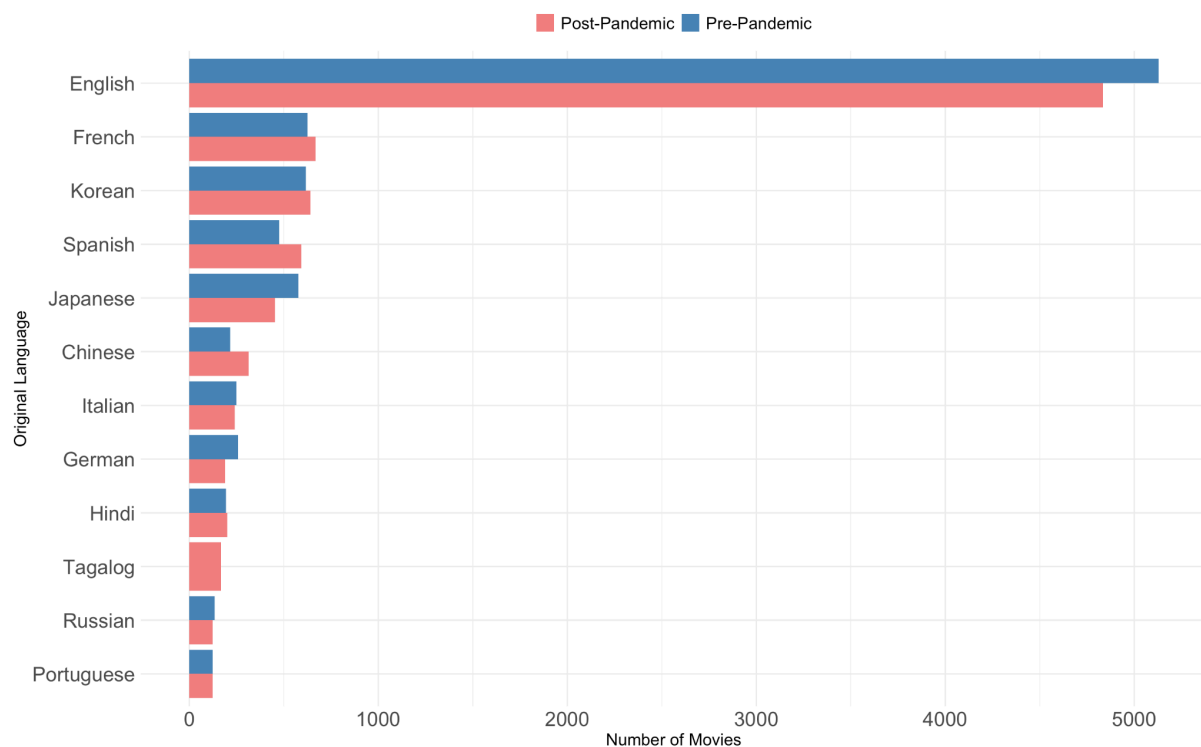


Figure 5. Distribution of Movie Languages (Comparing the frequency of Pre-pandemic and Post-Pandemic)

**Figure 5** reveals shifts in the distribution of original movie languages before (2016–2019) and after (2020–2023) the pandemic. English (en), as expected, dominates both periods, with a slight decrease in frequency from 5,128 movies pre-pandemic to 4,834 movies post-pandemic. This decline likely reflects disruptions to Hollywood and other English-speaking markets caused by COVID-19. Delayed productions and a shift in focus toward streaming content impacted the overall output in English, though it remained the dominant language in global cinema [5][6].

Other languages demonstrate more dynamic trends. For instance, Spanish (es) saw a notable increase from 475 pre-pandemic releases to 592 post-pandemic. This growth aligns with the rise of Spanish-language content in global streaming platforms like Netflix, which saw massive success with series and movies originating from Spain and Latin America during the pandemic, such as *Money Heist (La Casa de Papel)* and others.

Similarly, Korean (ko) movies increased from 617 to 642 releases post-pandemic, continuing the momentum of global interest in Korean cinema and TV, fueled by phenomena like *Parasite* and *Squid Game*.

Interestingly, Chinese (zh) movies also showed significant growth, from 216 pre-pandemic to 313 post-pandemic, underscoring China's expanding role in global film production and distribution. On the other hand, languages like Japanese (ja) and German (de) experienced declines, which may be tied to challenges faced by these regions' traditional film industries during pandemic disruptions.

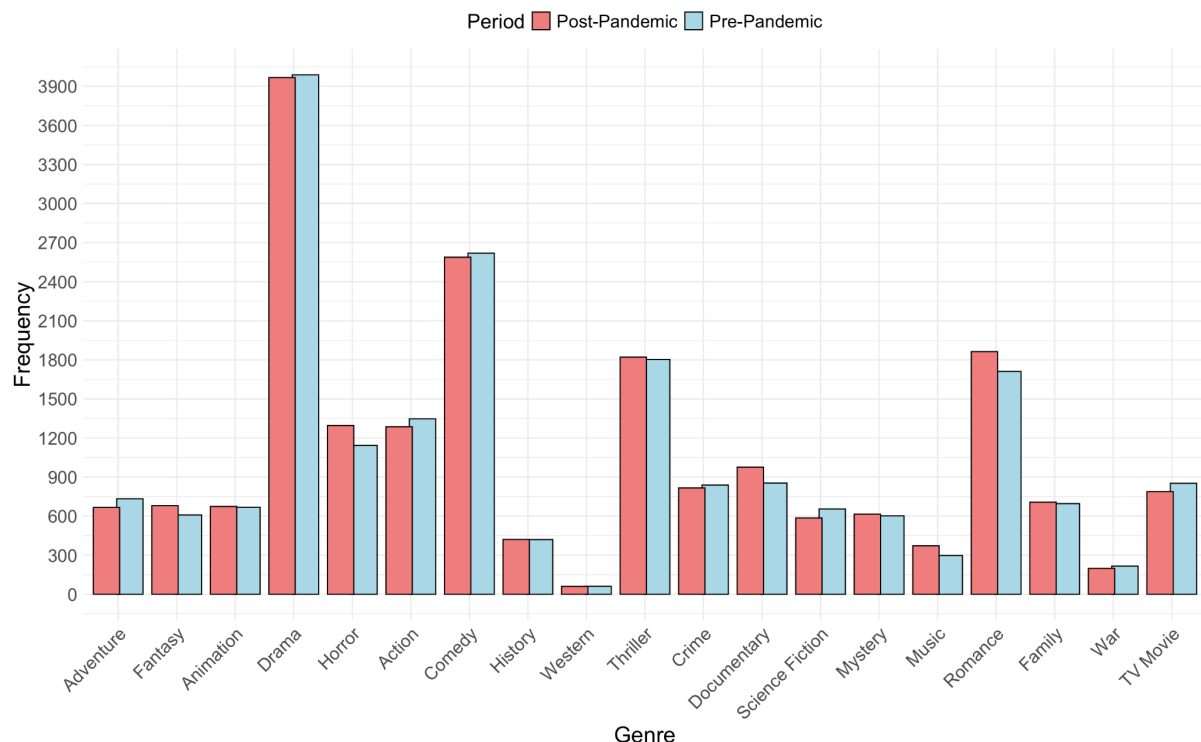


Figure 6. Genre Frequency by comparing Pre-Pandemic and Post-Pandemic Periods

Examining the frequency of movie genres before and after the pandemic reveals both stability and shifting trends in audience preferences and industry production.

The Drama genre maintained its position as the most prominent, with 3,988 pre-pandemic releases and 3,967 post-pandemic, reflecting its consistent appeal across all eras. Similarly, Comedy also retained its strong position with slight declines (2,619 pre-pandemic to 2,588 post-pandemic), demonstrating its universal popularity and adaptability in uncertain times [5].

Notable changes appear in specific genres. Horror saw an increase from 1,143 to 1,295 post-pandemic, possibly due to a surge in demand for escapism and high-tension entertainment during extended lockdowns. The popularity of franchises like *The Conjuring* and the rise of indie horror productions fueled this growth.

Science Fiction experienced a decline from 655 to 586, potentially reflecting challenges in producing high-budget, effects-driven movies during the pandemic. However, the Thriller genre remained steady (1,803 to 1,821), as psychological and suspense-driven narratives thrived on streaming platforms, offering captivating experiences for home viewers [5].

Family-oriented movies (e.g., *Family* and *Animation*) displayed minimal changes, with Animation seeing stability (668 to 674) and Family showing a slight increase (696 to 707). This trend aligns with the increased focus on family-oriented content during lockdowns, as households sought entertainment suitable for all ages.

Interestingly, the Music genre grew post-pandemic (298 to 372), likely driven by a resurgence in biographical musicals and music-themed content, such as *Bohemian Rhapsody* and *Rocketman*, inspiring follow-ups and similar projects.

Documentaries (854 to 976) also experienced growth post-pandemic, reflecting heightened public interest in educational and real-world storytelling during a period of global reflection. This increase highlights the growing demand for authentic, impactful narratives, amplified by the accessibility of streaming services [7].

In contrast, minor genres like Western and War remained niche, with minimal changes in output, indicating stable but limited production.

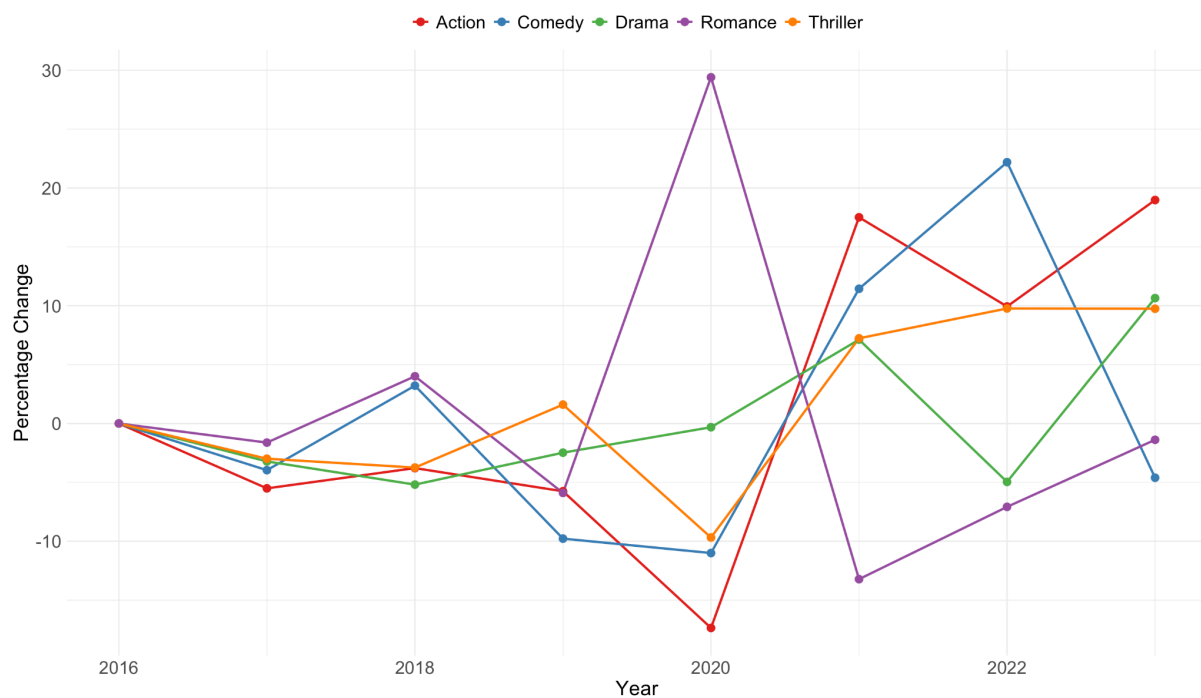


Figure 7. Percentage Change Trends by Genre

From 2016 to 2019 (pre-pandemic period), the movie industry experienced relatively stable release frequencies across various genres. Drama, action, comedy, thriller, and romance all showed minor fluctuations in their release numbers. For instance, drama releases increased slightly by 2.48% in 2019, while comedy saw a more significant decline of 9.78%.

The pandemic year of 2020 brought about a dramatic shift. Action movies were hit the hardest, with a steep decline of 17.4% in releases. Comedy and thriller genres also saw significant drops of 11.0% and 9.68%, respectively. Interestingly, romance movies bucked the trend, experiencing a notable increase of 29.4% in releases. This surge in romance movies could be attributed to the demand for feel-good content during a challenging time.

The post-pandemic period from 2021 to 2023 showed a mixed recovery. Drama and action genres rebounded strongly, with increases of 7.12% and 17.5% in 2021, respectively. Comedy and thriller genres also saw gains, although not as pronounced. Romance movies, however, experienced a decline of 13.2% in 2021, possibly due to the initial surge in 2021.

To sum up, the data indicates that while some genres like action and drama have made a strong recovery post-pandemic, others like romance have faced challenges in maintaining their initial surge. The varying recovery rates reflect the different ways

in which audiences' preferences and industry dynamics have shifted during and after the pandemic.

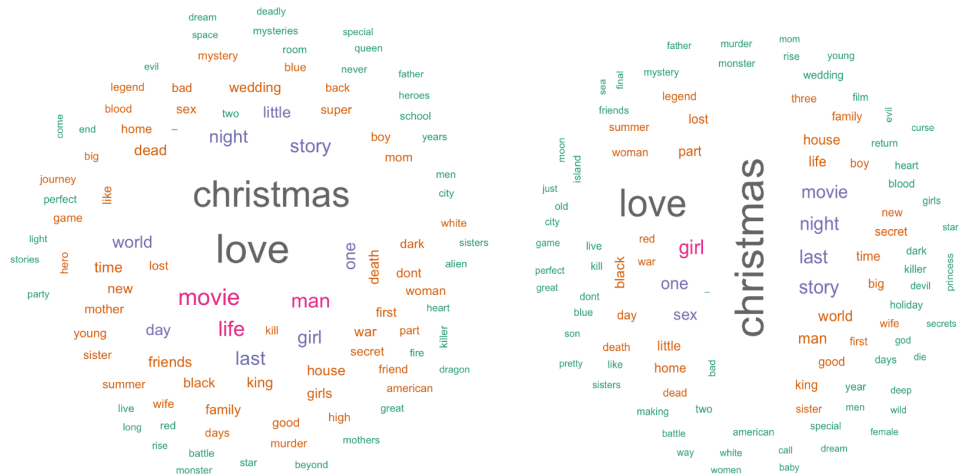


Figure 8. Most Commonly Used Words in Movie Titles (Pre- and Post-Pandemic Word Clouds)

In the pre-pandemic word cloud, the most prominent themes include “Christmas,” “Love,” “Life,” and “Family.” These terms suggest a focus on feel-good, romantic, and family-centered narratives, aligning with traditional cinema genres that aim to attract diverse audiences during festive and leisure periods. Words like “Hero,” “War,” “Legend,” and “Journey” highlight the popularity of epic adventures and superhero franchises, which were key to box office successes before the pandemic, including Marvel's dominance in 2019.

Post-pandemic, the word cloud retains some recurring themes such as “Love,” “Christmas,” “Family,” and “Life,” indicating continuity in audience interest in sentimental and familial narratives. However, newer, darker terms such as “Death,” “Lost,” “Killer,” and “Secret” gain prominence, reflecting a shift towards exploring deeper, more complex, or somber topics. This may be attributed to the psychological and social impacts of the pandemic, as audiences potentially resonate more with darker, reflective themes.

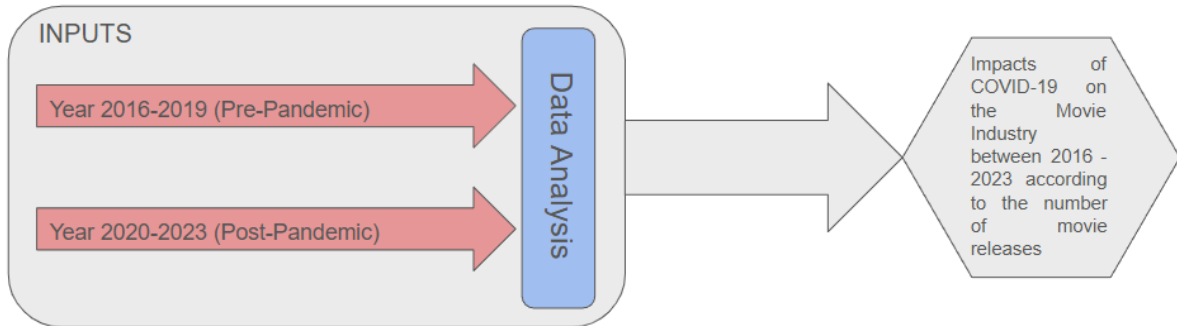


Figure 9. Year Wise Rating Distribution by Genre and Showing Mean for Each Genre

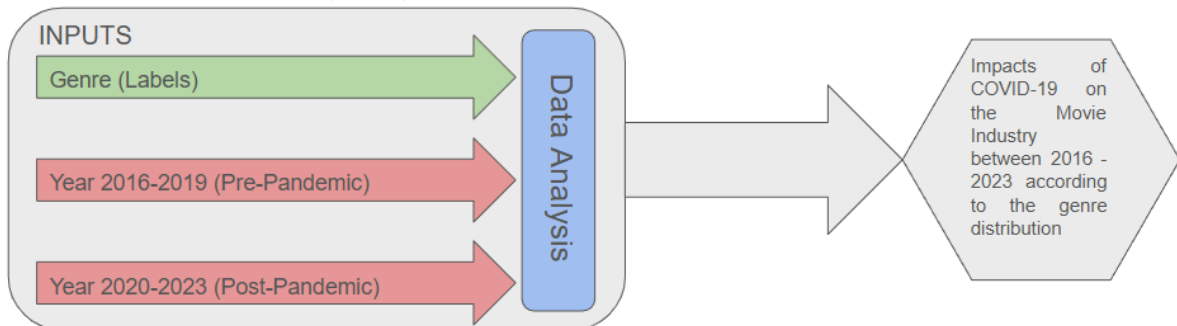
**Figure 13** a year-wise analysis of movie genres (Action, Comedy, Drama, Romance, Thriller) and their ratings from 2016 to 2023. Across all years, the mean ratings for each genre remain relatively stable, with only slight fluctuations, indicating that audience preferences or voting patterns did not shift dramatically over this period. Drama and Romance genres tend to have slightly higher mean ratings compared to others, maintaining a stable trend over the years, while Thriller generally shows a slight dip in ratings, though this decline is not significant. Action and Comedy consistently exhibit a broader spread of individual ratings, with more movies receiving both low and high ratings. **Figure 13** underscores that while audience ratings for genres are generally consistent.

## VI. Graphical Abstracts

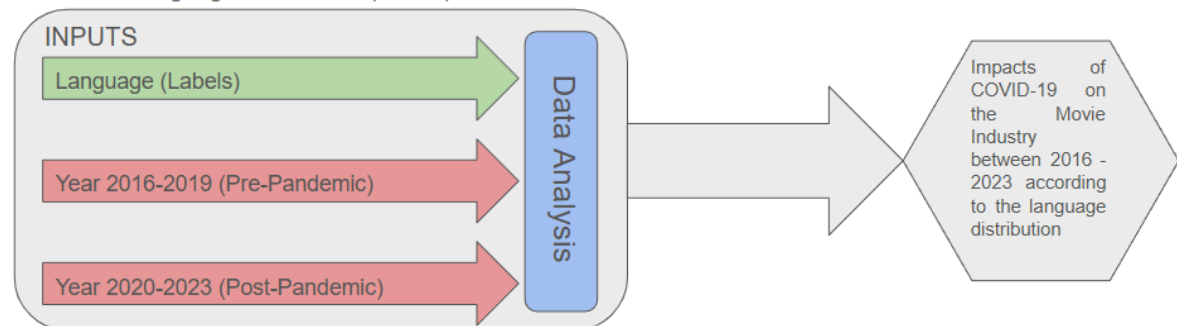
Dataset: Number of Movie Releases (TMDB)



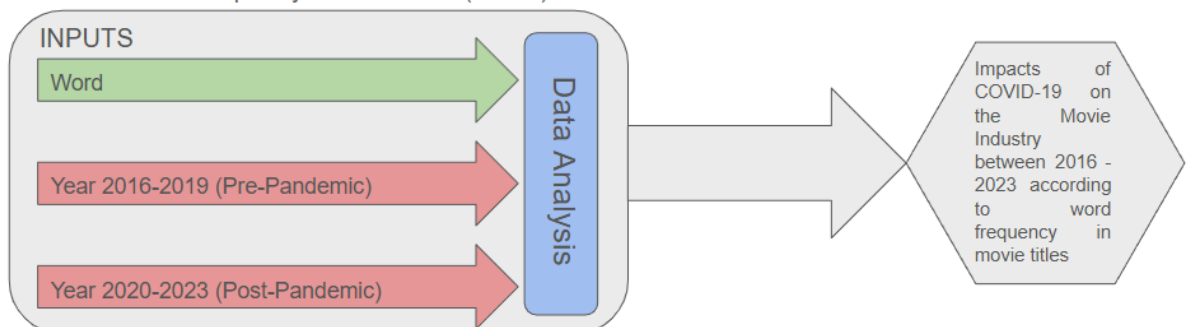
Dataset: Genre Distribution (TMDB)



Dataset: Language Distribution (TMDB)



Dataset: Word Frequency in Movie Titles(TMDB)





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