

Strategic Film Genre Analysis: Guiding Content Creation for Microsoft's New Movie Studio"

Project

By

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1.0: Overview

This project focuses on a comprehensive analysis of successful film genres to provide actionable insights for Microsoft's new movie studio. Various methods, including frequency distribution, bar charts, line plots, and box plots, were employed to understand distribution patterns, identify trends, and detect outliers.

The study revealed the top five most popular genres in the film industry, with documentary leading, followed by Drama, Comedy, Thriller, and Horror. These insights offer valuable guidance for studios and filmmakers to align with audience preferences, resulting in increased revenues and heightened viewer engagement.

Positive correlations were observed between average ratings and the number of votes, primarily concentrated around 5 to 8 average ratings. Additionally, a downward trend in the average number of votes and an upward trend in average ratings were identified.

The analysis of domestic and foreign gross revealed a positive correlation, with most associations concentrated in the 0 to 2 domestic gross range. While domestic gross exhibited a slow increase over time, foreign gross showed an overall upward trend, with a notable drop in 2015.

No outliers were detected in domestic and foreign gross, and the study highlighted that foreign gross revenue consistently surpassed domestic revenue over the years.

1.1 Business understanding

Microsoft observes major corporations venturing into original video content creation and aims to join the trend. Tasked with establishing a new movie studio, Microsoft seeks insights into the current successful genres at the box office. This project involves analyzing top-performing film types and translating these findings into practical insights for Microsoft's new movie studio head to guide decisions on film creation.

1.2 Goals of the project

The main goal of this project was to conduct an in-depth analysis of successful film genres, translating the findings into actionable insights. These insights will serve as guidance for the decision-making process of Microsoft's new movie studio, assisting in the strategic creation of films.

The specific goals of the project were to:

1. Find the popular genres in the Movie industry.
2. Identify the relationship between average rating and number of votes in the Movie industry
3. Determine the trend of the average number of votes and ratings over the years Movie Industry.
4. Evaluate the association between domestic gross and foreign gross
5. Determine the trend for domestic gross and foreign gross over the years
6. Detect possible outliers in the gross revenue
7. Assess the frequency distribution between the domestic and foreign revenue over the years

2.0:Methods

2.1 Data description

The project utilizes a dataset comprising two components: 'movie basic' and 'movie ratings,' both sourced from the IMDB database stored in SQLite. The relevant data can be accessed through the provided link: <https://www.imdb.com/>.

The database dimension for 'movie basic' consisted of 146,144 rows and 6 columns, while 'movie ratings' comprised 73,856 rows and 3 columns.

The dataset for 'movie basic' encompasses both qualitative and quantitative data. Qualitative variables include 'movie id,' 'primary title,' 'original title,' and 'genres,' whereas quantitative data is represented by 'start year' and 'runtime minutes.'.

The bom movie gross_csv dataset dimension consisted of 3387 rows and 5 columns. The variables are 'title,' 'studio,' 'domestic gross,' 'foreign gross,' and 'year'. The dataset for bom movie gross csv encompasses both qualitative and quantitative data. Qualitative variables include 'title,' 'studio' and 'foreign gross' whereas quantitative data is represented by 'domestic gross and 'year'.

2.2 Methods of the Analysis

The analysis employed the following methods:

Frequency distribution and bar charts were utilized to comprehend distribution patterns.

A line plot was employed to identify trends.

Box plot was utilized to detect outliers.

3.0: Results

3.1 Results for im2_db

3.1.1: Objective One: Determining the popular genres in the Movie industry

The identification of the top five most popular genres in the film industry has been established. The primary genre was documentary, followed by Drama, Comedy, Thriller, and Horror, as indicated in Figure 1 below. These genres serve as valuable insights for studios and filmmakers in comprehending audience preferences. Popular genres typically draw substantial audiences, increasing revenues and heightening viewer engagement. Studios can enhance revenue by strategically investing in genres that align with current trends.

Figure 1. The five top-most popular genres

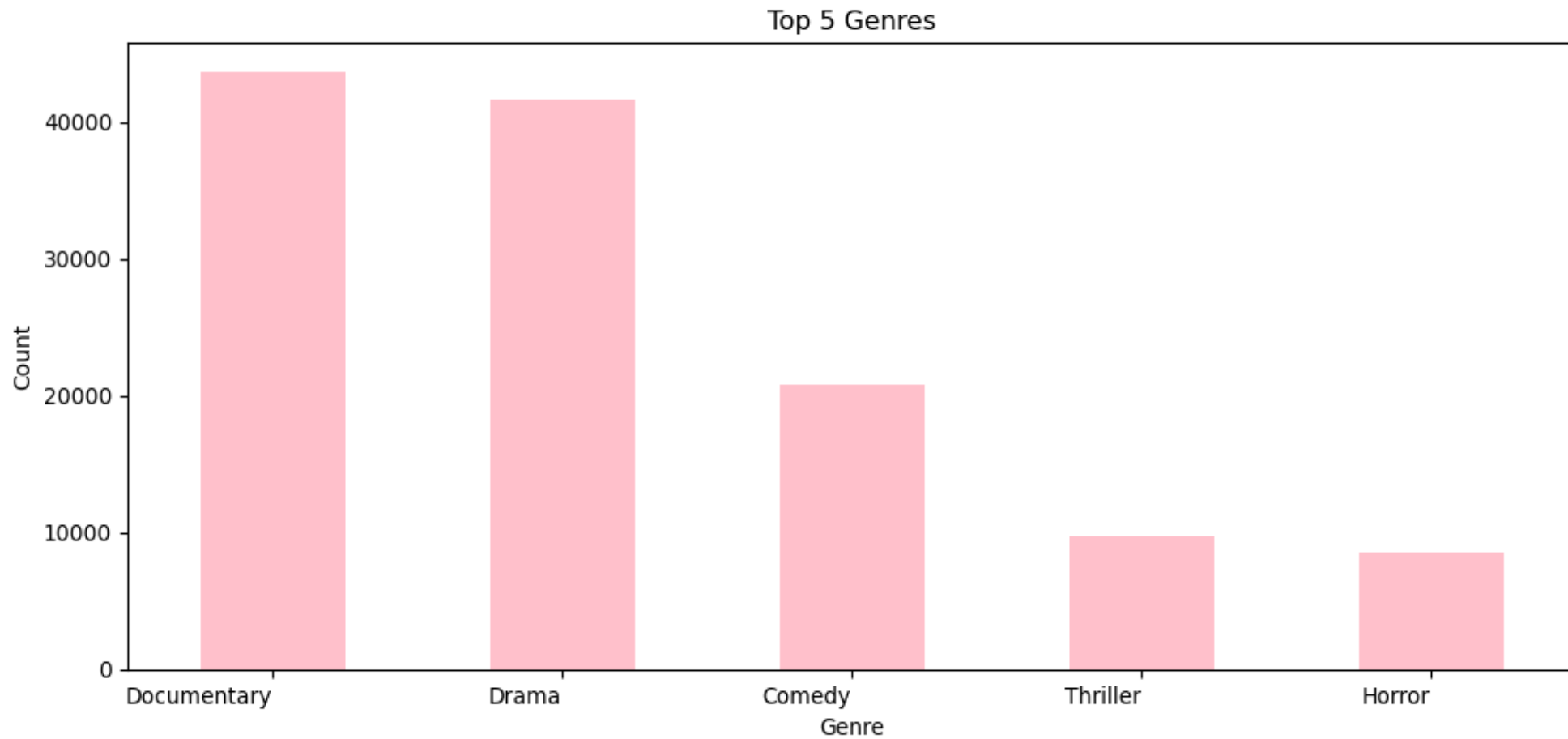
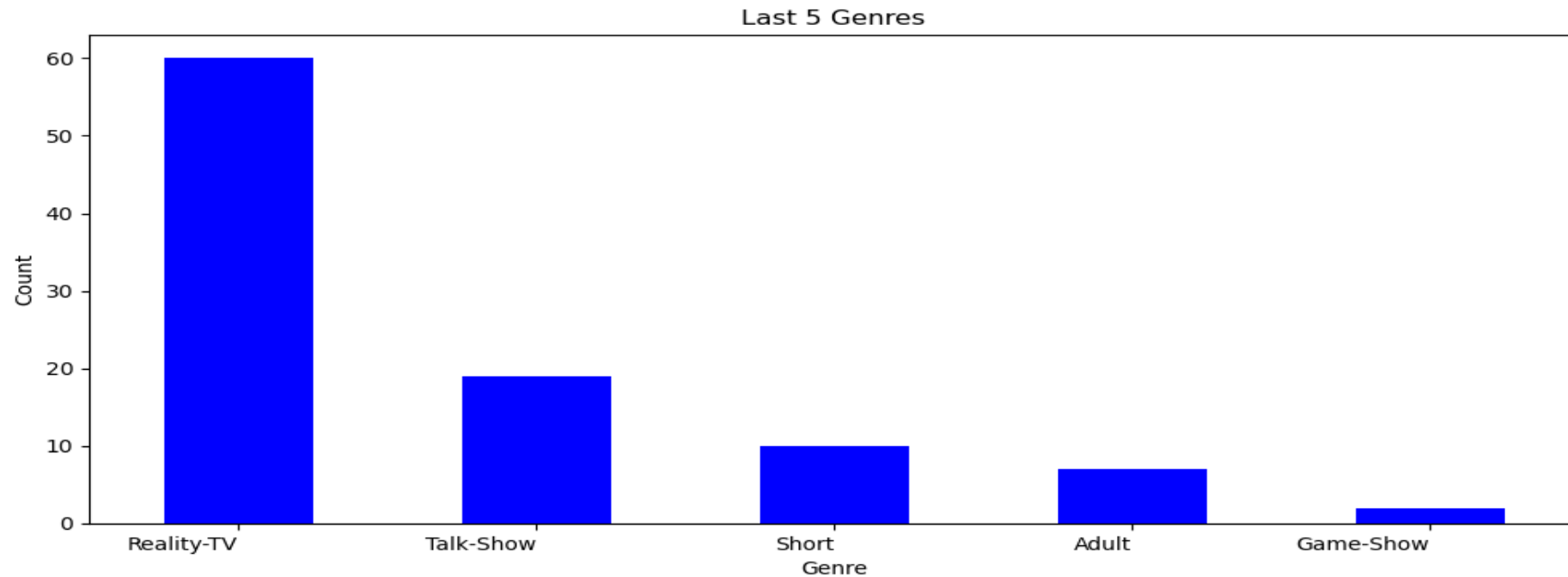


Figure 2. The least-most popular genres

Likewise, the genres with the least popularity were identified as 'Reality-TV,' 'Talk-Show,' 'Short,' 'Adult,' and 'Game-Show,' as highlighted in Figure 2.



3.1.2: Objective Two: Relationship between average rating and number of votes

The average rating and number of votes were correlated positively with most associations being exhibited around 5 to 8 Average ratings as depicted in Figure 3 below.

Figure 3. Scatter Plot of average Number of votes and rating of movies

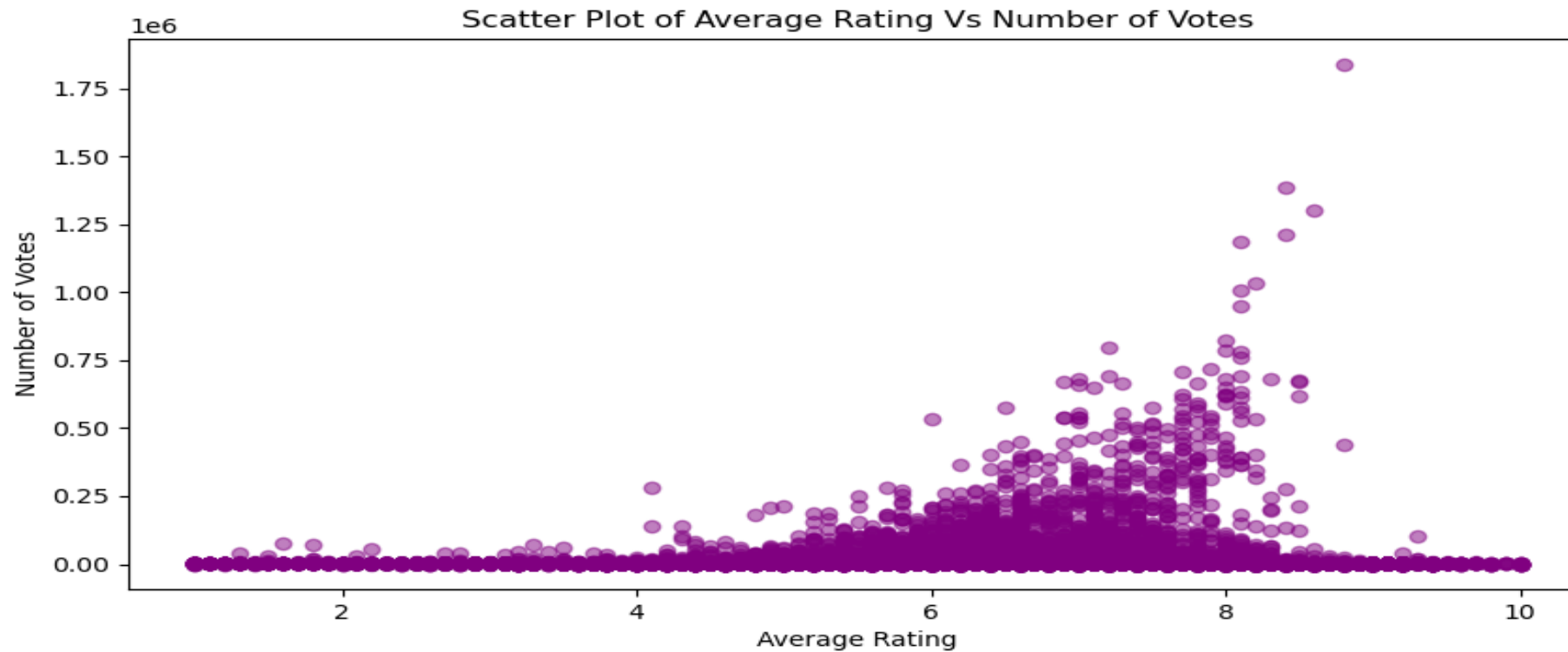


Figure 3. Scatter Plot of average Number of votes and rating of movies

The average number of votes was showing a downward trend while the average rating was showing an upward trend as shown in figure 5 below.

Figure 4. Trend of the average number of votes and ratings over the years

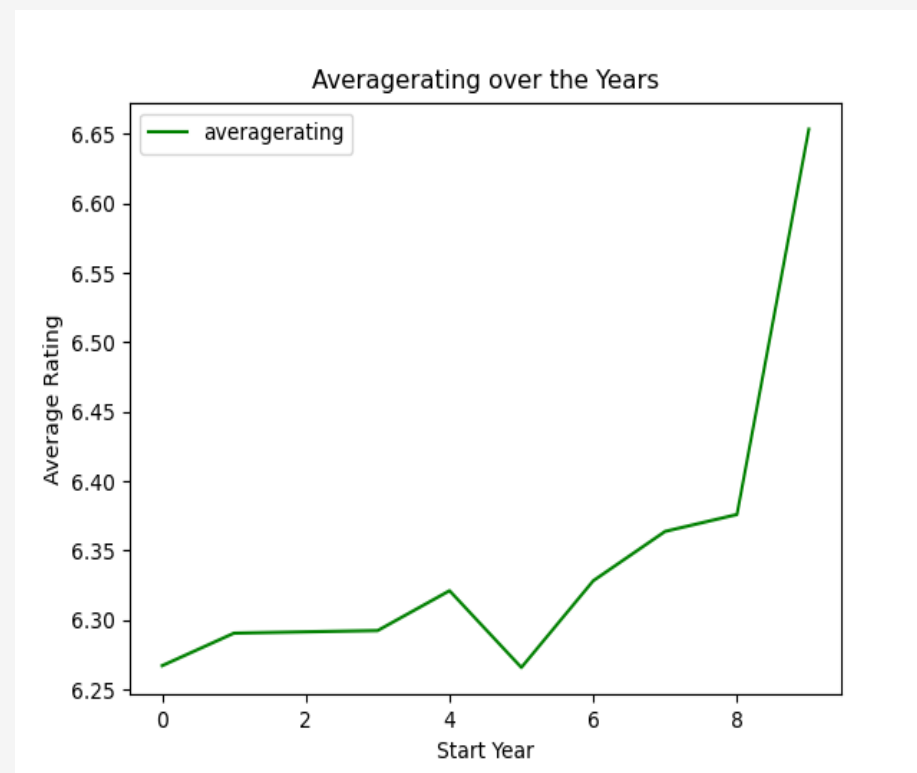
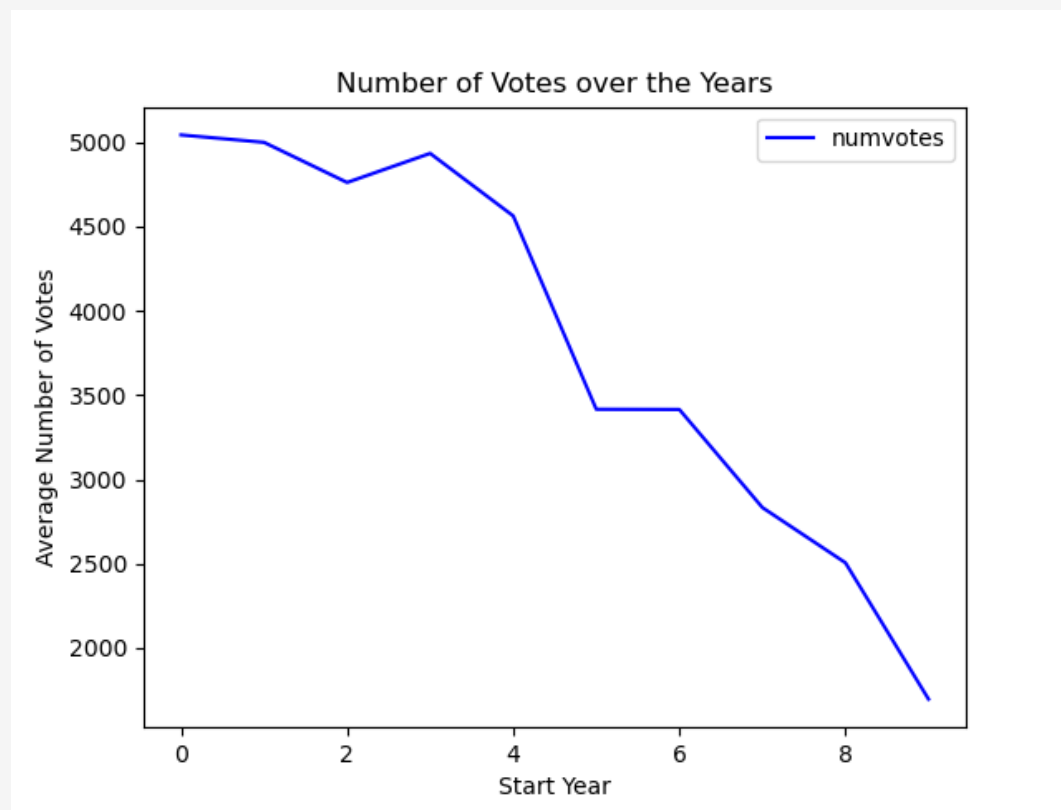


Table 1. Average movie ratings and number of votes by years

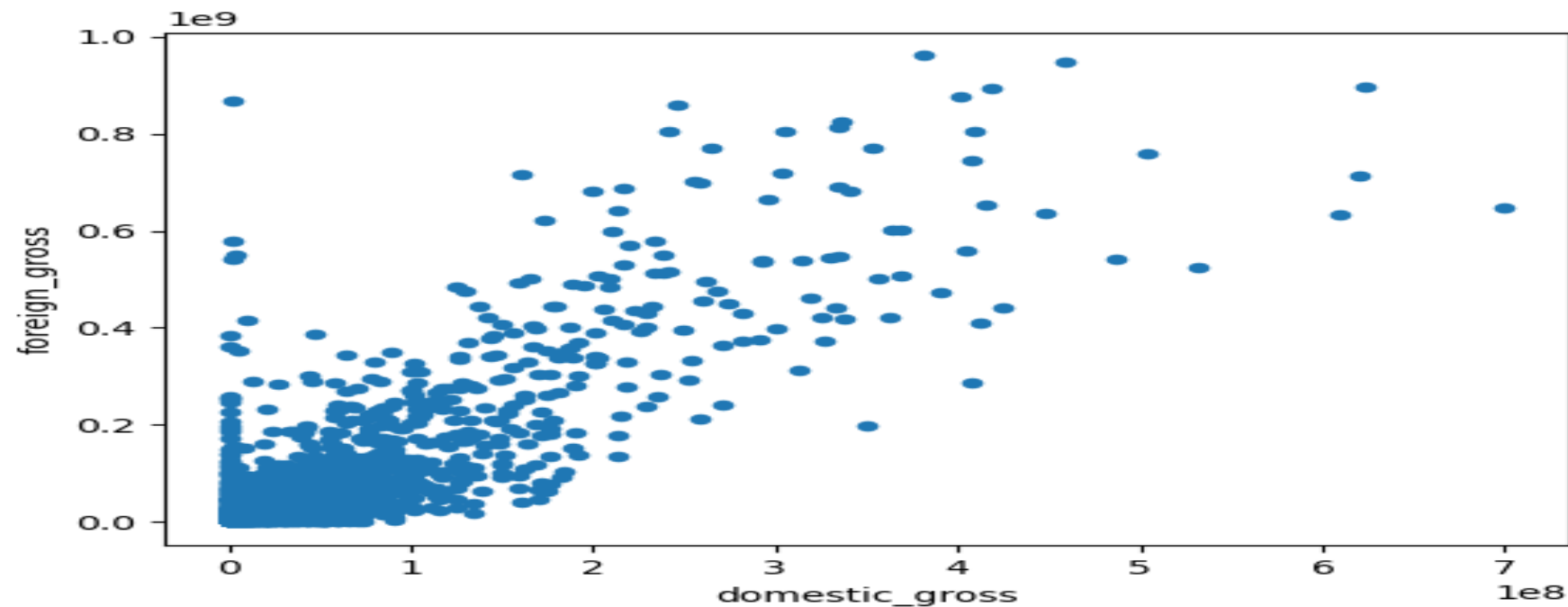
Start Year	average rating	Number of votes
2010	6.267108	5043.330407
2011	6.290523	4999.282024
2012	6.291509	4761.220652
2013	6.292406	4933.784507
2014	6.321108	4562.855340
2015	6.265817	3415.804183
2016	6.328285	3414.603597
2017	6.363825	2832.789971
2018	6.375993	2505.006998
2019	6.653492	1696.149113

3.2 Results for bom_movie_gross

3.2.1: Objective One: Association between domestic gross and foreign gross

There is a positive correlation between domestic gross and foreign gross, with most associations concentrated in the range of 0 to 2 domestic gross, as illustrated in Figure below.

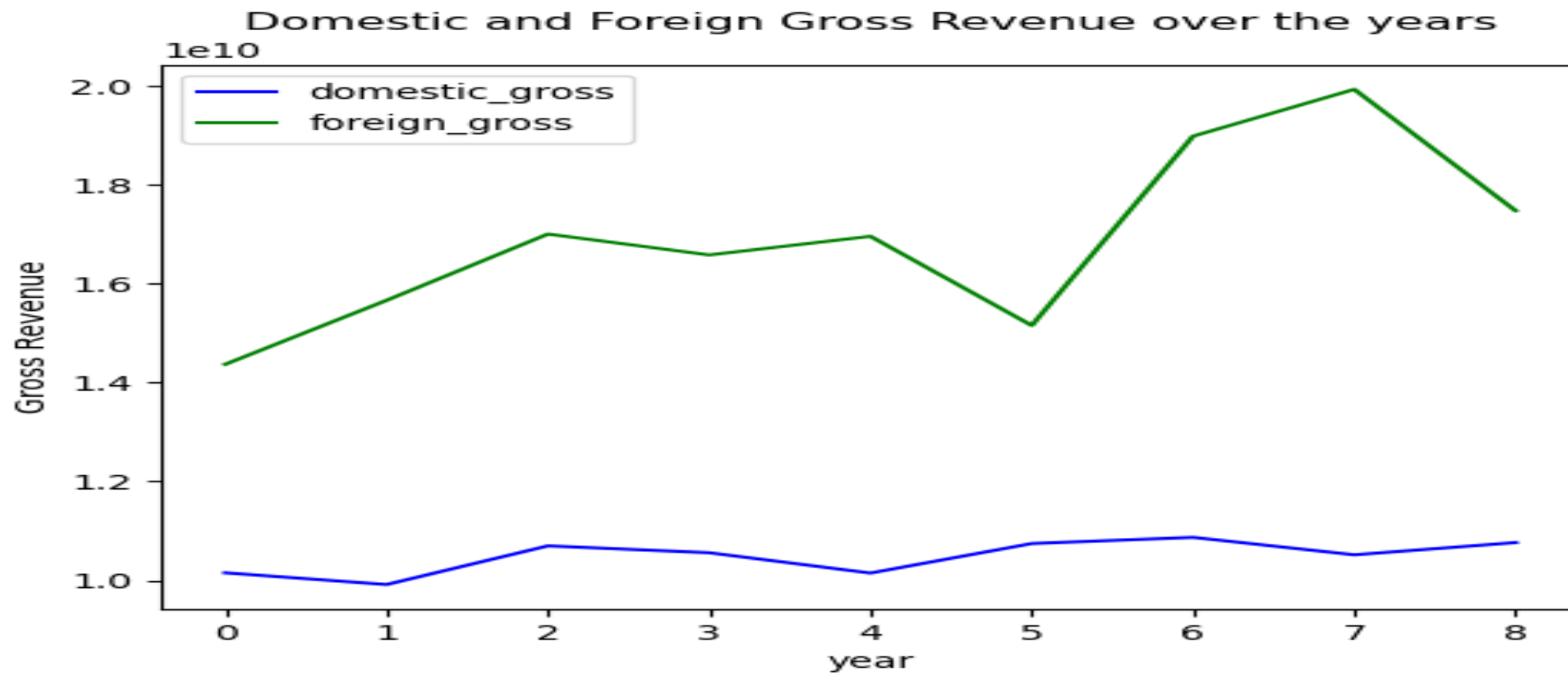
Figure 5. Scatter plot between the foreign gross and domestic gross of movie earnings



3.2.2: Objective Two: Trend for domestic gross and foreign gross over the years

There was a slowly increasing trend in domestic gross overtime while the trend for Foreign gross was an upward trend though there was an abrupt drop in the year 2015 as shown in the line graph below

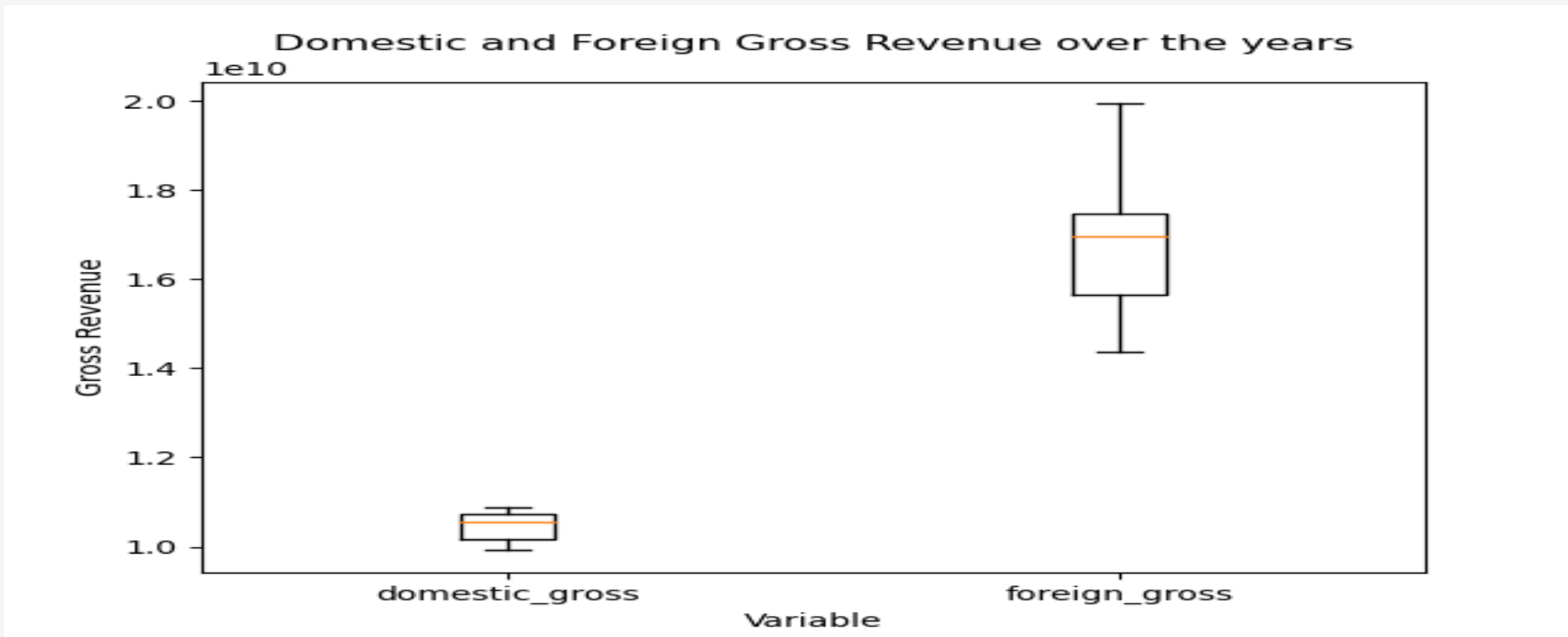
Figure 6. Line trends between domestic gross and foreign gross over the years



3.2.3: Objective Three: Determine the outliers in the gross revenue

There were no outliers in either domestic or foreign gross as depicted in the figure below

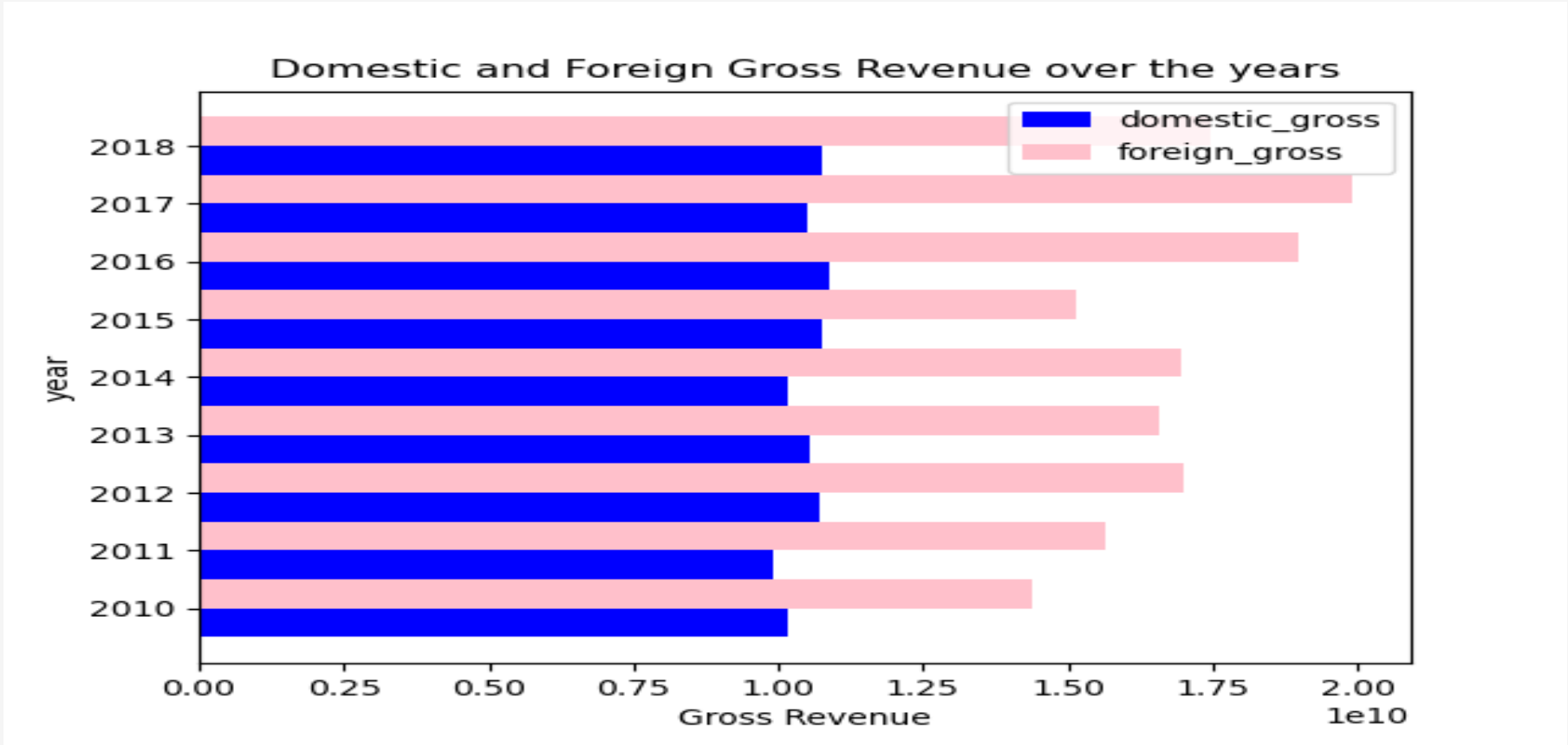
Figure 7. Box plot of the domestic and foreign gross revenue



3.2.4: Objective Four: Frequency distribution between the domestic and foreign revenue over the years

Overall the foreign gross revenue was higher than domestic revenue over the years as illustrated in the bar graph below.

Figure 8. Bar chart distribution of the domestic and foreign revenue over the years



4.0: Recommendations and conclusions

4.1 Recommendations for im2_db data set

In this section, the recommendations for the im1_db were as follows;

Genre Strategies:

- Studios and filmmakers should take note of the popularity rankings of genres. Investing strategically in the top genres, such as Documentary, Drama, Comedy, Thriller, and Horror, aligns with current audience preferences and can lead to increased viewership and revenue.
- Conversely, genres like 'Reality-TV,' 'Talk-Show,' 'Short,' 'Adult,' and 'Game-Show' may require careful consideration before substantial investment, given their lower popularity.

Audience Engagement and Revenue:

- Recognizing the positive correlation between average ratings and the number of votes, studios should prioritize producing high-quality content. Engaging narratives that receive positive ratings are likely to attract more viewers, contributing to increased revenue.
- Despite the downward trend in the average number of votes, the upward trend in average ratings suggests that audiences are appreciating the quality of content. Studios should continue to focus on maintaining and enhancing content quality.

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Global Market Considerations:

- Acknowledging the positive correlation between domestic and foreign gross, the concentration in the range of 0 to 2 domestic gross indicates the importance of considering both markets. Filmmakers and studios should develop strategies that cater to the domestic audience while also exploring opportunities for global appeal.

Balancing Popular and Niche Content:

- While investing in popular genres is essential for broad audience reach, studios may also explore niche content within the popular genres to cater to specific tastes and preferences. This approach can diversify offerings and attract different audience segments.

In conclusion, a comprehensive strategy that considers both genre popularity and quality content production, while also addressing global market dynamics, will position studios and filmmakers for sustained success in the film industry. Balancing popular genres with niche content and maintaining a commitment to high-quality productions will contribute to enhanced audience engagement and revenue growth.

4.2 Recommendations for bom_movie_gross

Based on the results obtained in this section, here were the recommendations for the bom movie gross data:

Positive Correlation and Concentrated Associations:

- Given the positive correlation between domestic and foreign gross, studios should consider the international market alongside the domestic one.
- Concentration in the range of 0 to 2 domestic gross suggests that a significant portion of associations falls within this range. Filmmakers may want to focus on this range for optimized revenue generation.

Trends in Domestic and Foreign Gross:

- The slow increasing trend in domestic gross over time indicates a steady growth in the domestic market. Studios should continue to invest in strategies that cater to domestic audiences.
- Despite an upward trend in foreign gross, the abrupt drop in 2015 deserves attention. Further analysis into the cause of this drop could guide international marketing strategies and business decisions.

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Absence of Outliers:

- The absence of outliers in both domestic and foreign gross suggests a level of consistency in revenue generation. Filmmakers and studios can rely on historical data for more accurate forecasting without being overly concerned about extreme values.

Overall Higher Foreign Gross Revenue:

- The consistent trend of foreign gross revenue being higher than domestic revenue indicates the significance of the international market. Studios should continue to prioritize global appeal and consider tailoring content to resonate with diverse audiences.

In conclusion, the film industry should maintain a balanced approach, recognizing the importance of both domestic and international markets. Strategies that enhance domestic growth and address any anomalies in foreign gross trends, such as the drop in 2015, will contribute to sustained success in the global film industry.

Thank you