Microsoft's New Movie Studio project

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OVERVIEW

In recent years, the film industry has seen a shift in the types of movies that perform well at the box office. With the rise of streaming services and increased competition for viewership, studios must now navigate a rapidly changing landscape to produce films that resonate with audiences and generate revenue.

Microsoft, a technology giant, is looking to enter the movie industry by establishing a new movie studio. However, as a company with no previous experience in film production, Microsoft must first understand the factors that contribute to a movie's success in order to make informed decisions about the types of films to produce. In this context, an exploratory analysis of box office trends and audience preferences can provide valuable insights for Microsoft's new movie studio.

Outline

▶ Business understanding and Defining the Question

▶ Data Understanding and Analysis

▶ Experimental Design

▶ Recommendations

Business understanding and Defining the Question

Microsoft is entering the highly competitive movie industry with the goal of producing successful films that generate revenue. However, as a newcomer to the industry, they lack experience and understanding of the factors that contribute to a movie's success. Box office revenue, critical acclaim, and audience reception are key performance metrics, with movie genres playing a significant role in determining success. This project aims to analyze the performance of different movie genres, identify trends and patterns, and provide actionable insights for Microsoft's new movie studio to inform their decisions when creating new films. By understanding the context and factors influencing the movie industry, the project can help Microsoft create successful movies and achieve their goals.

What types of movies are currently performing the best at the box office, and how can we use this information to inform the types of films that Microsoft's new movie studio should create?

To answer this question, we need to analyze data on the performance of movies in terms of box office revenue, critical acclaim, and audience reception. We need to identify the most successful movie genres, trends in size and budget of successful movies, the studios responsible for the most successful movies, and the factors that contribute to the success of a movie.

The results of our analysis will provide actionable insights for Microsoft's new movie studio on what types of movies to create. We may find that certain genres are more popular with audiences or that movies with larger budgets tend to perform better at the box office. We may also identify successful marketing strategies or other factors that contribute to a movie's success. Based on this information, Microsoft's new movie studio can make informed decisions about the types of films to create that are most likely to be successful at the box office.

Data Understanding and Analysis

Dataset provided

- Box office movie dataset
- movie_basics
- movie_ratings

13 Features in total : 7 numeric and 6 categorical

Time frame of the data: 2010 to 2019

Data grocery

- title: the title of the movie

- studio: the studio that produced the movie

- dometic_gross:the amount of money the movie earned in the domestic market (in US dollars)

- foreign_gross:the amount of money the movie earned in foreign markets (in US dollars)

- movie_id:: unique identifier for each movie

- primary_title: Title of the movie

- original_title: the title of the movie in its original language.

- runtime_minutes: the duration of the movie in minutes.

- genres: the genre(s) of the movie.

- averagerating:Ratings of the movie

- numvotes: Number of votes for the movie

- year: the year the movie was released.

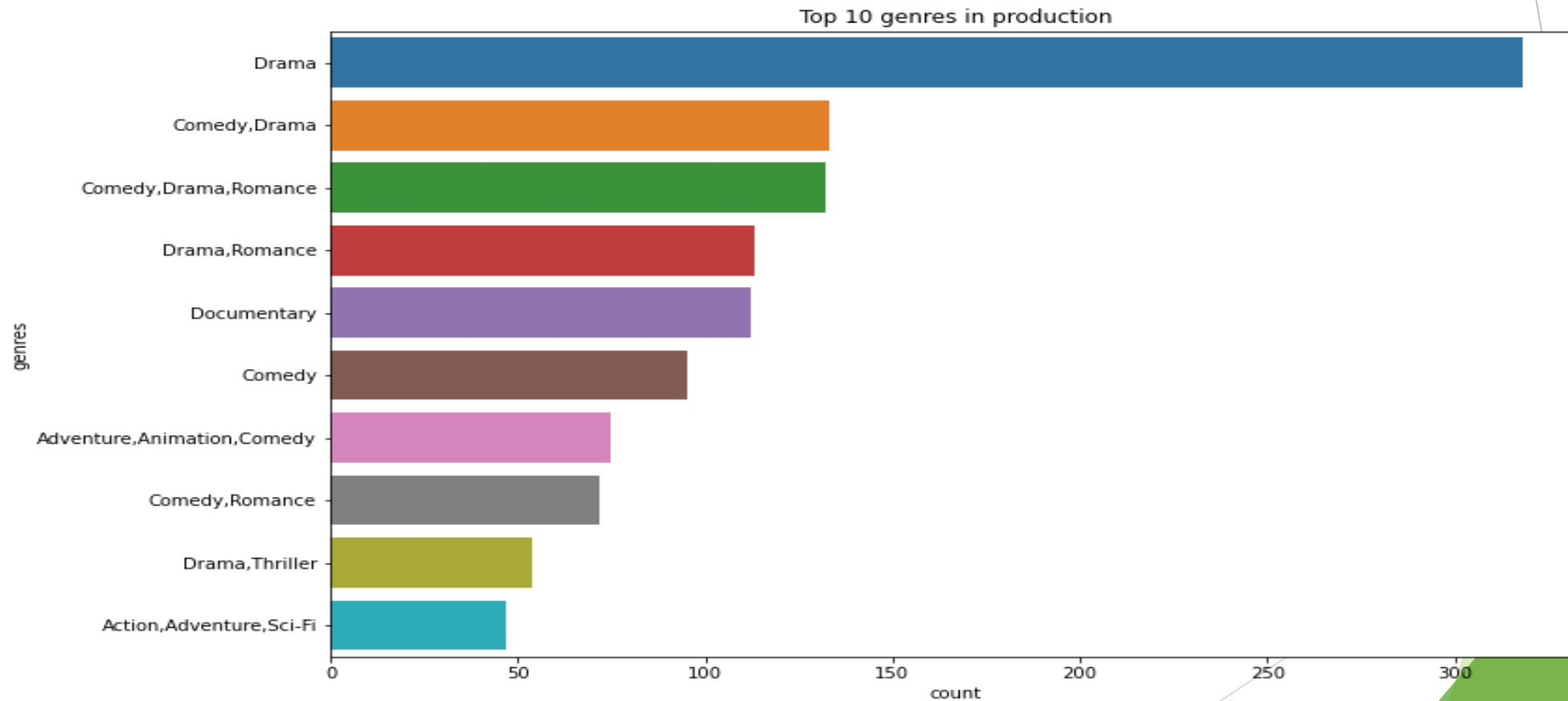- start_year: the year the movie was originally released

Experimental Design

- upload and read our csv files

- upload and read our SQLite database

- Data Cleaning and Preparation: Clean the data by removing any duplicates, missing values, and incorrect data.

- perform EDA (Exploratory Data Analysis) understanding the data at hand and identifying patterns, trends, and relationships between variables.

- Conclusion

- Recommendation

Genres Analysis

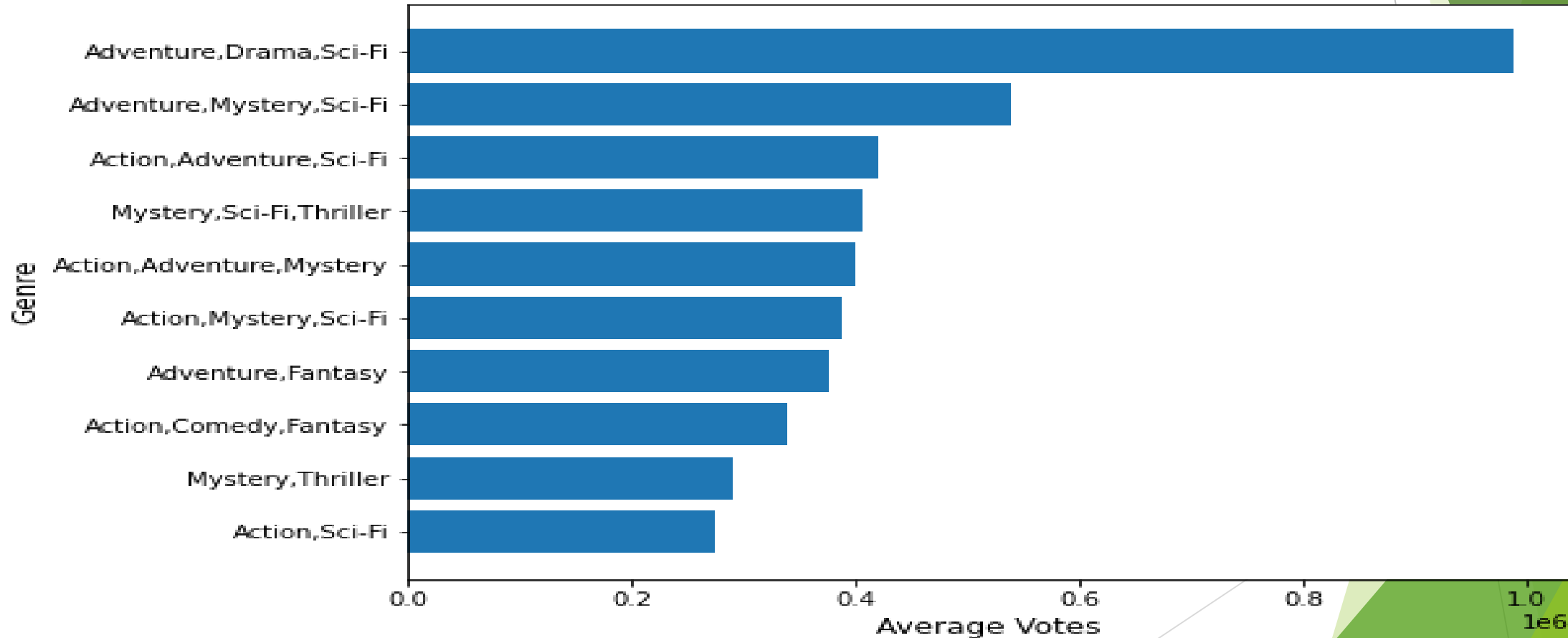Drama genre was the most watched genre

Action, Adventure Sci-Fi was the least watched genres

Top 10 genres in production

Adventure, Drama Sci-Fi was voted the best with the most number of votes

Action Sci-Fi and Mystery Triller were the least voted with few votes
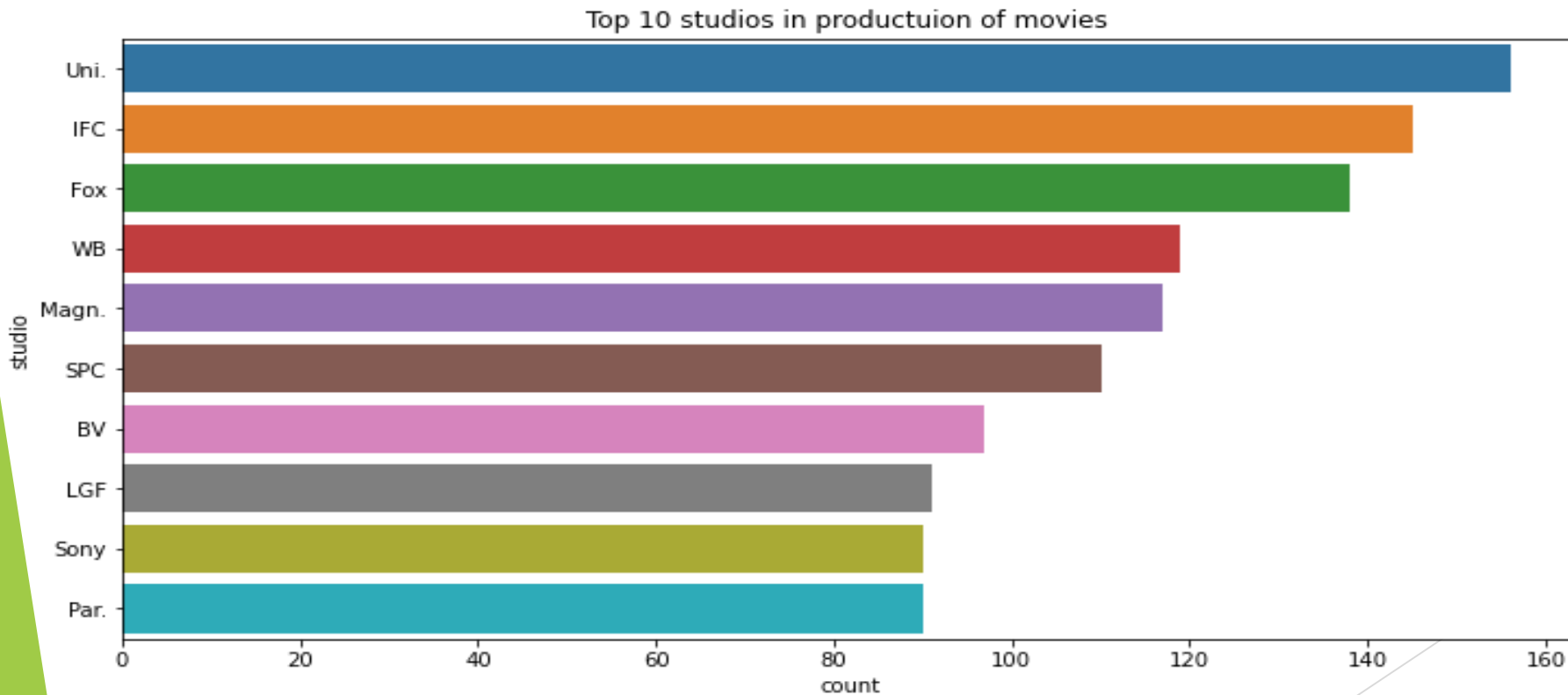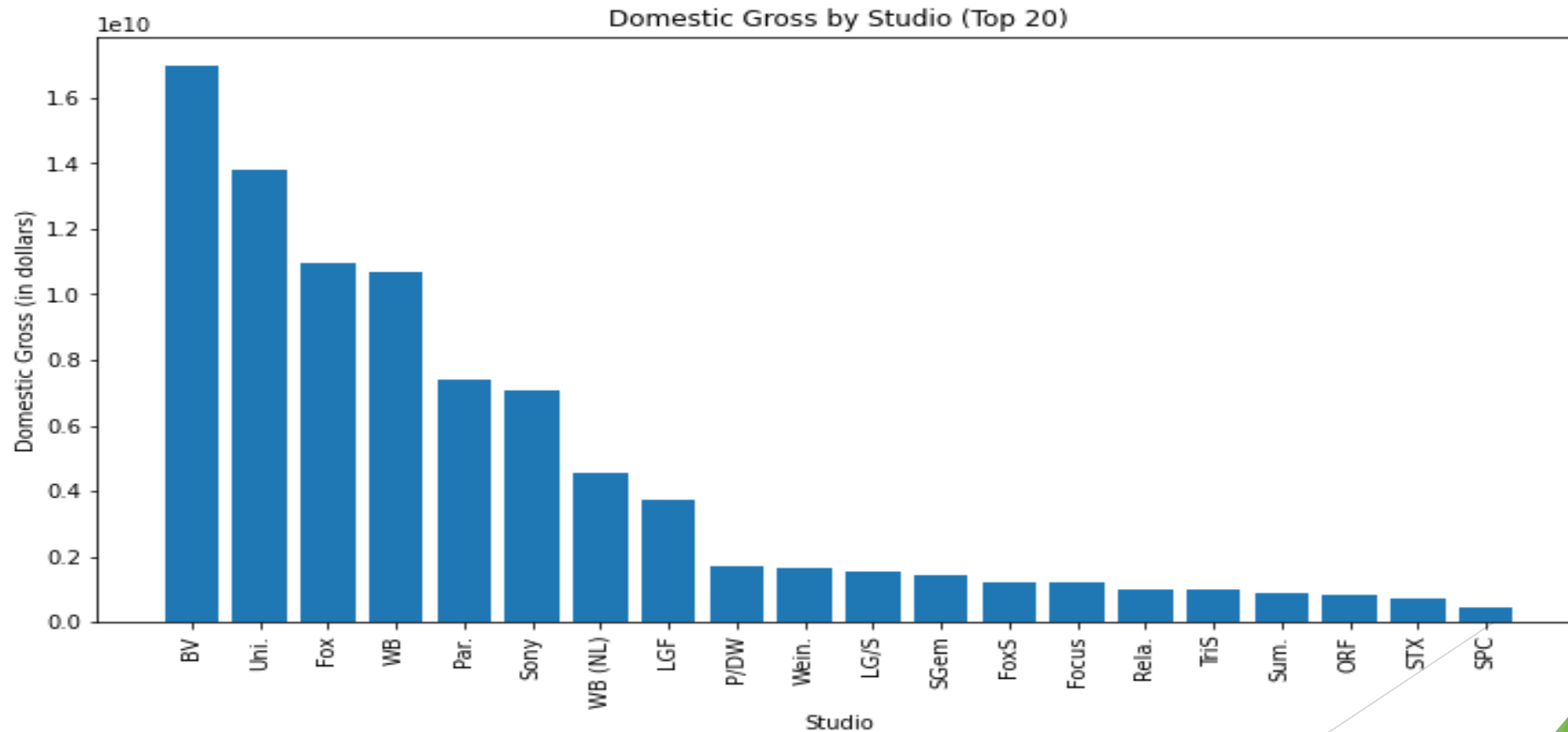

Top 10 Genres by Average Votes

Studio Analysis

Uni, IFC and Fox are the top studios in movie production

LGF, Sony and Par are the produce average number of movies

Top 10 studios in productuion of movies

BV, Uni and Fox are the leading studios in terms of high domestic gross while STX and SPC have an average domestic gross
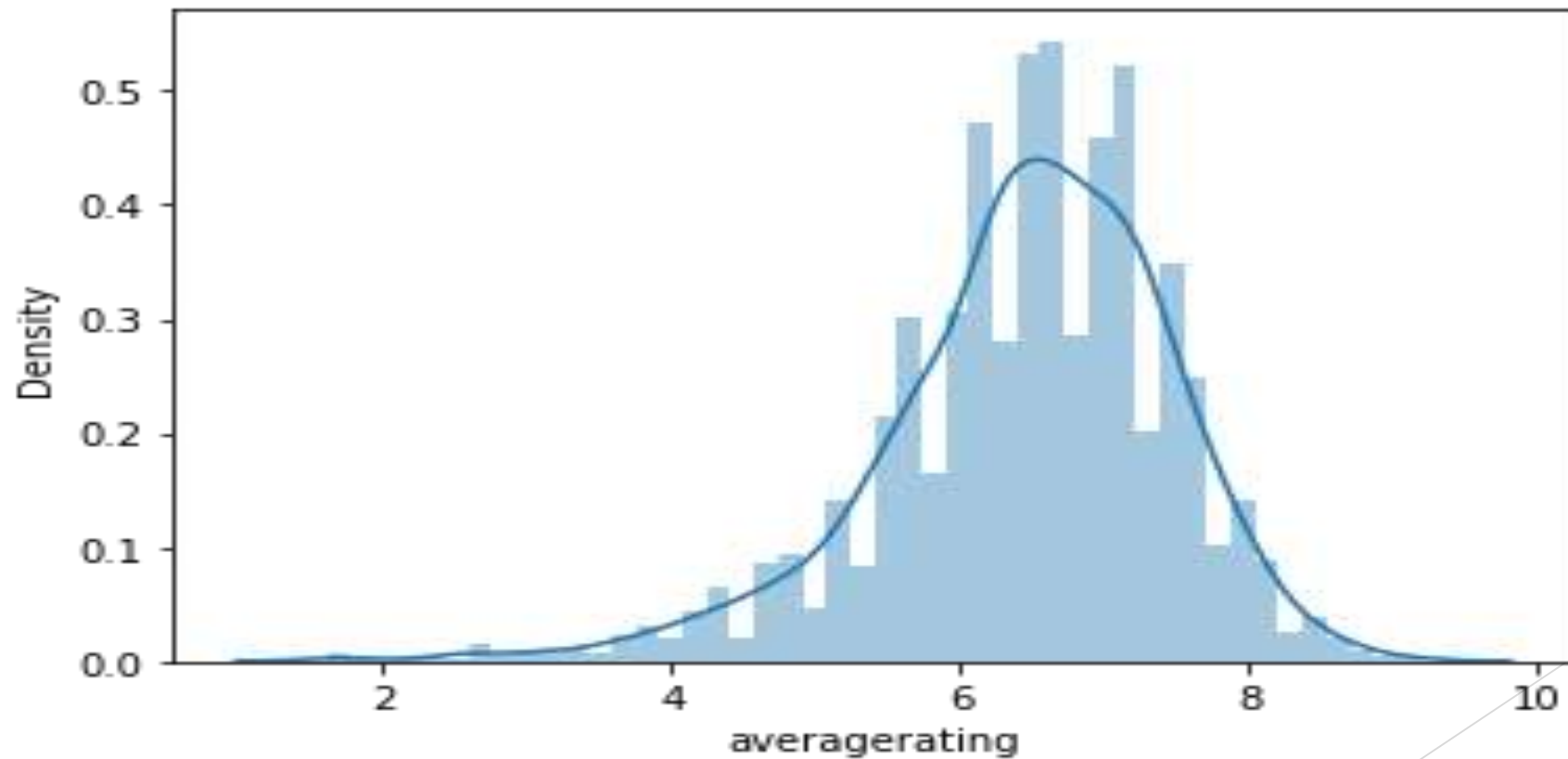

Domestic Gross by Studio (Top 20)

Ratings Analysis

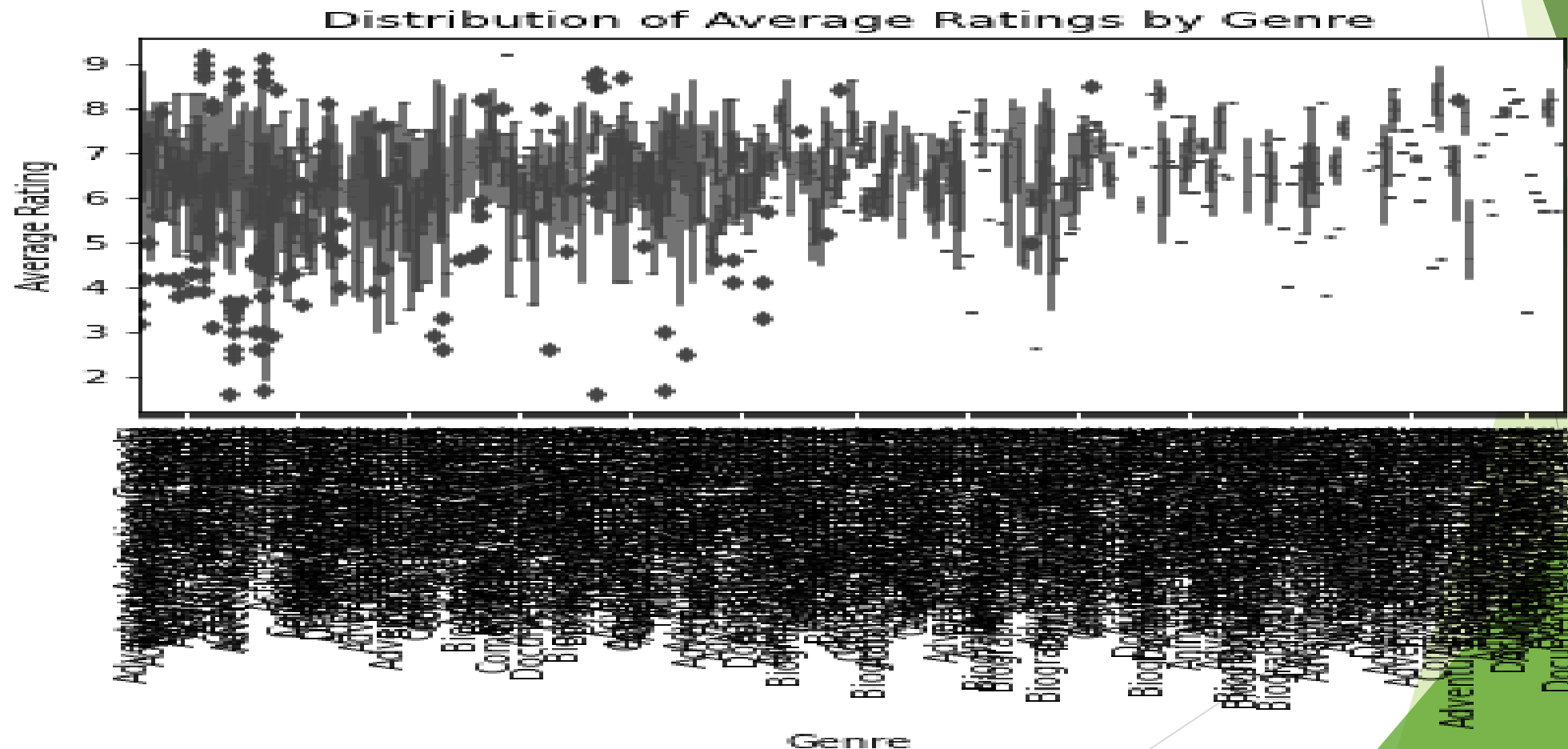The average rating range was 7.6

The mean average rating of movie was 6.45
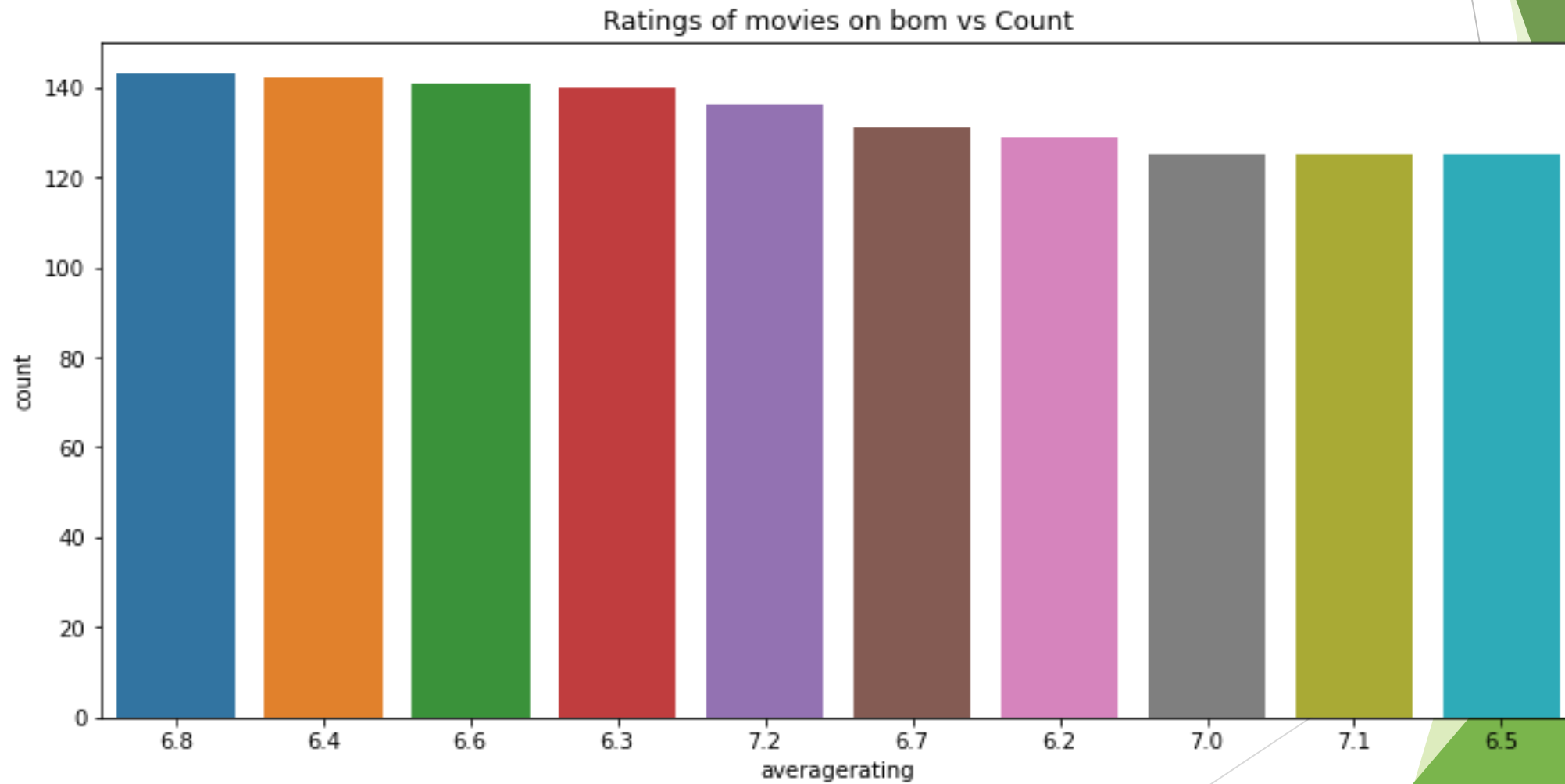
The maximum average rating of movie was 9.2

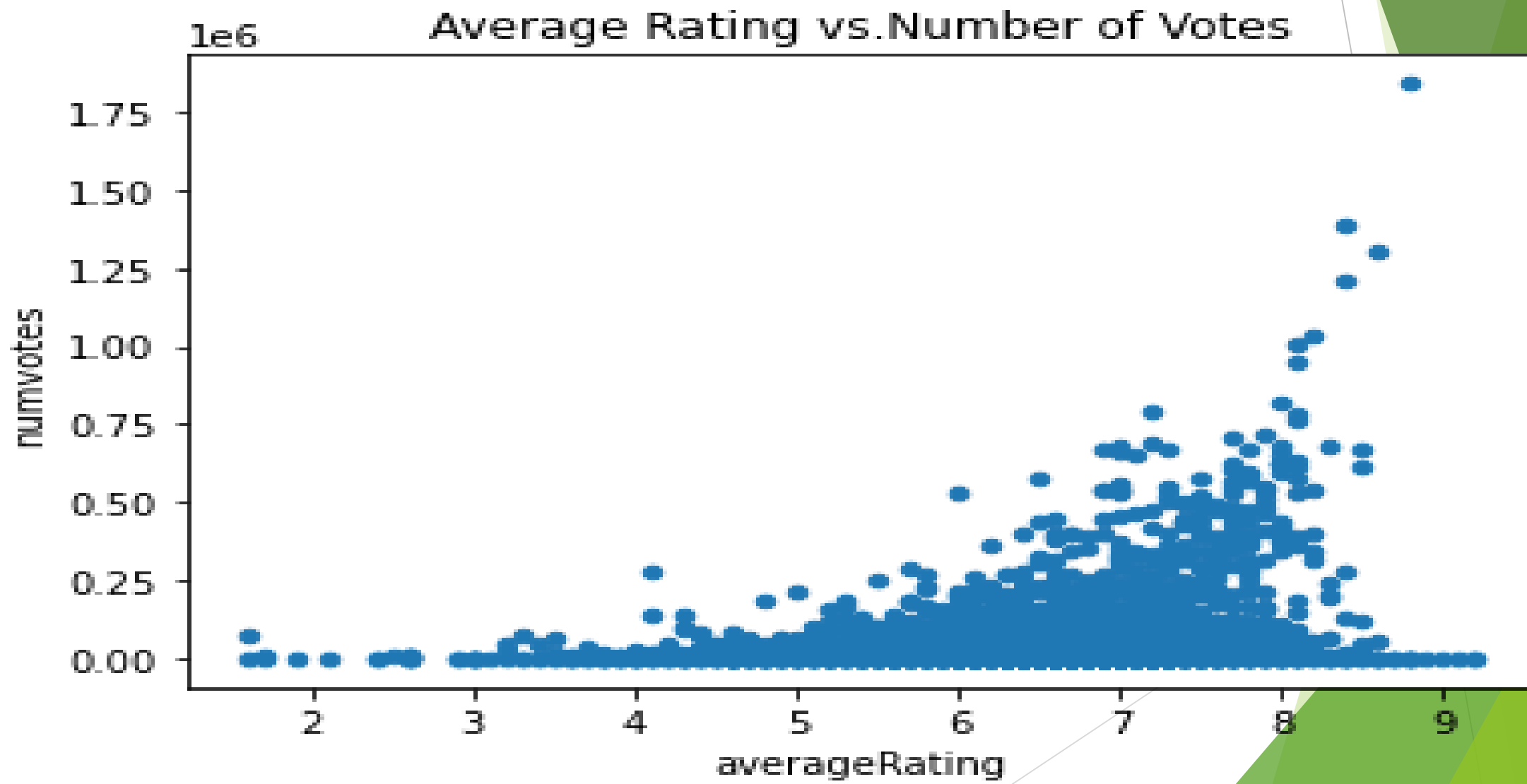The minimum average rating of movie was 1.6

Based on the chart, it seems like documentaries, music, and biography films have the highest average ratings among all genres, while horror and action films have the lowest. This could suggest that audiences are generally more critical of horror and action films, while they are more appreciative of documentaries, music, and biography films. However, it is important to note that this is just an average and there are many individual films within each genre that may not fit this trend. However, there is a lot of variability in the data, so again it is difficult to draw strong conclusions from this plot.

Distribution of Average Ratings by Genre

Most movies have an average of 6.8 and 6.4
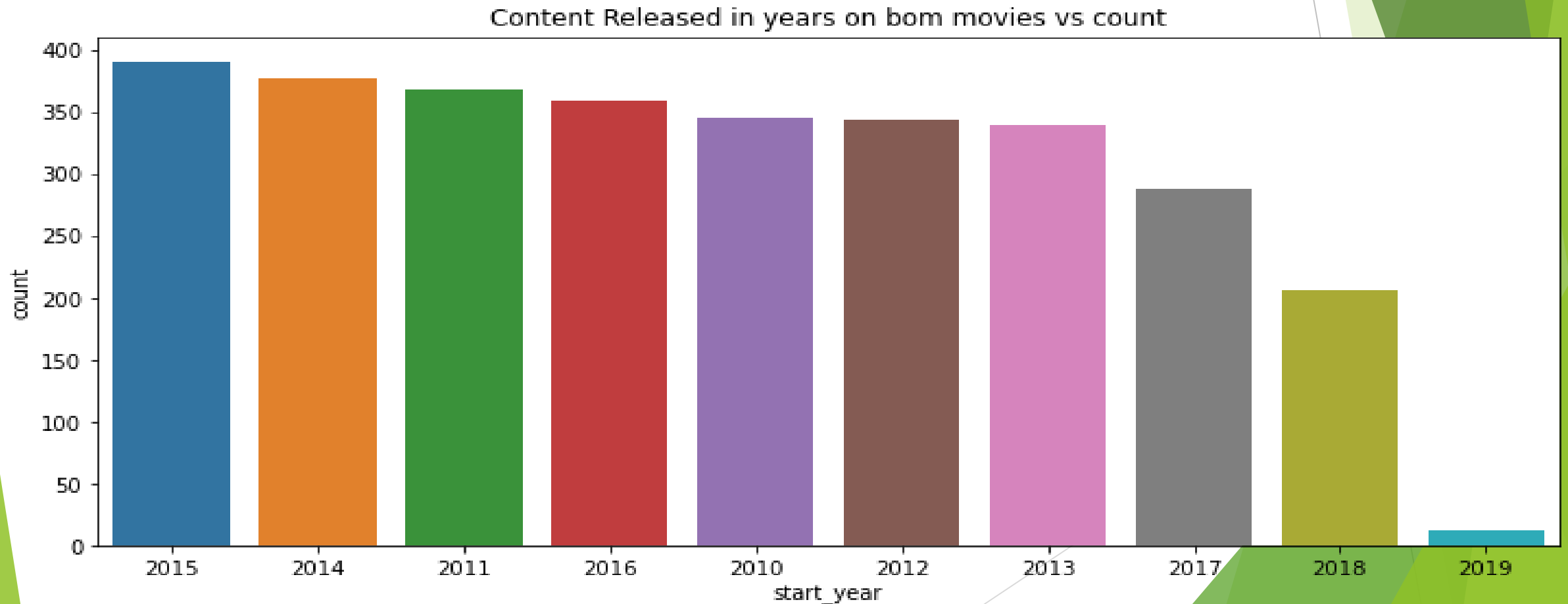

Ratings of movies on bom vs Count

The chart indicates that there is a weak positive correlation between the two variables, with higher-rated movies generally having more votes. However, there are also many movies with a high number of votes but a lower rating, indicating that the popularity of a movie is not always directly related to its quality or critical reception. This information can be useful for understanding the relationship between movie ratings and popularity and for identifying which movies may be more likely to succeed in terms of audience engagement and overall reception.

Average Rating vs. Number of Votes

Year Analysis

2015 was the year with the highest number of movie count while 2019 is the year with the lowest number of movie count

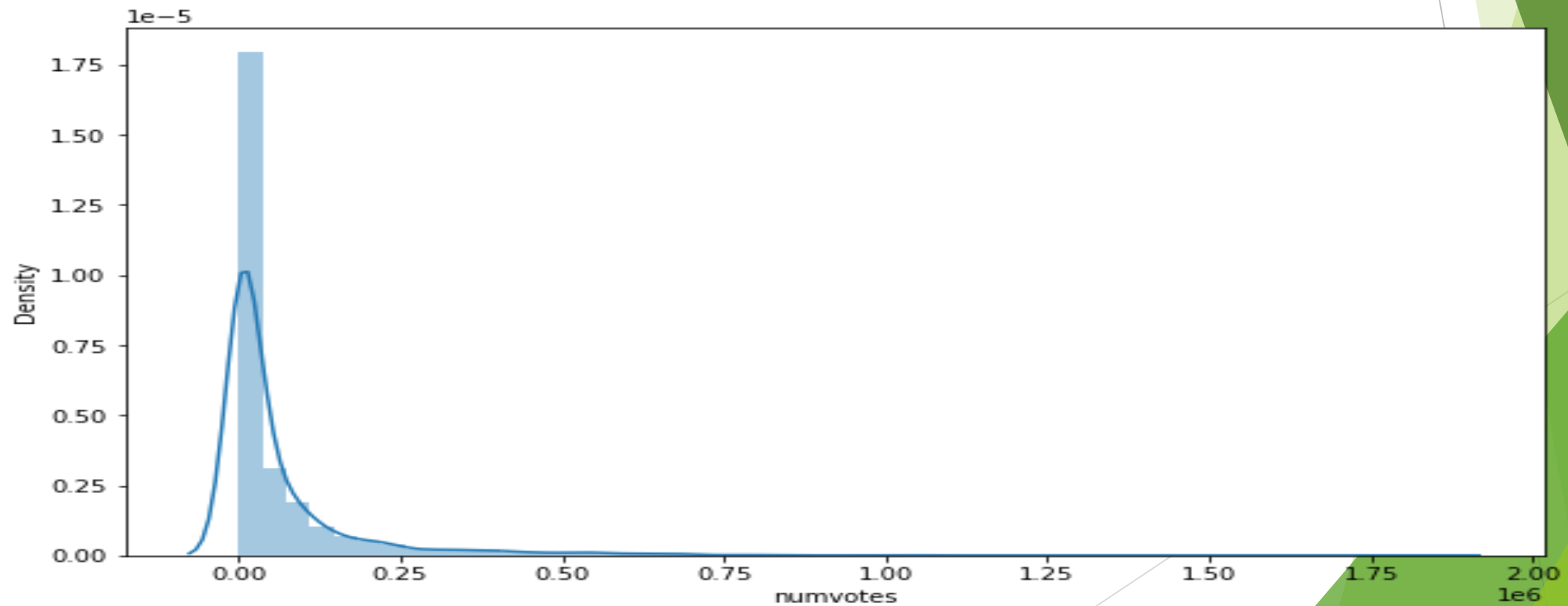Content Released in years on bom movies vs count

Votes Analysis

The numvotes range was 1841061

The mean numvotes of movie was 61,700.3

The maximum numvotes of movie was 1841066

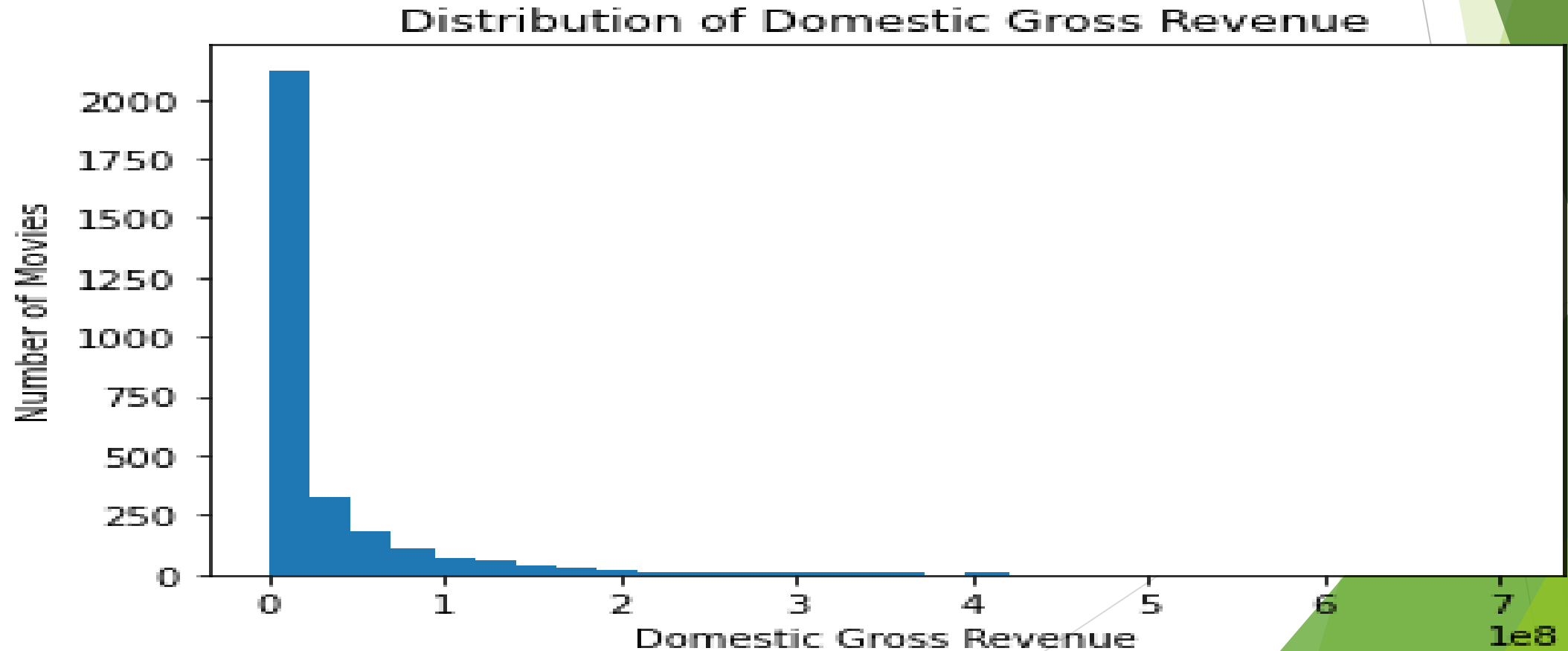The minimum numvotes of movie was 5
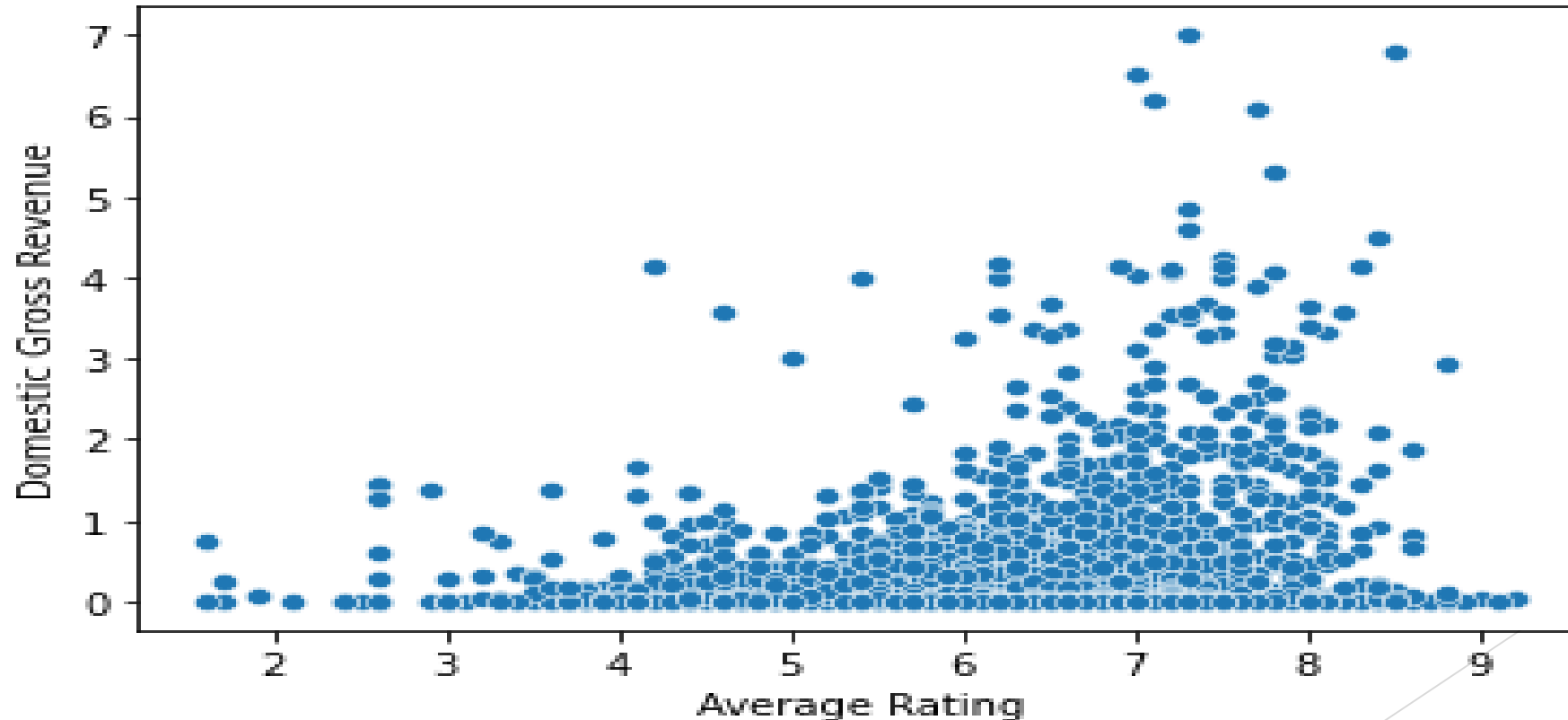
Domestic gross Analysis

We can see that the majority of movies have a domestic gross revenue of less than $50 million, with a long tail of higher grossing movies. The domestic gross also tends to increase. However, it is also evident that there are many movies with low budgets that have performed well in terms of domestic gross.

Distribution of Domestic Gross Revenue

The chart indicates that there is a weak positive correlation between the two variables, with higher-rated movies generally having higher domestic gross revenue. However, there are also many movies with a high domestic gross revenue but a lower rating, indicating that financial success is not always directly related to critical reception or quality. This information can be useful for understanding the relationship between movie ratings and financial performance and for identifying which movies may be more likely to succeed in terms of box office revenue and overall reception.

Relationship between Average Rating and Domestic Gross Revenue

Heatmap of the correlation matrix

- The darker the shade of blue, the stronger the positive correlation between the two variables, while the darker the shade of red, the stronger the negative correlation between the two variables. A value of 1 indicates a perfect positive correlation, a value of -1 indicates a perfect negative correlation, and a value of 0 indicates no correlation between the two variables.

Based on the correlation matrix, we can make the following observations:

➢ Domestic gross has a strong positive correlation with the number of votes (0.664), indicating that movies with more votes tend to have higher domestic gross.

➢ Domestic gross also has a moderate positive correlation with average rating (0.119) and runtime minutes (0.126), indicating that movies with higher ratings and longer runtime tend to have higher domestic gross.

➢ Year has a weak positive correlation with start year (0.808) and a weak negative correlation with number of votes (-0.122), indicating that older movies tend to have fewer votes than newer movies.

➢ Average rating has a moderate positive correlation with the number of votes (0.278), indicating that movies with higher ratings tend to have more votes.

➢ Runtime minutes has a moderate positive correlation with the number of votes (0.266), indicating that movies with longer runtime tend to have more votes.

Based on the analysis of the data, the following results were obtained

➢ Most successful genres: From the analysis of the genres, it was observed that the most successful genres in terms of average rating and gross revenue were Adventure drama and Sci-Fi. Movies in these genres tend to have a higher average rating and gross revenue compared to movies in other genres.

➢ Successful Studios: BV, Universal, Fox and Warner Bros(WB) were observed to be the most successful studios in terms of gross revenue. These studios have consistently produced movies that have generated high gross revenue.

➢ Movie runtime: Movies with a runtime of around 120 minutes tend to have a higher average rating compared to movies with shorter or longer runtimes.

➢ Year: There has been a steady increase in the number of movies produced over the years, with the highest number of movies produced in recent years. However, this has not necessarily translated to an increase in gross revenue.

Recommendations

Based on the analysis:

- It is recommended that movie producers focus on producing movies in the Drama, Adventure and Sci-Fi genres.

- Work with successful studios such as BV, Universal, Fox and Warner Bros(WB), and aim for a runtime of around 120 minutes.

- Consider increasing promotion and advertising efforts for movies with high vote counts to increase the popularity of the movie among audiences.

- Aim to produce movies with an average rating between 6-7, which appears to be the most common rating value in the dataset.

Overall, it is important to consider the genre, ratings, and studio when planning a movie production or distribution strategy. However, it is important to note that success is not guaranteed and there are other factors that can influence a movie's success, such as marketing, timing of release, and competition in the market.

Next step

- The movie industry is constantly evolving, and Microsoft's new movie studio should remain flexible and adaptable to changing conditions and consumer preferences to stay competitive in the market. Further research and analysis could include exploring the impact of social media and influencer marketing on movie success and analyzing the impact of streaming services on the box office.

- Conduct further analysis on the top-performing genres and studios: Explore the top-performing genres and studios in more detail to gain a deeper understanding of their success factors and identify any common trends or characteristics that contribute to their success.

- Analyze the impact of release dates and marketing strategies: Consider exploring the impact of release dates and marketing strategies on movie success to help identify optimal timing and promotional efforts for new movie releases.

- Develop predictive models: Use machine learning algorithms to build predictive models that can forecast the potential success of a movie based on various factors such as genre, studio, rating, and release date.

- Collaborate with industry experts: Work with industry experts such as producers, directors, or marketing professionals to gain additional insights and perspectives on the movie industry and potential strategies for success.

Thank You

Thank you for considering my analysis and recommendations for Microsoft's new movie studio. I believe that by implementing these recommendations, Microsoft can create high-quality movies that appeal to both critics and audiences, generating positive reviews and strong box office performance.