



# *Microsoft Movie Project*

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# Business Understanding

Microsoft sees all the big companies creating original video content and they want to get in on the fun. They have decided to create a new movie studio, but they don't know anything about creating movies. You are charged with exploring what types of films are currently doing the best at the box office. You must then translate those findings into actionable insights that the head of Microsoft's new movie studio can use to help decide what type of films to create.

The primary objective of this project is to support Microsoft's entry into the film industry by offering crucial insights into the fundamental drivers behind a movie's success. Through an extensive analysis of diverse films, the aim is to identify distinct patterns that lay foundation for successful movies.

By leveraging information from these datasets, this analysis aimed to address key questions posed in the business problem, with a focus on target variables such as genres, runtime, domestic gross, and production budget.

Research Questions;

what are the most popular movie genres?

what is the average runtime minutes of a movie?

what is the average domestic gross for a standard movie?

what is the relationship between domestic gross profit and production budget?

Data Understanding

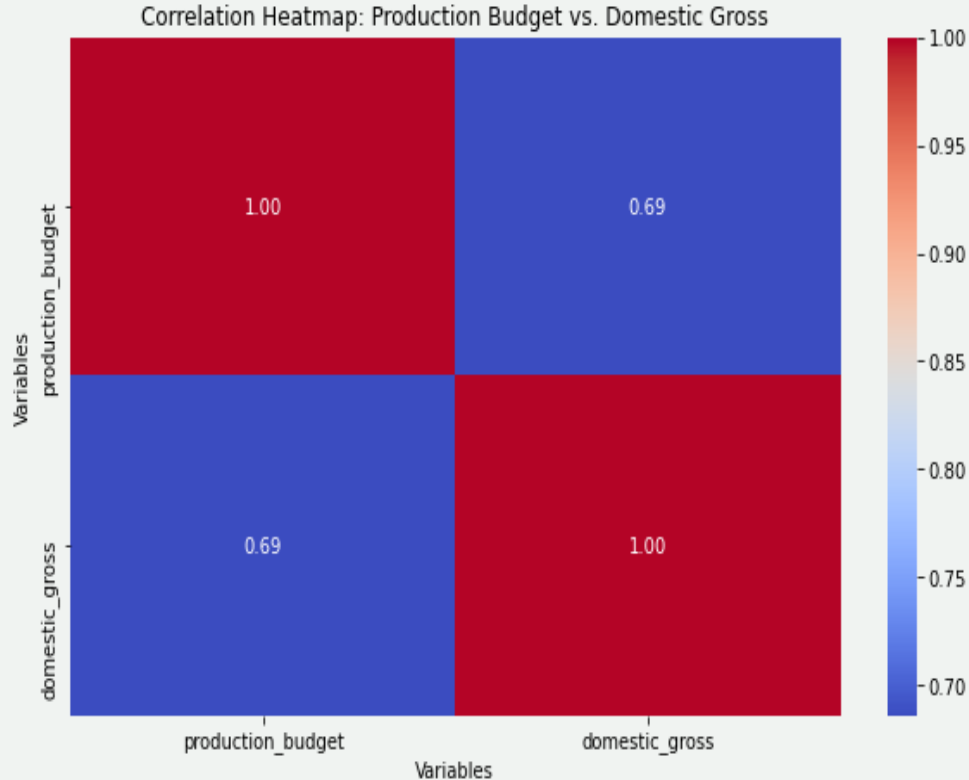
Three different datasets are used for this Exploratory Data Analysis. These include;

bom\_movies; which entails the domestic and foreign gross revenue figures different movies earned after production. This particular dataset will guide Microsoft to understand which movies and genres earn more and which ones to invest in.

Q\_movies.info; which entails titles of movies and their genres. This file will especially guide Microsoft to understand in depth about the movie genres that are in the industry.

tmdbmovies\_budget; which includes production\_budget of a movie gets once it is released and domestic\_gross and worldwide\_gross it commands. This dataset will show Microsoft which movies do well in the industry by observing those with the highest rating and votes.

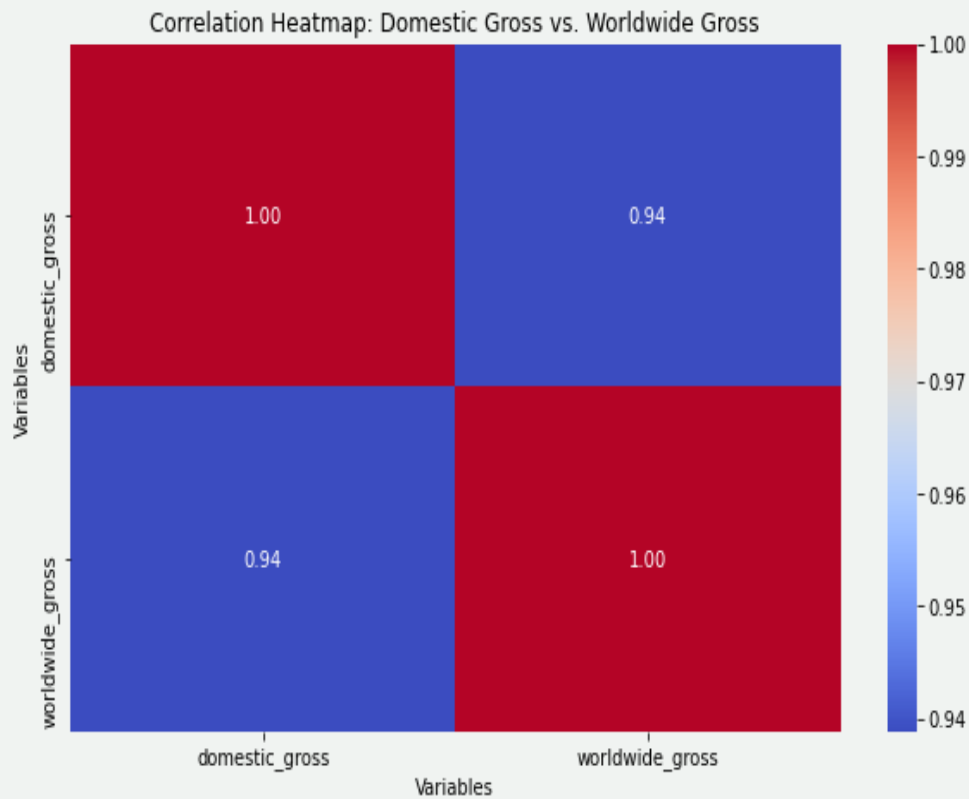
## Data Analysis Findings



Based on the heatmap visualization presented, it is evident that there exists a statistically significant positive correlation between the production budget allocated for a movie and its corresponding domestic gross revenue.

The correlation coefficient of 0.69 indicates a moderately strong positive linear relationship between these two variables. This implies that as the production budget of a movie increases, there is a tendency for its domestic gross revenue to also increase, suggesting a potential return on investment for higher budget productions.

## Data Analysis Findings

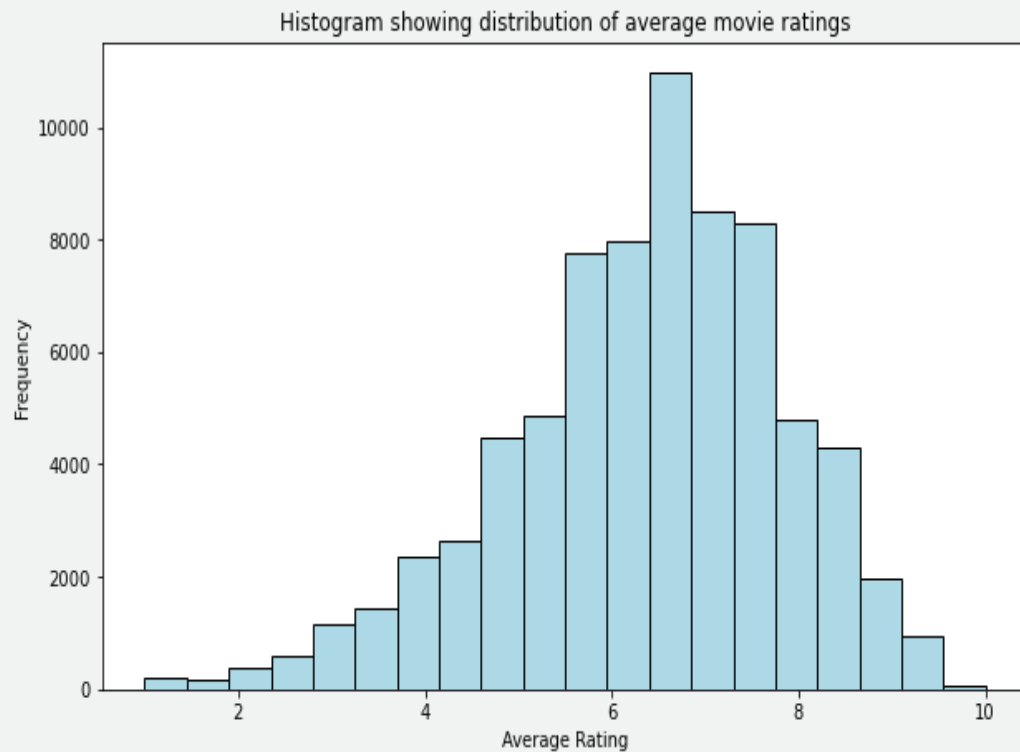


It is evident that a highly significant positive correlation exists between the domestic gross and worldwide gross, with a correlation coefficient of 0.94.

This finding suggests a robust relationship wherein an increase in the production budget is strongly associated with a subsequent rise in domestic gross revenue. This correlation coefficient indicates a near-perfect positive linear relationship between the two variables, indicating that as the production budget increases, the domestic gross tends to increase in tandem.

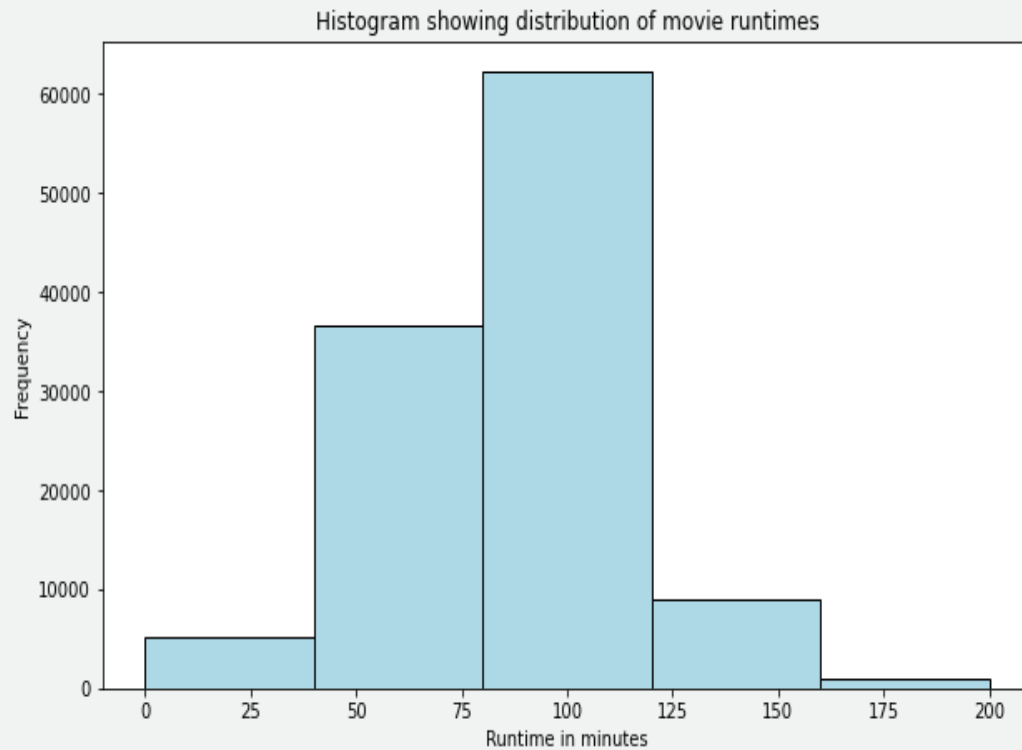
Such insights gleaned from the analysis provide valuable guidance for decision-making processes within the film industry, allowing stakeholders to make informed investment decisions and optimize revenue generation strategies.

## Data Analysis Findings



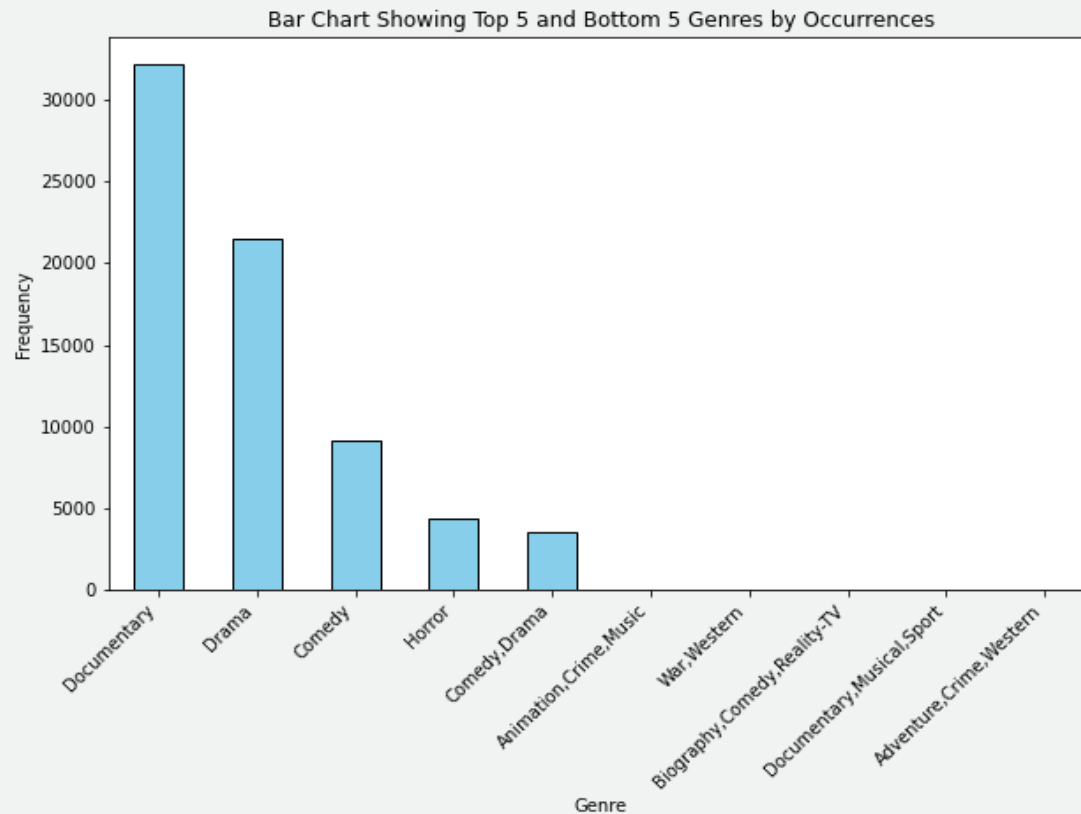
We can conclude that most movies are rated at 6.5. This also shows that 6.5 is the mean average rating for best performing movie rating scale.

## Data Analysis Findings



we can conclude that most movies are 100 minutes long. This is the time frame for best standard performing movies

## Data Analysis Findings



From the bar chart depicting genre popularity, it can be concluded that the top five most popular genres are documentary, drama, comedy, horror, and comedy/drama, with documentary being the most popular among them. This finding aligns with the observation made during data exploration that the highest-rated movie is also a documentary.

Conversely, the least popular genres include documentary/musical/mystery, drama/horror/short, action/animation/music, crime/family/horror, and fantasy/history/sci-fi.

## Recommendations.

From the results of data exploration and the visualizations that I've created, I would make the following recommendations to Microsoft:

1. **Investment in Production Budget:** The analysis underscores a strong positive correlation between production budget and domestic gross revenue. Therefore, Microsoft should consider allocating substantial resources to production to enhance the quality and appeal of its films, potentially leading to higher box office returns.
2. **Focus on Documentary and Drama Genres:** Documentary and drama genres emerge as the most popular among audiences, as evidenced by the data. Microsoft should prioritize these genres in its film production endeavours to align with prevailing market trends and capitalize on audience preferences.
3. **Consider Hiring Omar Pasha:** Notably, filmmaker Omar Pasha has contributed significantly to the number of films in the dataset, indicating a wealth of experience and expertise in the industry. Microsoft may benefit from collaborating with Pasha as a writer or director, leveraging his proven track record to enhance the quality and success of its film projects.
4. **Optimal Movie Runtimes:** The analysis reveals that movies with runtimes between 90 and 110 minutes are well-received by audiences, as evidenced by the average runtime falling within this range. Thus, Microsoft should aim to produce films within this duration to maximize audience engagement and satisfaction.
5. **Avoidance of Musical and Fantasy Genres:** Despite the diversity of genres available, musicals and fantasies emerge as the least popular among audiences. Microsoft should exercise caution when considering projects in these genres, as they may not yield significant returns on investment compared to other genres.
6. **Target High Ratings:** With the average movie rating set at 6.5, Microsoft should prioritize the production of high-quality content that garners favourable reviews from audiences and critics alike. By aiming for movie ratings of 6.5 or higher, Microsoft can enhance its reputation and success in the competitive film industry landscape.