
IMDB MOVIE ANALYSIS WITH MICROSOFT POWERBI

GUVI CAREER FAIR PROJECT 1

REPORT BY

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Project link: [IMDB Movie Analysis](#)

INTRODUCTION

Uncover the secrets of cinematic success with our IMDb movie analysis. Explore genres, directors, durations, languages, and budgets to understand what makes a movie stand out. Dive into the data, extract insights, and create actionable strategies for the film industry. Let's decode IMDb ratings and elevate your movie endeavours.

PROBLEM STATEMENT

The dataset provided is related to IMDb Movies. A potential problem to investigate could be: "**What factors influence the success of a movie on IMDb?**" Here, success can be defined by high IMDb ratings. The impact of this problem is significant for movie producers, directors, and investors who want to understand what makes a movie successful to make informed decisions in their future projects. Consider this as an open-ended question and come up with more analysis points. Anyway, here are some of the analysis ideas given to you.

DATA CLEANING APPROACHES

The column we took for analysis are '**director_name**', '**num_critic_for_reviews**', '**duration**', '**gross**', '**genres**', '**actor_1_name**', '**movie_title**', '**language**', '**country**', '**content_rating**', '**budget**', '**title_year**', '**imdb_score**'

Other Columns are removed in Power BI.

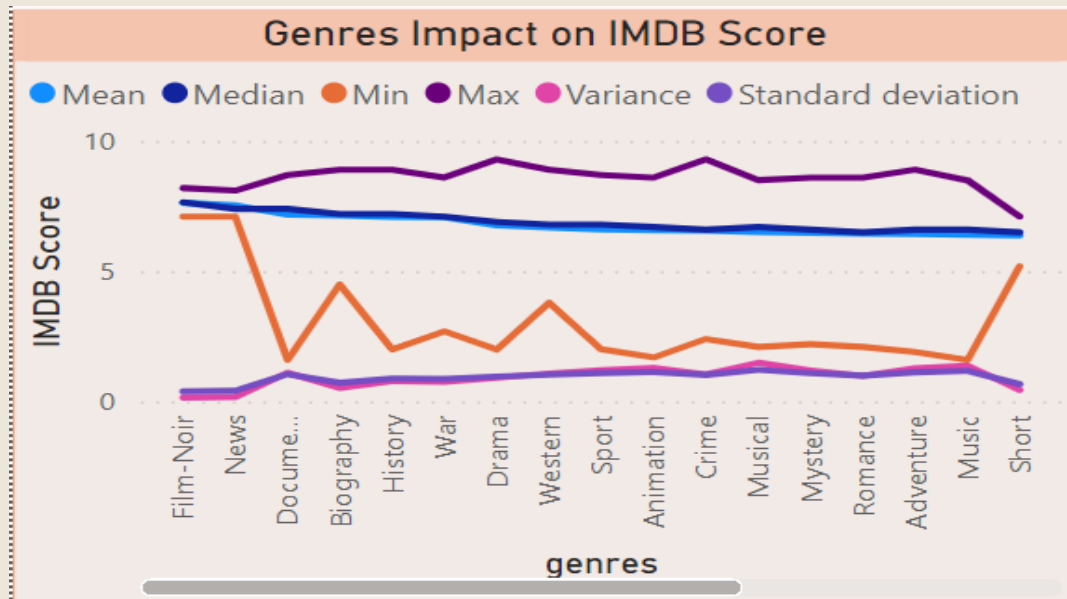
Some of the columns we took for analysis can't be treated because it has to be original columns. So, we filled the null value with '**unknown**' such columns are '**director_name**', '**actor_1_name**', '**title_year**', '**country**'.

We have treated other columns with null value imputation.

We have treated null values of '**duration**', '**gross**', '**budget**', '**content_rating**' by grouping the countries with **mean**, **median** and **content_rating with ffill**.

Why we didn't group genre because a single has different genres if we explode them and treat them with the null means the same movie will get different values.

ANALYSIS WITH POWER BI



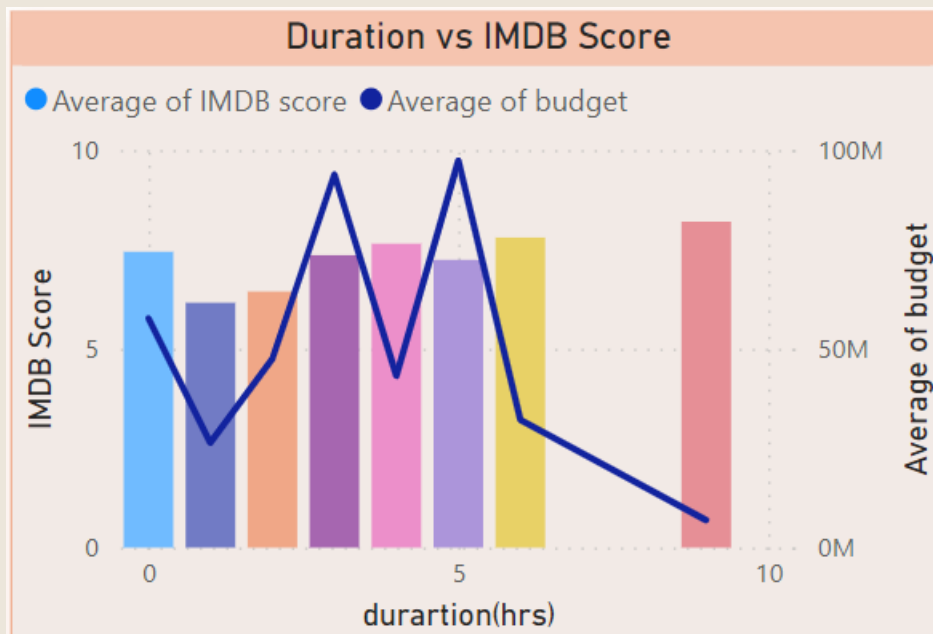
The above chart shows the relation between the genre and the IMDB Score

1. Movie Ratings Statistics:

- The **average** movie **rating** across all genres is **7.65**, with a median of 7.10.
- The **highest rated genre on average** is **"Documentary"** with a mean rating of **8.20**.
- The **lowest rated genre on average** is **"Animation"** with a mean rating of **6.60**.

2. Genre Distribution and Impact on Ratings:

- The **genres with the most movies in the dataset** are **"Drama"**, **"Crime"**, and **"Biography"**.
- Despite having a high number of movies, **"Drama" has a relatively lower average rating** compared to other genres.

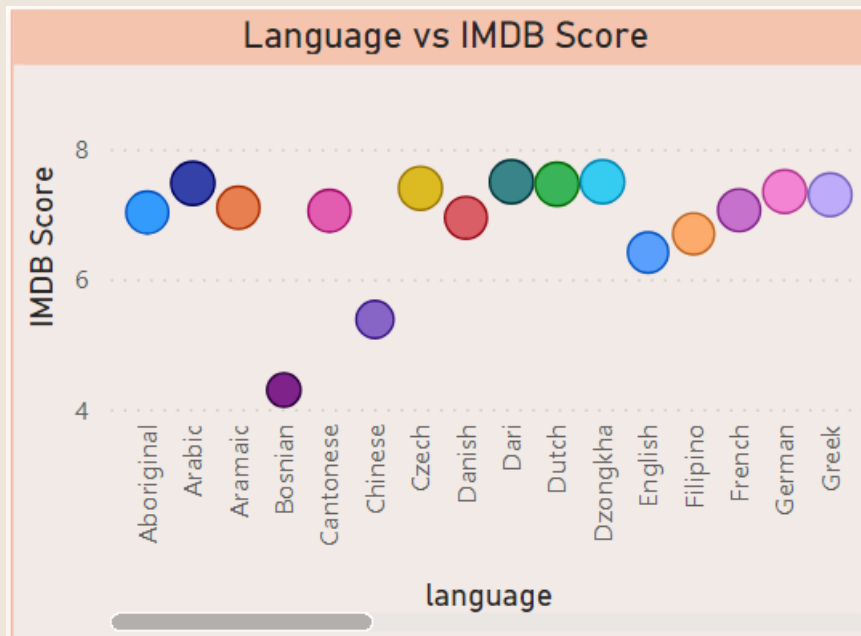


1. IMDB Score vs Movie Duration:

- **Movies with longer durations tend to have higher IMDB scores**, with the highest average score observed for movies lasting **4 hours (7.65)** and **6 hours (7.80)** but the **longer duration movies have lesser data**.
- **Shorter movies, particularly those lasting 1 hour, have comparatively lower average IMDB scores (6.16)**, indicating a potential preference for longer and more detailed storytelling.

2. Budget Allocation Across Movie Durations:

- There is significant variation in budget allocation across different movie durations, with the highest average budget observed for **5-hour movies (\$97,366,712.76)** and **3-hour movies (\$93,887,880.10)**.
- Shorter movies, such as those lasting 1 hour, have notably lower average budgets (\$26,360,166.70), suggesting that shorter durations may correspond to lower production costs or different investment strategies.



1. IMDB Score by Language:

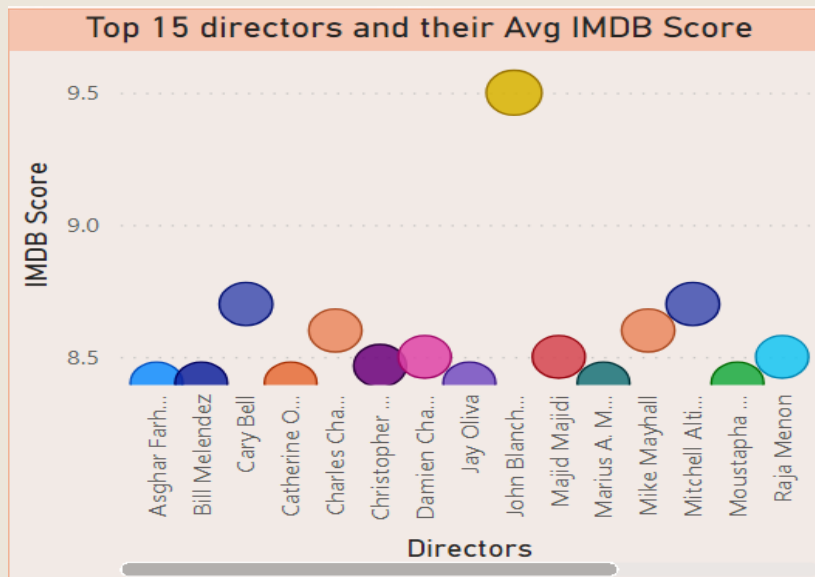
- **Top Performing Languages:** Languages such as **Dutch (7.46)**, **Italian (7.50)**, and **Indonesian (7.94)** have higher average IMDB scores, indicating a trend towards well-received movies in these languages.

- **Lower Performing Languages:** Languages like **Bosnian (4.30)**, **Kazakh (6.00)**, and **Russian (6.19)** have comparatively lower average IMDB scores, suggesting potential challenges or differences in audience reception or film quality.

2. Variation in IMDB Scores Across Languages:

- There is notable variation in IMDB scores across different languages, highlighting the diverse global landscape of film production and reception.

- Languages such as **Hebrew (7.66)** and **Danish (6.95)** exhibit relatively higher average scores, while others like **Mongolian (7.30)** and **Romanian (7.20)** show moderate performance, reflecting the influence of cultural context and regional film industries on audience preference



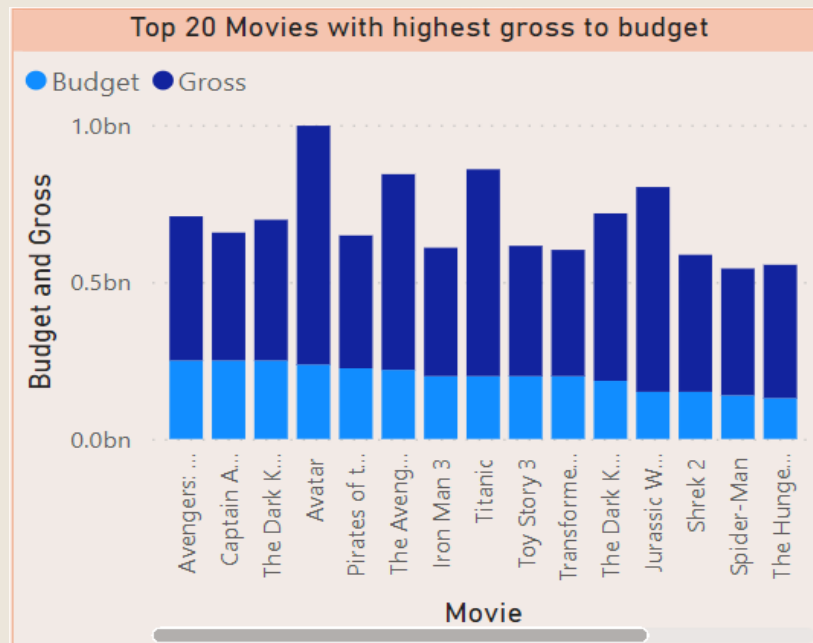
1. Top Directors by Average IMDB Score:

- **Highly Rated Directors:** Directors such as **Charles Chaplin (8.60)**, **Asghar Farhadi (8.40)**, and **Christopher Nolan (8.47)** have **consistently high** average IMDB scores, indicating a strong track record of delivering critically acclaimed movies.

2. Consistency in Directorial Excellence:

- **Uniform Excellence:** Some directors like **Cary Bell (8.70)** and **Raja Menon (8.50)** exhibit **consistent high performance across their works**, suggesting a level of mastery and consistency in delivering quality films.

- **Diverse Talent:** Directors such as **Damien Chazelle (9.50)** and **S.S. Rajamouli (8.70)** showcase versatility and talent across different genres or styles, as reflected in their impressive average IMDB Scores.



1. Budget vs. Gross Earnings:

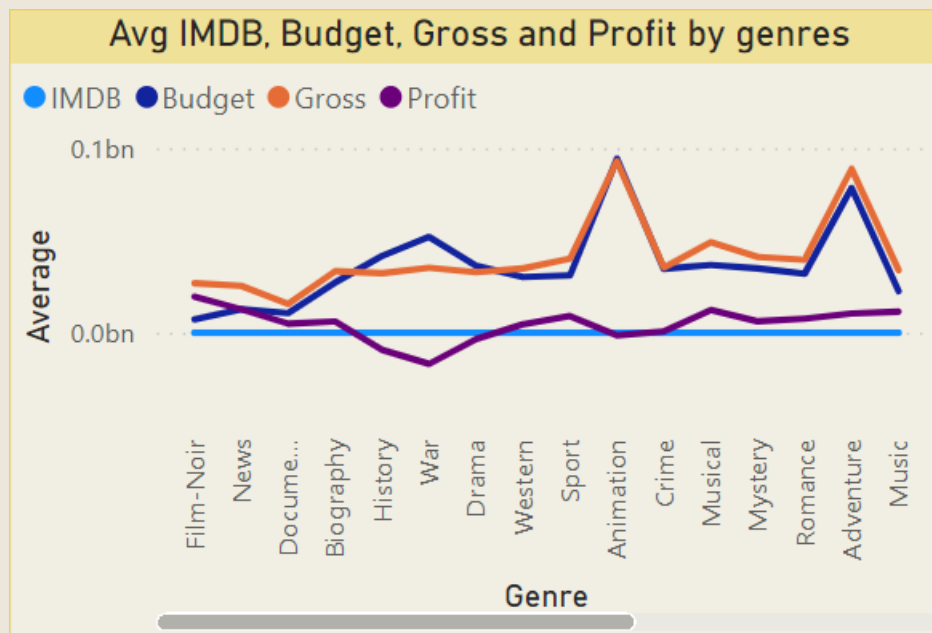
- **High Budget Blockbusters:** Movies like "Avatar" and "Titanic" with budgets exceeding \$200 million have achieved remarkable success at the box office, grossing over \$700 million each.

- **Efficiency in Budget Utilization:** Some movies, such as "E.T. the Extra-Terrestrial" and "Shrek 2," demonstrate exceptional profitability despite relatively modest budgets, indicating efficient allocation of resources and strong audience appeal.

2. Top Grossing Movies:

- **Blockbuster Hits:** Films like "Avatar," "Titanic," and "The Dark Knight" have not only garnered critical acclaim but also achieved immense commercial success, grossing hundreds of millions of dollars worldwide.

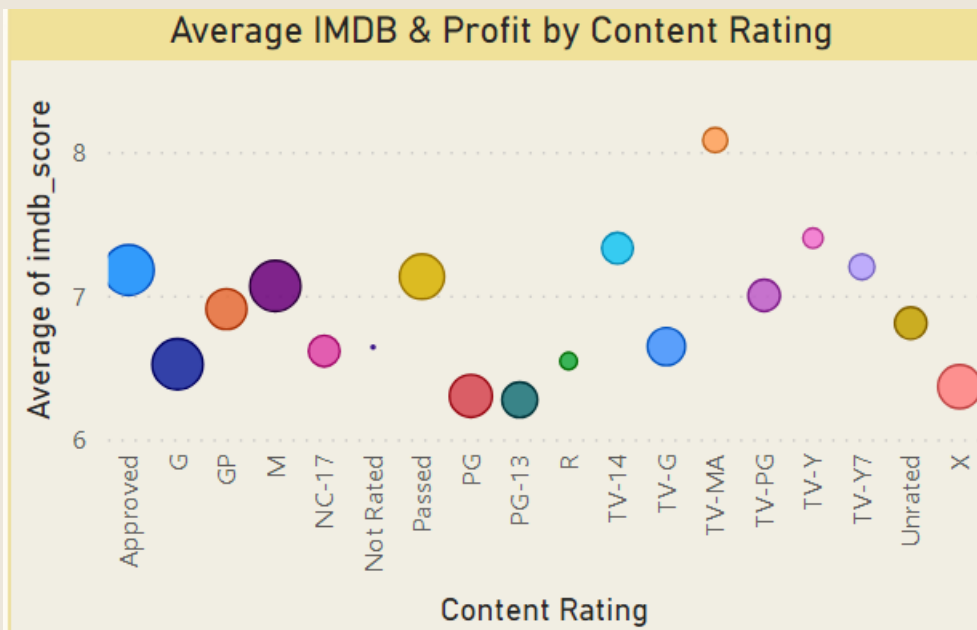
- **Consistent Performers:** Franchise entries such as "The Avengers" and "Star Wars: Episode I - The Phantom Menace" continue to draw significant audiences and generate substantial box office revenue, reaffirming their enduring popularity.



1. **Genres Analysis:** The **top genres based on average IMDB score** include **Film-Noir**, with an **average score of 7.63**, followed by **News at 7.53** and **Documentary at 7.18**. These genres exhibit varied budget ranges, with **Film-Noir** having a **minimum budget of \$1,250,000** and **maximum budget of \$12,215,500,000**.

2. **Short Genres Analysis:** **Thriller and Fantasy emerge as the top short genres with scores of 6.38 and 6.25 respectively**. Despite their popularity, some short genres like Horror and Reality-TV show negative profitability, suggesting potential challenges in this category.

3. **Budget and Gross Analysis:** Notably, high-budget genres like Sci-Fi and Family command substantial budgets, with the highest grossing movie in the dataset accumulating \$2,127,519,898. However, profitability varies widely, with some genres experiencing significant losses despite high budgets, underscoring the risk inherent in film production.



1. **Content Rating Analysis:** Content ratings significantly influence audience perception, with **TV-MA garnering the highest average IMDB score of 8.08**, closely followed by **G and TV-Y at 7.00 and 7.40** respectively. However, profitability varies across content ratings, with NC-17 and TV-Y7 experiencing notable losses, while TV-PG and Unrated genres exhibit positive profitability.

2. **Profitability Analysis:** Profitability is not solely determined by audience ratings, as evidenced by the varied financial performance across content ratings. While TV-PG and Unrated genres achieve profitability, others such as NC-17 and TV-Y7 face challenges, suggesting that audience preferences and market dynamics play a crucial role in financial success.

3. **Impact of Ratings on Financial Performance:** Ratings like TV-MA and TV-Y exhibit strong audience appeal, translating into high IMDB scores. However, this does not always guarantee financial success, as evidenced by the negative profitability of TV-MA. Conversely, lower-rated genres like TV-PG demonstrate positive profitability despite slightly lower IMDB scores, emphasizing the nuanced relationship between audience reception and financial outcome.

CONCLUSION:

In conclusion, our analysis of IMDB movie data reveals intriguing insights into the factors influencing film success. High-budget blockbusters like "Avatar" and "Titanic" have demonstrated immense commercial success, while smaller-budget films like "E.T. the Extra-Terrestrial" and "Shrek 2" have showcased remarkable profitability. Moreover, top-grossing movies such as "The Dark Knight" and franchise entries like "The Avengers" continue to captivate audiences and generate significant box office revenue. These findings underscore the importance of strategic budget allocation, audience engagement, and the enduring appeal of well-crafted storytelling in the film industry.