

Analysis of Affecting Factors of Films Worldwide Gross

How to optimize Worldwide Gross of Films

Summary

The goal of this project is to aid *The Microsoft Production Company* (TMPC) in optimizing the profitability of future films. The measure used to evaluate profitability for this project is worldwide gross.

Bank on the Budget → Higher Production Budget yield higher Worldwide Gross

The Month matters → May and June are the Top 2 grossing Months

Within those Months the Top 3 Genres are → Adventure, Animation, Sci-Fi

R is NOT for Revenue... maybe? → R rated movies restrict the audience and the Worldwide Gross



Outline

- **Business Problem**
- **Data**
- **Methods**
- **Results**
- **Conclusions**

Business Problem

Microsoft has decided to create a new movie studio -

The Microsoft Production (TMPC)

TMPC wants to create original content, they need an assessment of the factors which contribute to a films success.



Data

5,782 films from 1915 to 2020:

- *Positive Correlation Between Production Budget and Worldwide Gross*
- *Worldwide Gross grouped by Month of Release*

2,967 films from 1915 to 2019 (resulted in 6,461 genre datapoints):

- *Evaluating Worldwide Gross per Month of Release, grouped by Genre*

33 films from 2010 to 2018:

- *Worldwide Gross, grouped by Rating*
- *Correlation Between Production Budget and Worldwide Gross, grouped by Rating*

Methods

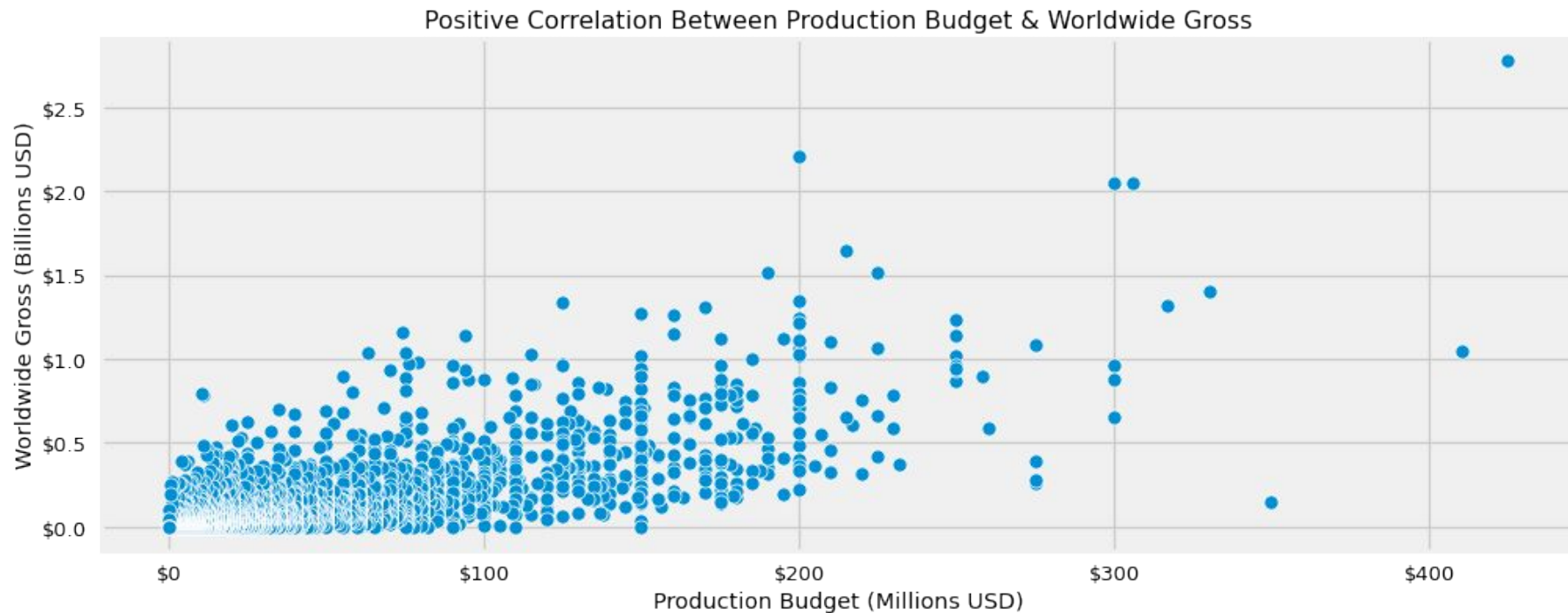
- Visual analysis was the primary way of interpreting the data, however, statistical analysis was also used to support the visualizations.
- For the purpose of this analysis, a films level of success was based on its worldwide gross.
- Worldwide gross was measured against: genres, month of release, movie rating and production budget.
- Top ranked genres were determined by their mean value.
- Genres mean-values were calculated by dividing a films worldwide gross equally among the number of genres associated the film



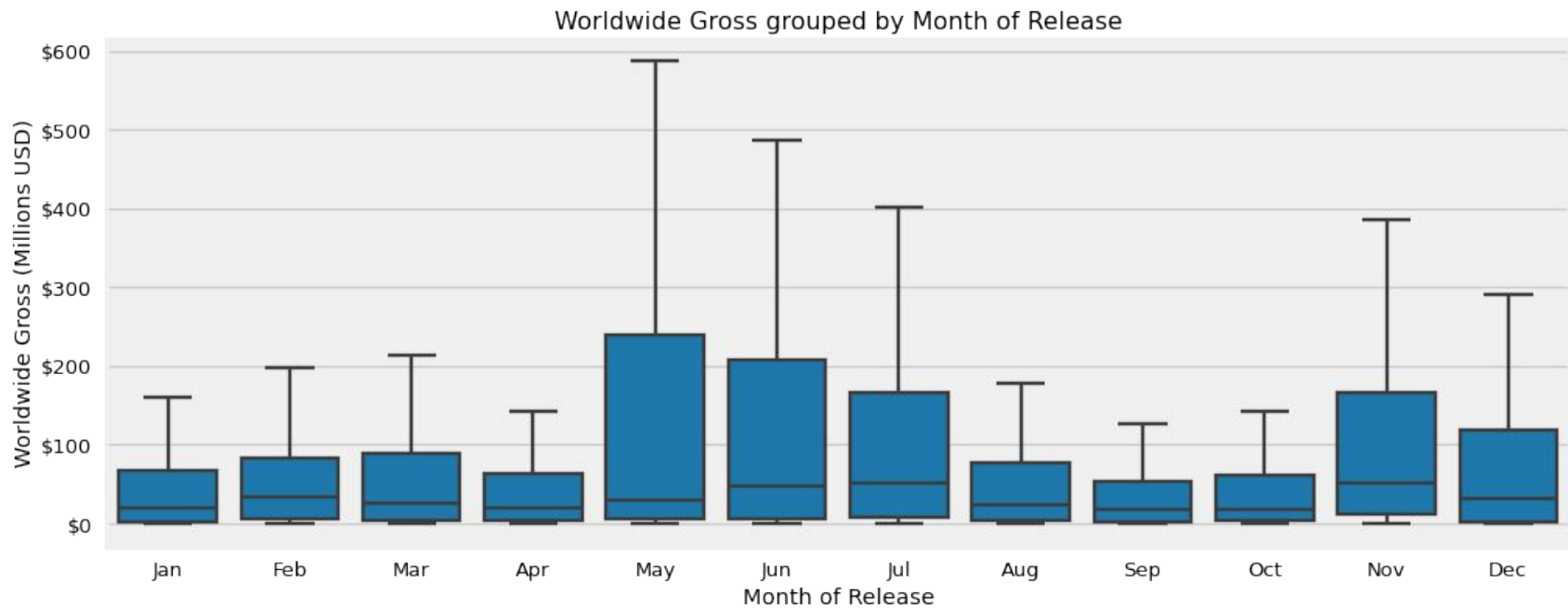
Results

- Production Budget, Month of Release, Genre, and Rating were all positively correlated with Worldwide Gross.
- Production Budget has the strongest correlation with Worldwide Gross
- May & June are top two grossing months followed by July & November
- Animation, Adventure & Sci-Fi are those months' Top 3 Genres
- PG is the top grossing movie rating.
- An R rating seems to significantly limit worldwide gross however, on closer inspection it appears R rated movies do not have large production budgets which may also be restricting the worldwide gross. More data is needed for further analysis.

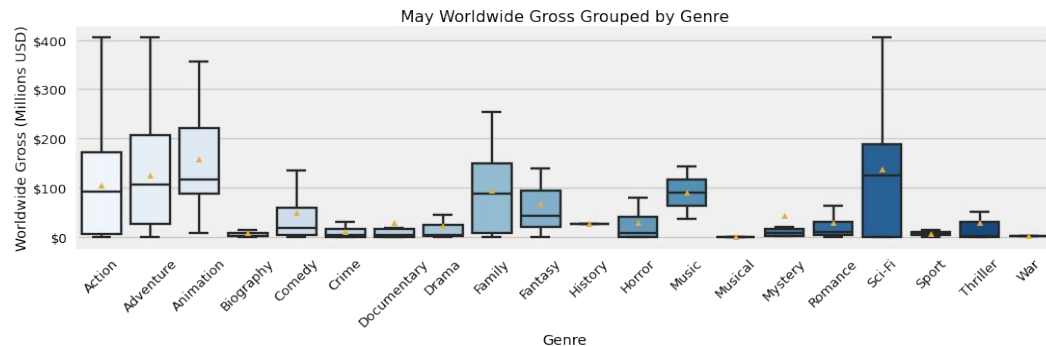
Production Budget



Month of Release

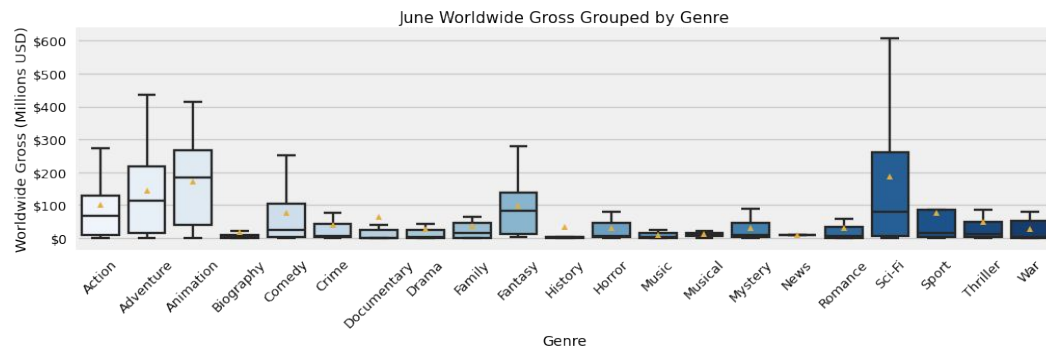


Genres for Top 2 Months



May top 3 Genres:

1. Animation
2. Sci-Fi
3. Adventure

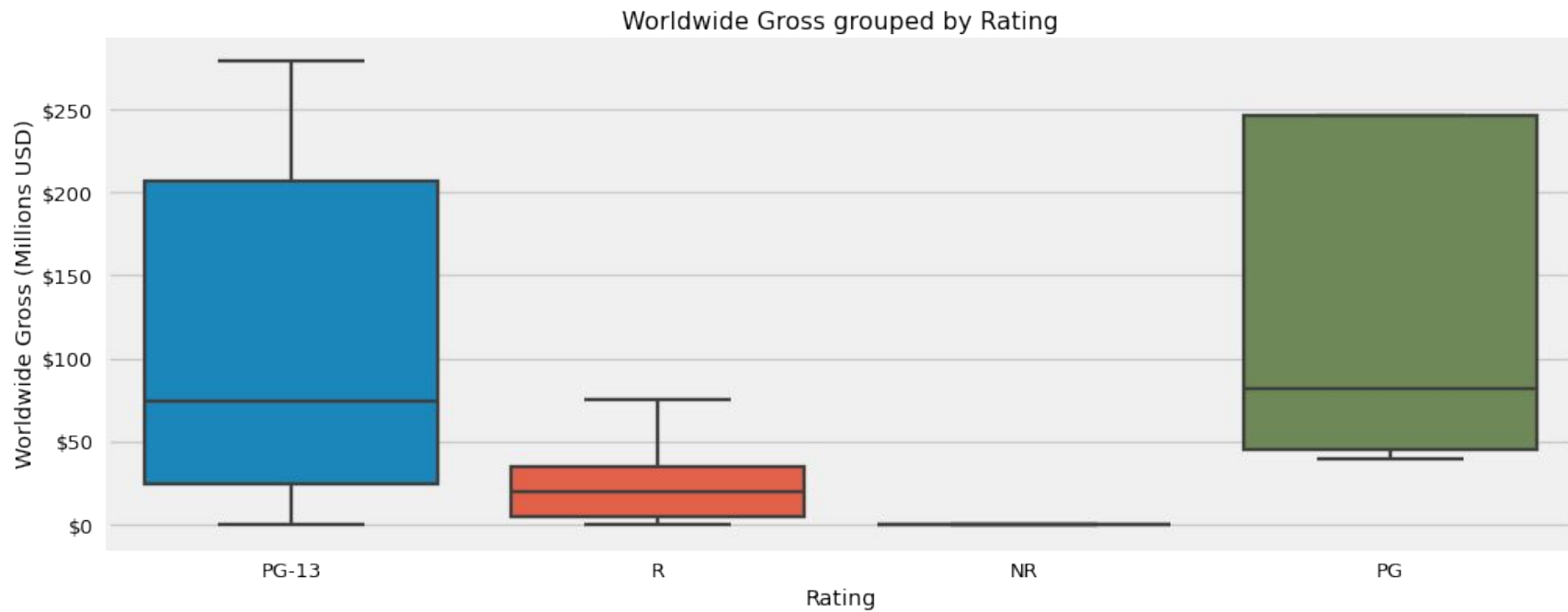


June top 3 Genres:

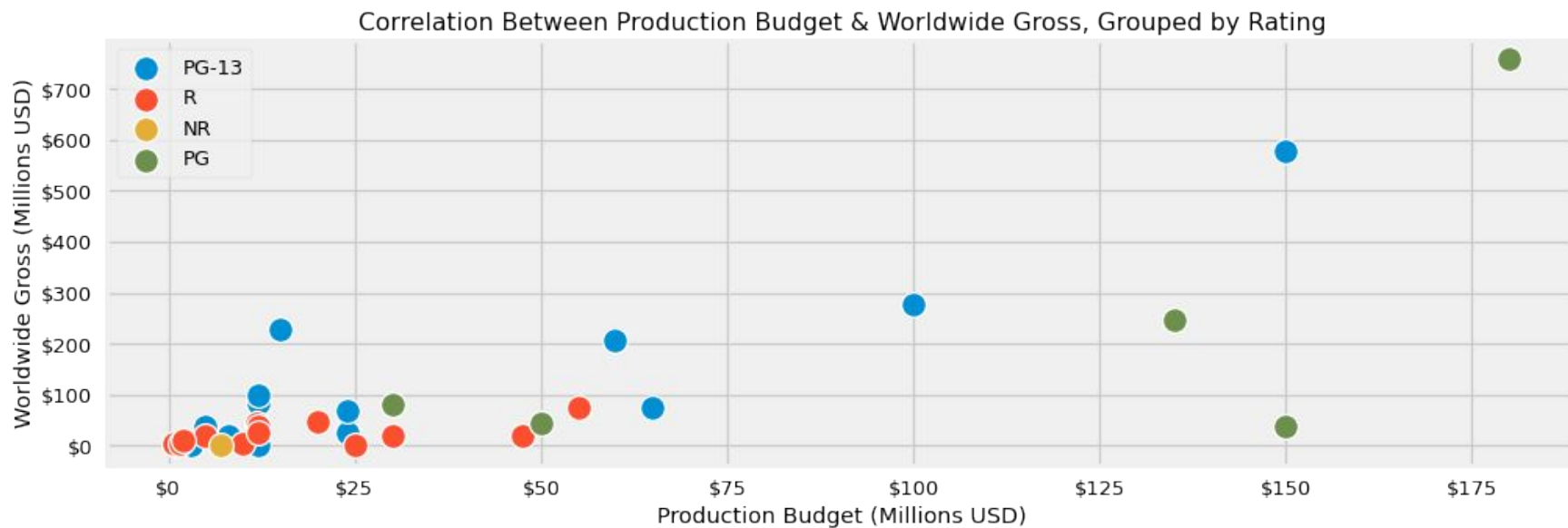
1. Sci-Fi
2. Animation
3. Adventure



Rating



Rating considerations



Conclusions

To optimize Worldwide Gross

1. Release a film in May or June
2. The film should contain one of the following genres:
 - Adventure
 - Animation
 - Sci-Fi
3. The movie should be rated PG
4. Don't shy away from higher production cost to increase Worldwide Gross.

Limitations to consider.

- This analysis was based strictly on worldwide gross and does not reflect other factors which influence profitability of a film. A few examples being: post production costs, merchandising income, marketing, return on investment, foreign rights, distribution fees... etc.
- Investigation into the return on investment (in this case difference between worldwide gross and production budget) may yield additional insight into ideal genres, ratings, or months-of-release.
- The data frames contain films dating back a century. Further analysis is needed to measure if the analysis is skewed (specifically the Musical genre) by these older films and not reflective current trends.
- No calculations to account for inflation were done.

Thank You!

Email: cassigroesbeck@gmail.com

GitHub: @AgathaZareth

LinkedIn: [linkedin.com/in/cassarra-groesbeck-a64b75229/](https://www.linkedin.com/in/cassarra-groesbeck-a64b75229/)