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
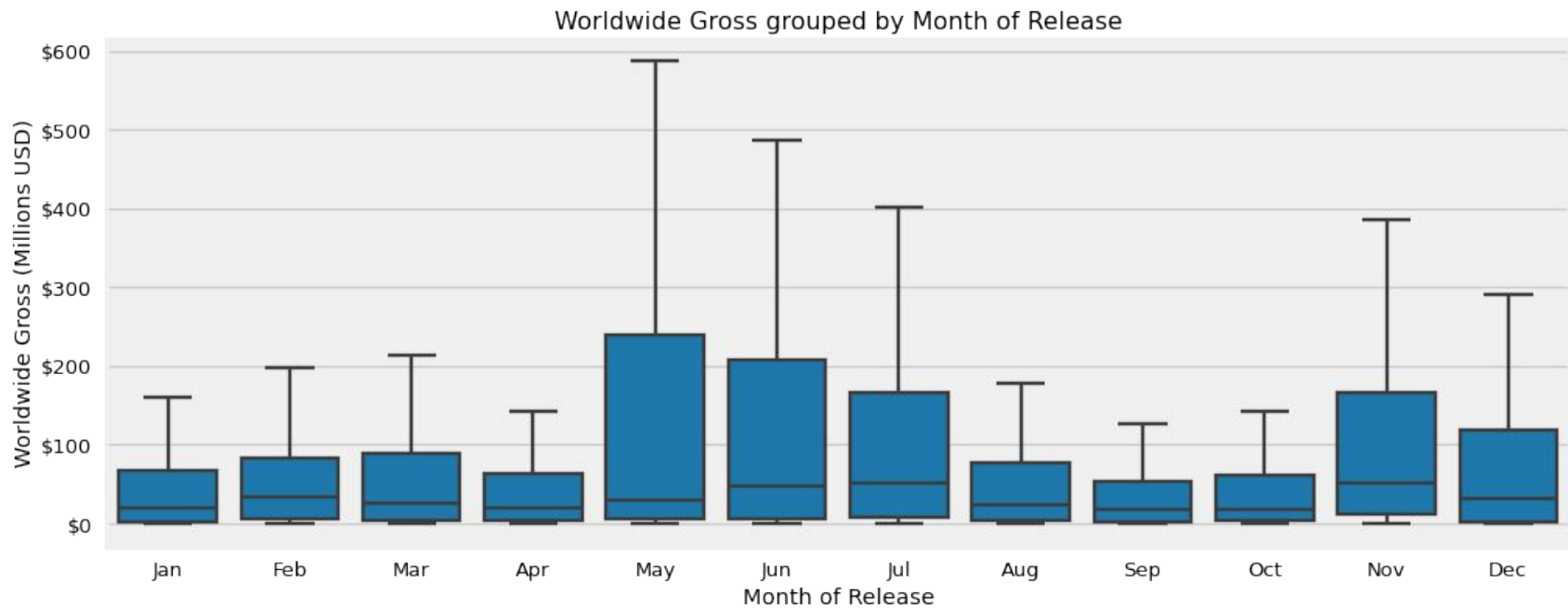
Results

- 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.
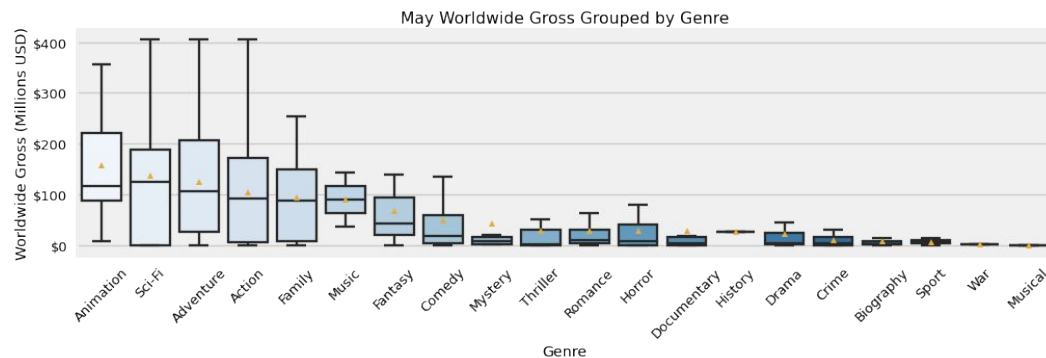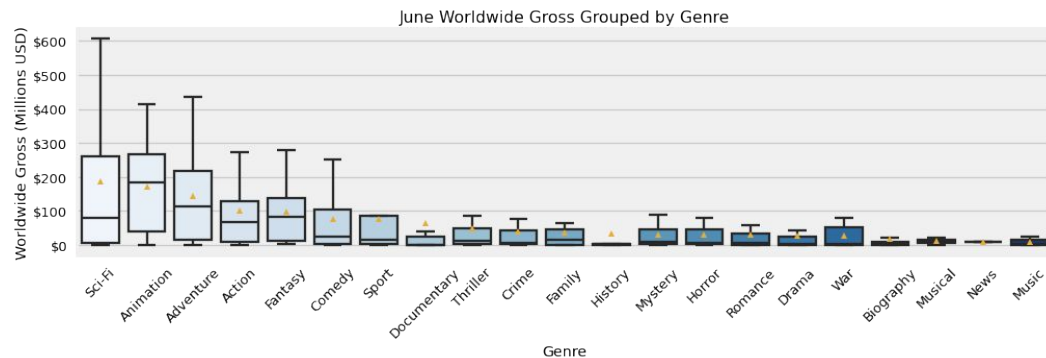
Production Budget

Positive Correlation Between Production Budget & Worldwide Gross

Month of Release
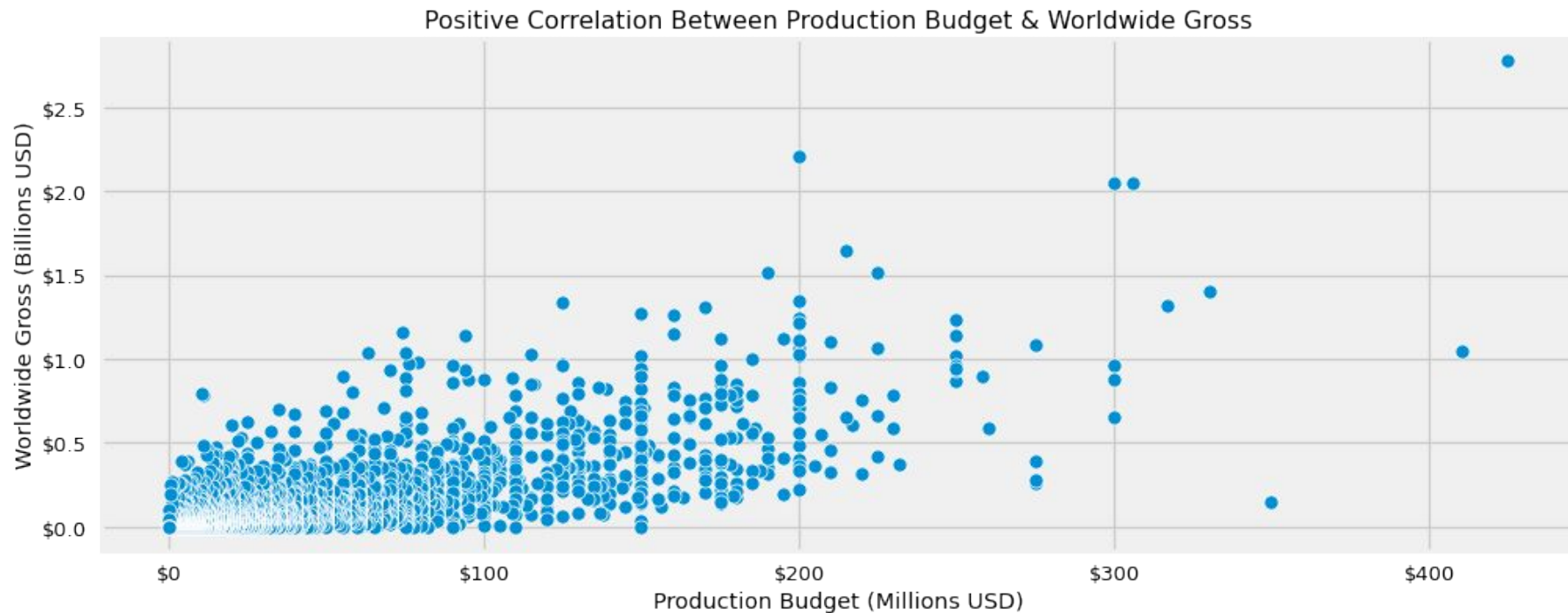
Worldwide Gross grouped by Month of Release

Genres for Top 2 Months

May Worldwide Gross Grouped by Genre

May top 3 Genres:
1. Animation
2. Sci-Fi
3. Adventure

June Worldwide Gross Grouped by Genre

June top 3 Genres:
1. Sci-Fi
2. Animation
3. Adventure

Rating

Worldwide Gross grouped by Rating
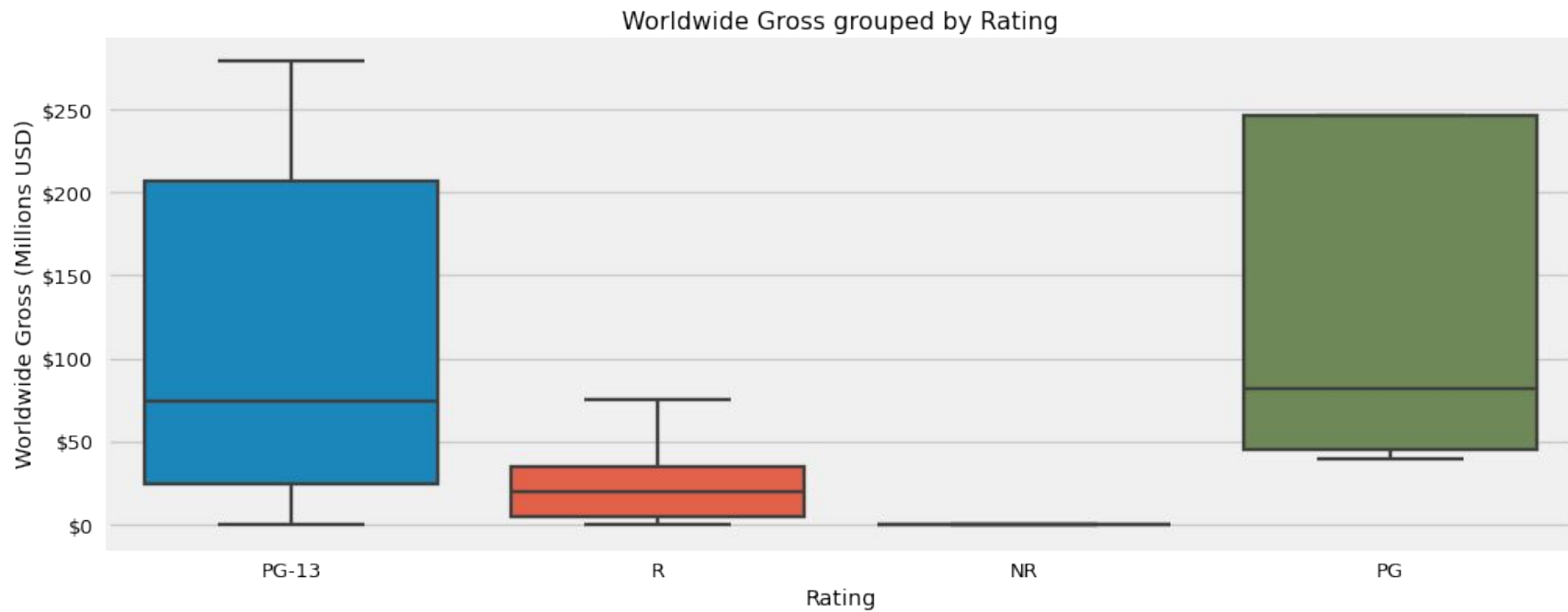
Rating considerations

Correlation Between Production Budget & Worldwide Gross, Grouped by Rating
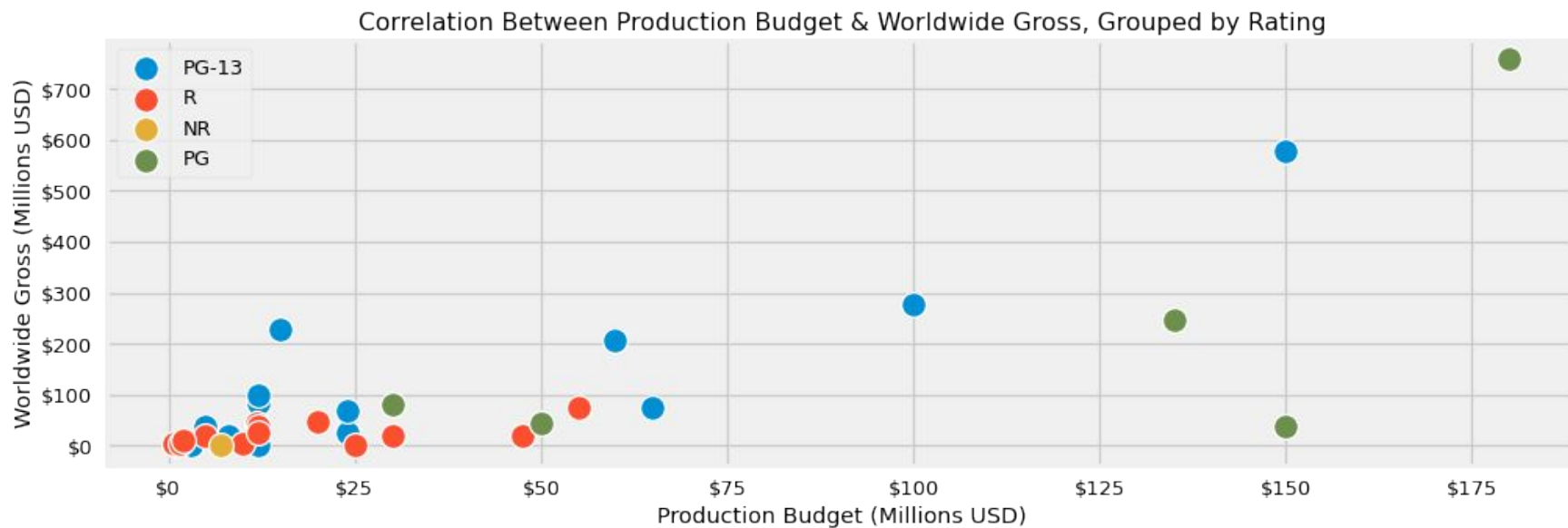
Conclusions

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!

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