

Microsoft Film Studio Business Recommendations

Alexandra Bruno and Davida Rosenstrauch

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Summary

This project analyzes data from films released in the past 20 years in order to inform recommendations for Microsoft's new movie studio. Descriptive analysis shows that films with certain genres and run times are more likely to have desirable revenue, budgets, and imdb ratings. We recommend Microsoft use these results to inform their production decisions within their new studio.

Business Problem

We seek to answer the following questions to provide recommendations to Microsoft regarding which types of films to produce in their new studio:

- What effect does movie runtime have on revenue, budget, and ratings?
- What effect does movie genre have on revenue, budget, and ratings?

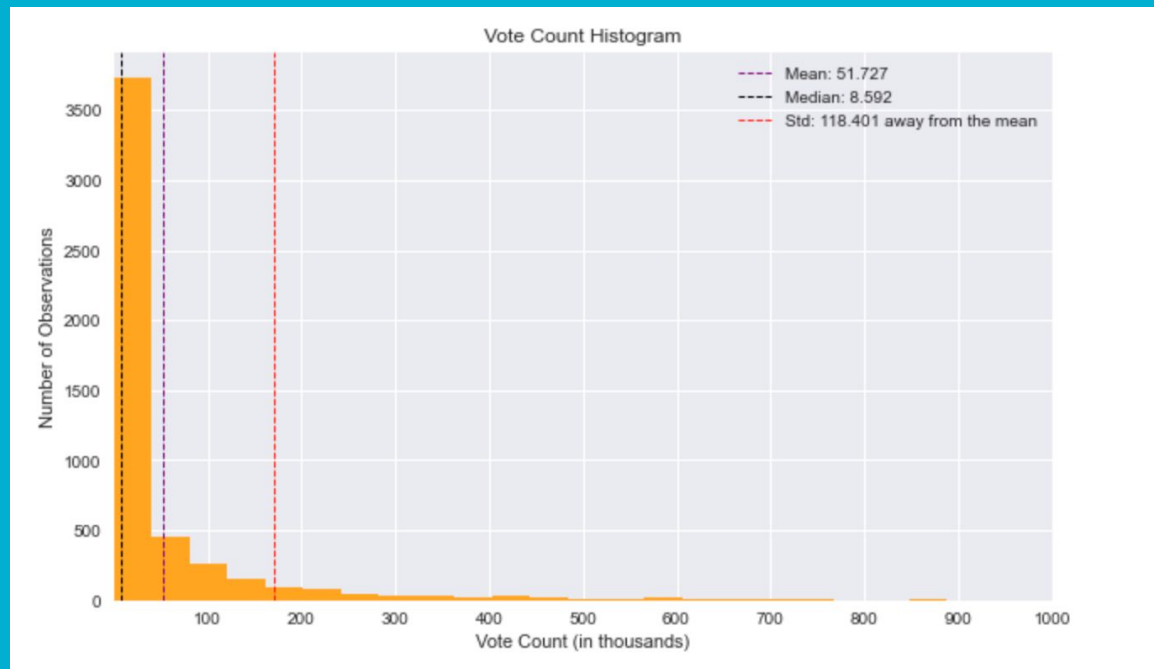
Data & Methods

- Retrieved data from 2 API sources
 - The Movie Database (tmdb)
 - Genres, Revenues, Budgets
 - Open Movie Database (omdb)
 - Imdb ratings, imdb vote counts
- Analyzed movie revenue, budgets, and imdb ratings as related to different runtimes and genres

Data & Methods

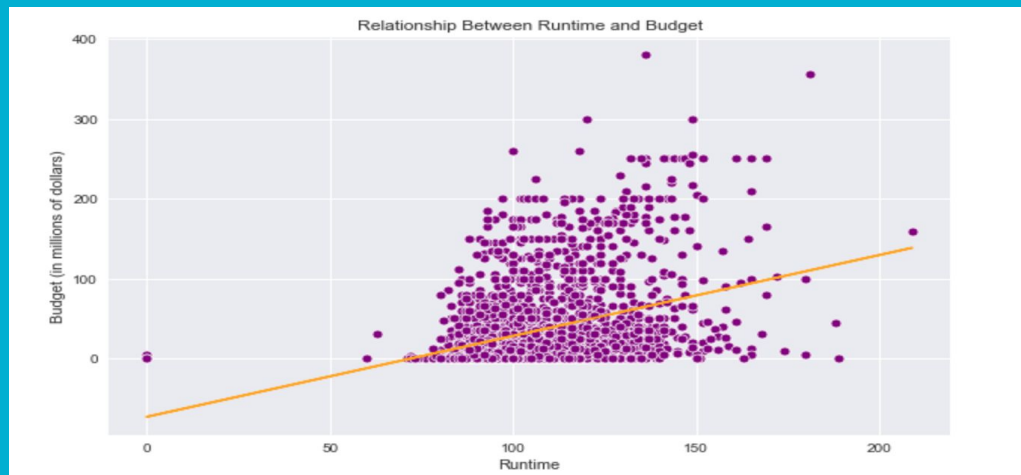
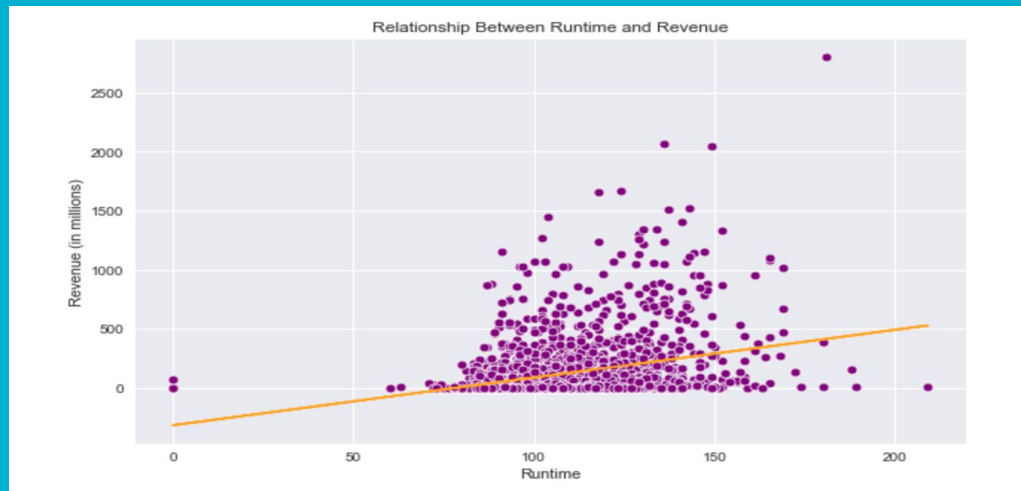
A Note on Ratings

- Very wide range of vote counts:
 - Mean: 51,743
 - Median: 8,576
 - Standard deviation: 118,421



Results

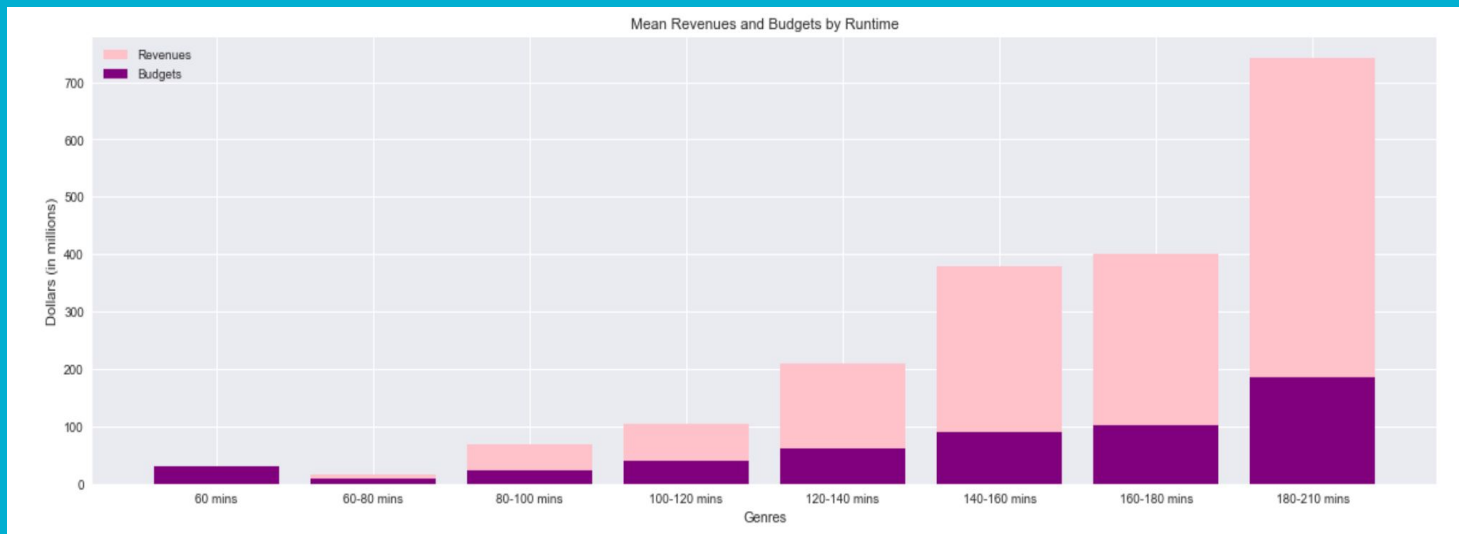
- The relationship between revenue and runtime does trend upward, however that relationship is not strong
- The relationship between budget and revenue is also upward trending
- Longer runtimes do not guarantee higher revenues, additionally they are less likely to be cost effective



Results

Mean Revenues and Budgets by Runtime

- On average, the longer a movie's runtime is the higher the movie's budget and revenue will be
- There are outliers with in the data set that may be misrepresenting average revenue per runtime



Results

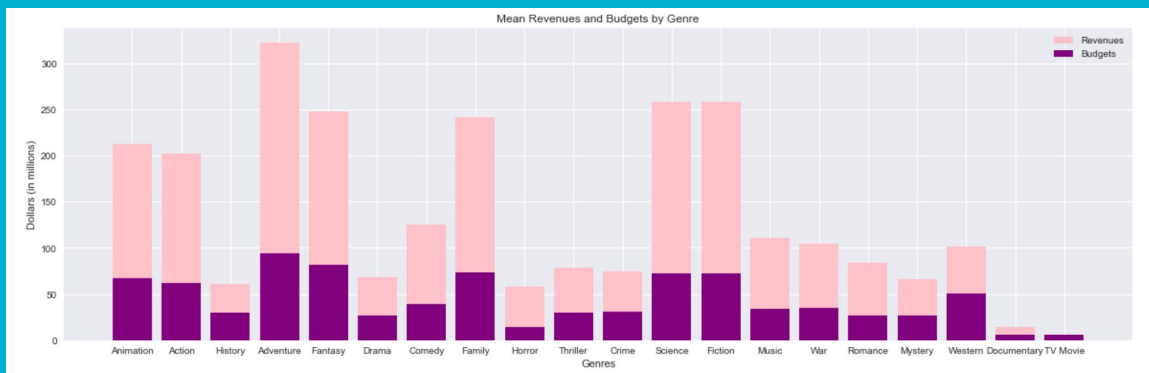
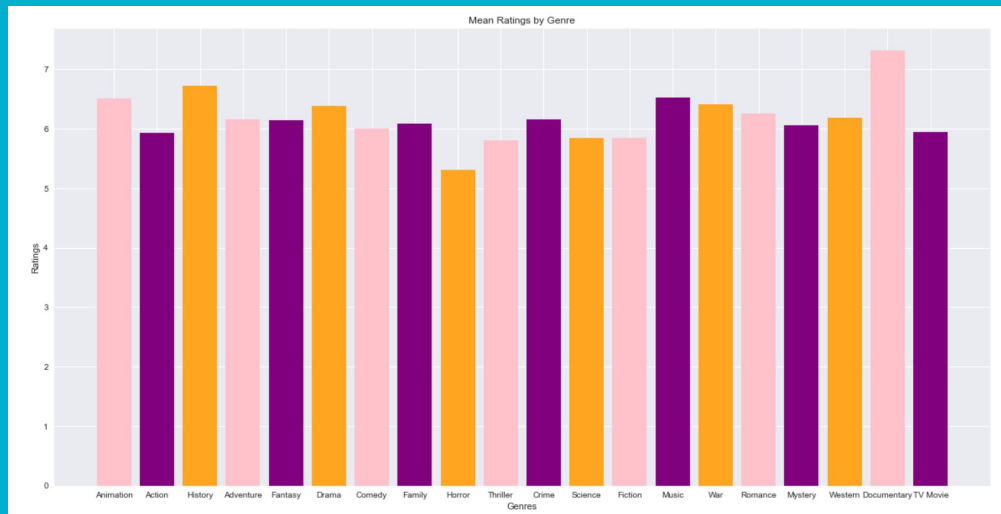
- There is a positive relationship between runtime and ratings
- Based off ratings, audiences enjoy longer run movies
- To encourage higher ratings, the data suggests that longer movie runtimes can be beneficial



Results

Ratings, Revenues, Budgets by Genre

- Ratings
 - Highest-rated genre: Documentary.
 - Lowest-rated genre: Horror.
- Revenues, Budgets
 - Though higher revenues are correlated with higher budgets, revenues vary more by genre than budgets do. Net profit is therefore likely to increase with increased budget.
 - Highest revenue-driving genre: Adventure.
 - Lowest revenue-driving genre: TV Movie.



Conclusions

- We recommend producing films with runtimes between 100 and 150 minutes in order to optimize likelihood of high revenue and ratings.
- We recommend producing films primarily in the genres of Adventure, Fantasy, Science, Fiction, and Family, or a combination of several, in order to optimize likelihood of high revenue.
- Though documentaries have shown nearly the lowest revenue numbers as compared to other genres, they also have shown the highest ratings. We therefore recommend producing at least some documentaries for the sake of reputation and name recognition.

Next Steps

With more time, we would be interested to explore:

- Control for vote counts
- How any of these trends have changed over time
- Runtimes' and genres' impact on net profits
- Release dates' impact on revenue, budget, ratings, and net profits
- Explore correlation between financial success (revenue and/or net profits) and ratings

Thank you!
