Movie Production Analysis

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Summary

As Microsoft seeks to enter a competitive market by producing its own movies for distribution, descriptive analysis reveals opportunities to increase the probability of producing high grossing films:

- Produce movies within the Family genre
- Release movies in June or December
- Focus on profit over ratings

Outline

- Business Problem
- Data
- Methods
- Results
- Conclusions

Business Problem

Microsoft is entering a competitive space with no prior experience in movie production or distribution.

To break into the space, Microsoft must know what movie genres to produce but also when is the best time to distribute.

For this analysis, "best" is being defined in terms of revenue to prioritize profits and ensure a viable, long-term business for them.

Data

This analysis pulls from three different databases to analyze different variables:

- IMDB
  - Includes titles, genres, and average rating and number of votes for over 70 thousand movies
- Box Office Mojo
  - Data from 2010 - 2018 on domestic and foreign gross for over three thousand movies
- The Movie DB
  - Includes titles and release dates for over 26 thousand movies

Methods & Limitations

While limited with the amount of Box Office data available compared to IMDB and TMD, all the results and analysis was still done with a minimum sample of three thousand titles.

The following results uses the mean as a measure of central tendency and a pearson coefficient of correlation to measure the relationship between two movie title characteristics.

There is currently no view on how production budgets affect a movies gross.
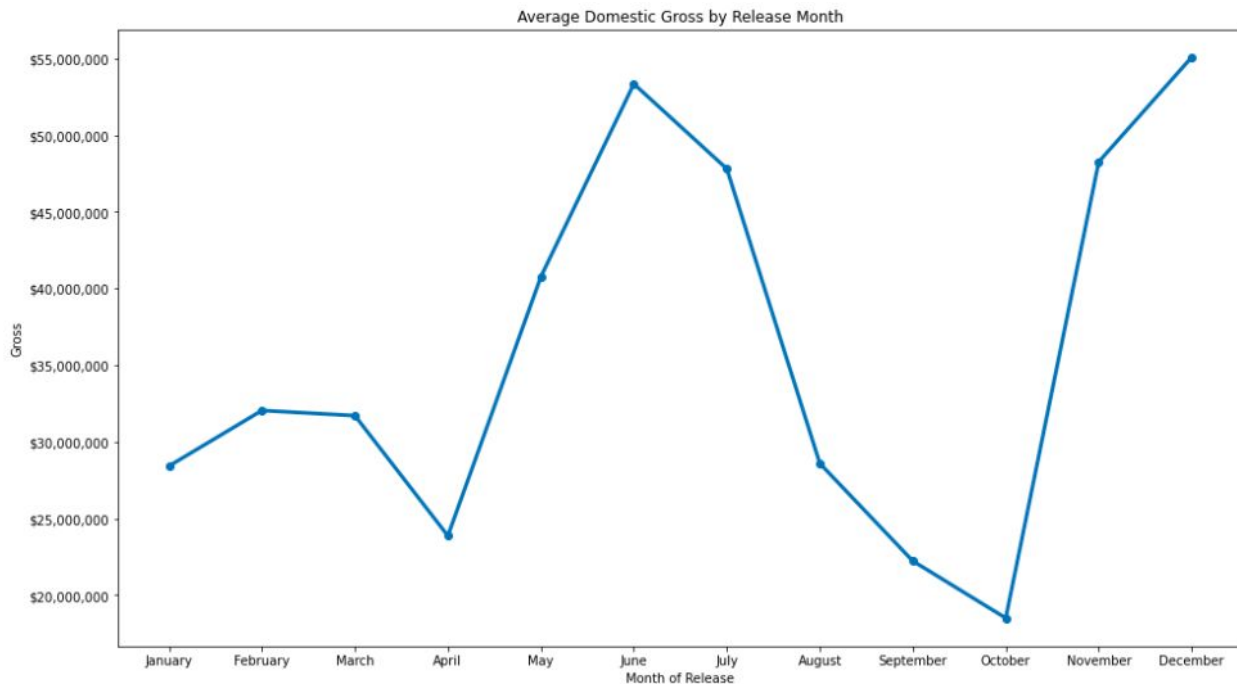
On average Sci-Fi movies gross close to $140M

Average Domestic Gross by Genre
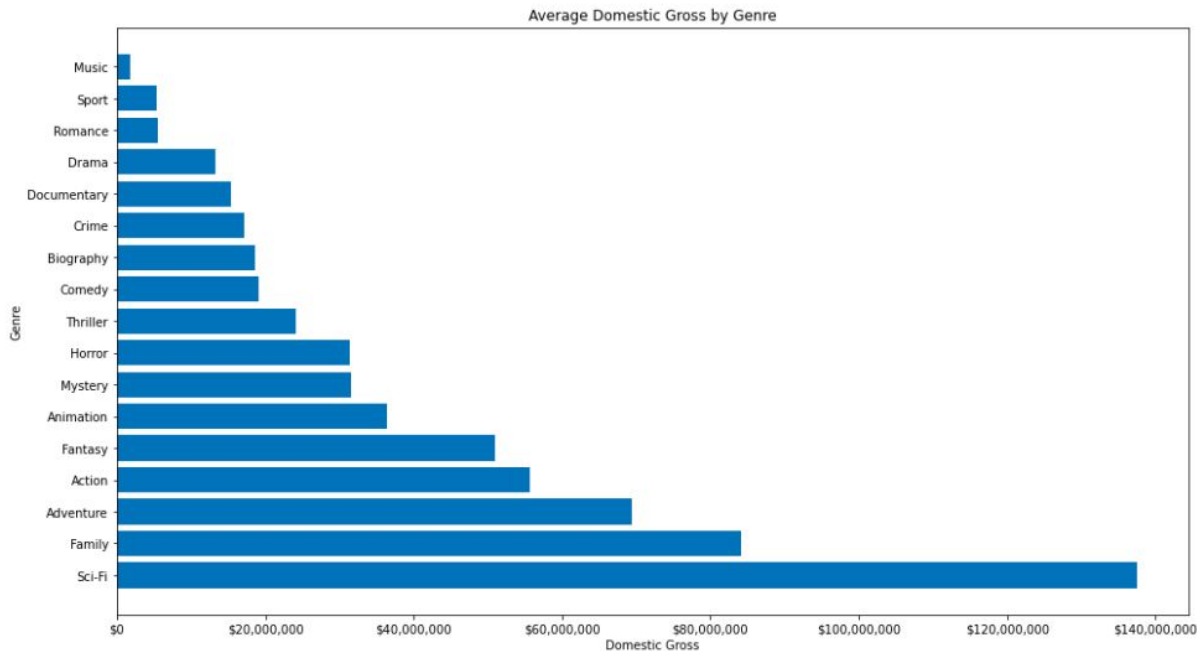
A descriptive analysis of the average domestic gross by genre reveals the top 5 performing are:

1. Sci-FI
2. Family
3. Adventure
4. Action
5. Fantasy

June and December movies gross on average $55M dollars while October movies gross less than half.

Average Domestic Gross by Release Month

A descriptive analysis conducted on data spanning 8 years reveals that movies released in December have the highest average domestic gross. The lowest average gross is in October.

High ratings aren't correlated to a high gross

Correlation Between Average Rating and Domestic Gross
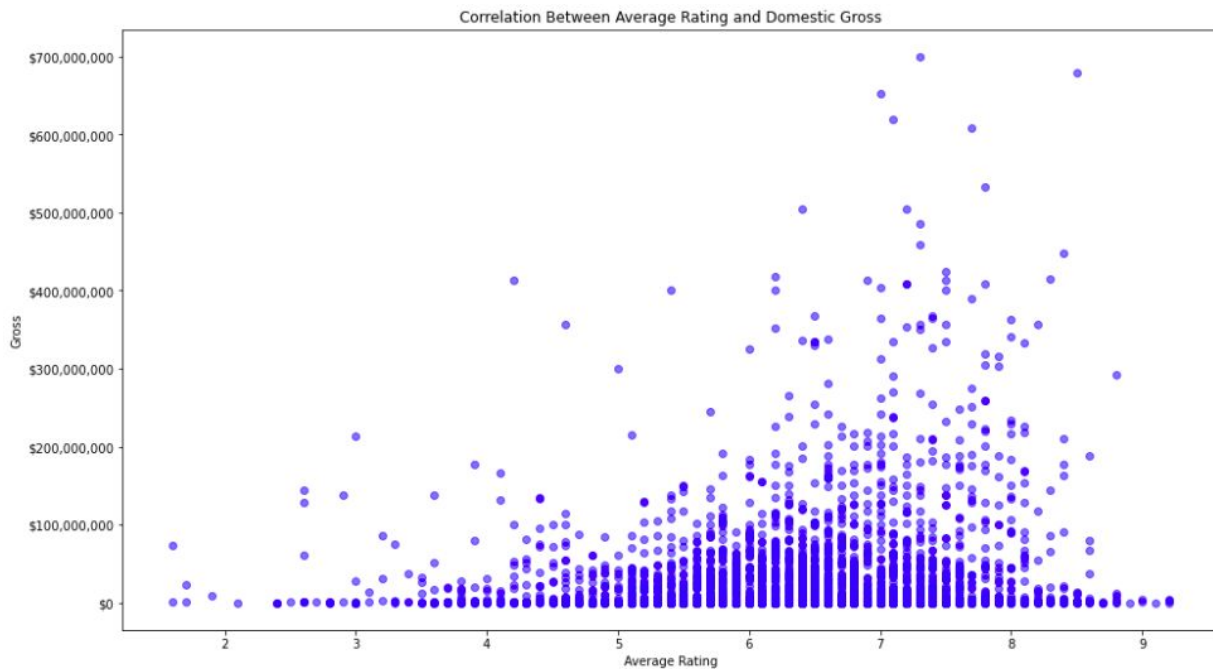
The pearson correlation coefficient between ratings and domestic gross is 0.10.

This indicates a weak relationship between ratings and domestic gross. A movie with a high average rating doesn't necessarily yield a high gross. On the other hand, movies with a low average rating of like 4 have been shown to still gross over $400M.

Recommendations

1.	**Produce movies within the Family genre** While Sci-Fi movies are the highest grossing films, these movies tend to also need high production budgets to be competitive and successful. Within the top 5 genres, the Family category is the highest earner that can be produced competitively with a smaller budget. As microsoft enters this new market, it is crucial to start spending strategically and evaluate budgets and ROIs frequently.
2.	**Release movies in December or June** While the reason why December and June have a higher gross is not covered within this study, Microsoft should not ignore that movies during these months have a higher average revenue. Whether due to the seasonality factor of the Summer and Holiday months or more movies being released overall in the market, skewing the mean, they performs over significantly better than the lowest month. While trying to become a competitive player in this market, Microsoft should release movies during this month to be active at the same time as its competitors and demonstrate it can produce movies at the same caliber.
3.	**Focus on profit over ratings** Microsoft should not be swayed by negative or positive reviews. As a new player emerging will make headlines, Microsoft should be careful to make decisions on what to produce solely based on ratings as they show little correlation to the revenue.

Next Steps: *Addressing our Limitations*

- Further analysis should be conducted to answer the following questions:
  - What should be the production budget for each film? Should it be different by genre?
  - What genre is least affected by low budgets and/or low ratings?
  - How does popularity affect gross versus ratings?
- Continual measurement on the performance of movies released to learn and adjust future plans
- Find a more complete and robust database that can be used for future studies to measure on a larger sample size

Thank You!

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