

Film Analysis for Microsoft

Ryan McArthur, Flatiron School DS 2020



What we're looking for:

Microsoft would like to successfully enter the film industry by maximizing the profit of their first film. They have asked us to:

- Explore data to collect information on the most successful movie titles
- Create visualizations to effectively convey this information
- Make actionable suggestions that Microsoft can take

Our Datasets

From IMDB:

- Film titles, budgets, crew names, film ratings, and crew filmography collected from 2010 to present

From Yahoo! Finance:

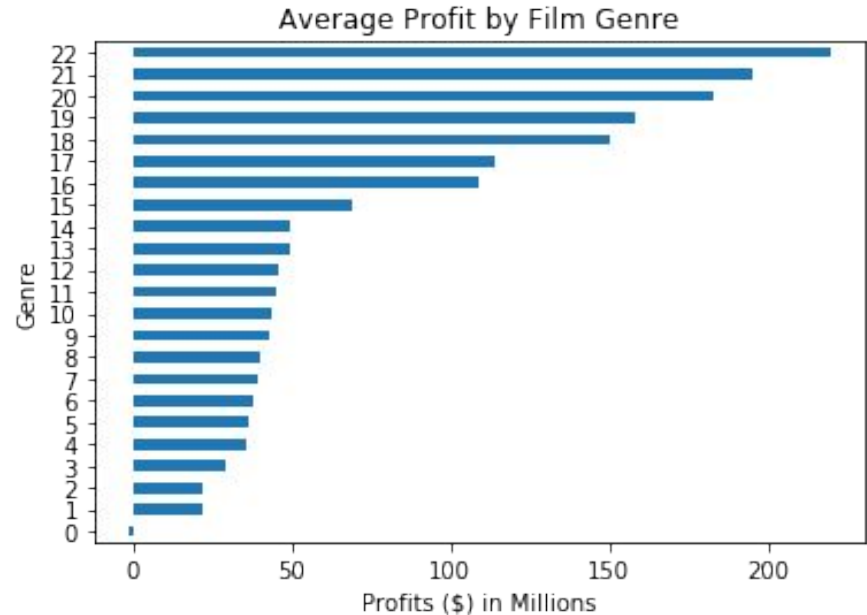
- Stock prices on AMC Theaters and Netflix from August 2019 to present

Investigations to be considered:

1. What are the most profitable film genres?
2. Within the most profitable genres, which are the riskiest investments?
3. Will a well-known director contribute to the success of a film?
4. How does COVID-19 impact the film industry?

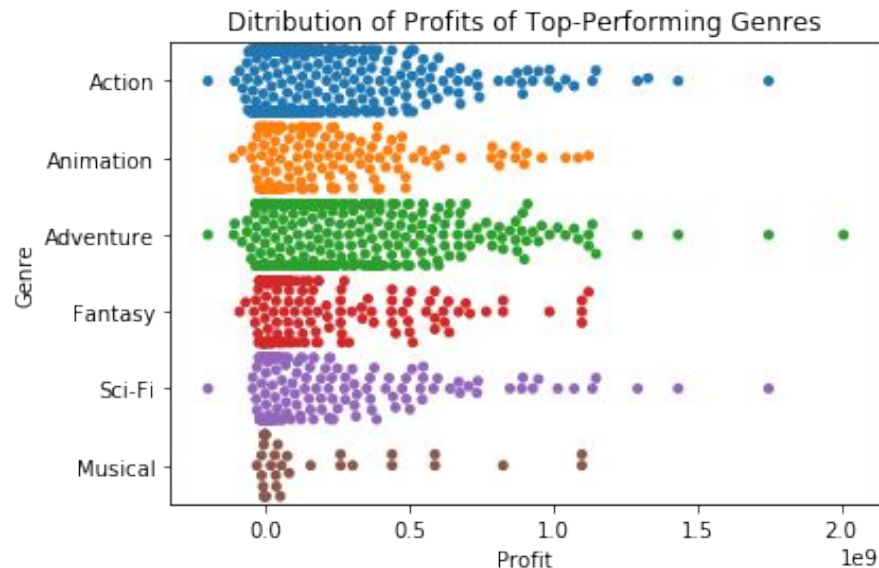
Profits vary greatly by their Genre

- Animation, Adventure, Music, Sci-Fi, and Fantasy are, on average, among the most successful film genres.
- Microsoft should select one of the above genres when deciding what type of movie they will produce



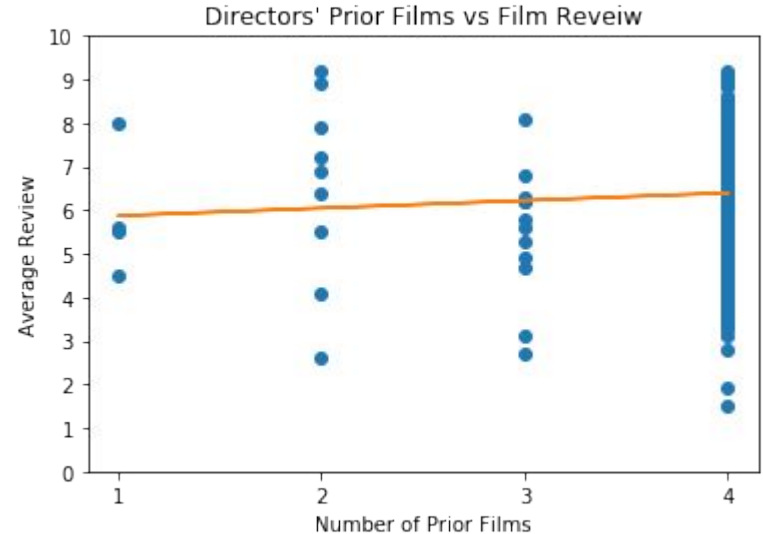
A choice of genre depends on risk aversion

- Adventure, Action, and Sci-Fi films have the greatest potential for large profits
- Musicals are the only film genre to consistently turn a profit.
- Animated films return consistent profits, though it is more difficult to break out into larger profits in this genre.



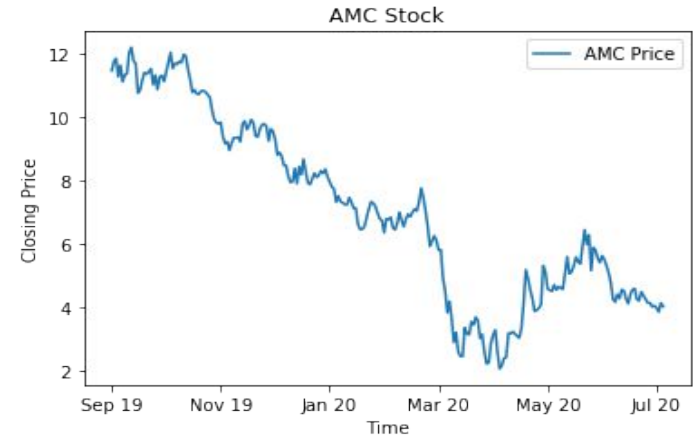
Don't spend your budget hiring a famous director

- Auteur theory dictates that a director is the greatest sole contribution to the success of a film
- Through regression, there is not a strong relationship between the number of prior films a director has made and the average review of the film they are working on.



Streaming markets are more resilient to the pandemic than theaters

- As theater attendance decimates AMC earnings, also impacting theater-released films at the same time, Netflix has not been as impacted by COVID-19.
- Because theater release profits are in such jeopardy, a better release market may be through a streaming platform, such as a licensing deal through Netflix, or a Microsoft-hosted streaming service.



Findings and Suggestions

- Profits vary by their genre, and the distribution of these profits is also varied. We found that Action, Adventure, and Sci-Fi films have the greatest potential profits. Microsoft should consider risk aversion in order to choose which genre their first film will be.
- Directors with large filmographies do not directly contribute to the success of a film. When hiring a crew, Microsoft should not appropriate a large budget portion for a well-known director.
- Finally, due to COVID-19, theater markets are underperforming massively. We found that Netflix has not been as affected by the pandemic, so Microsoft may wish to release their film through a streaming service such as Netflix, or even establish their own such service.

Further Research Needed

- More data on market impact from COVID-19
- Number of prior films for each director was limited to 4 in given data

Thank you!

Visualizations compiled from the following sources:

- IMDB
- Yahoo! Finance