

An Analysis of Film Data

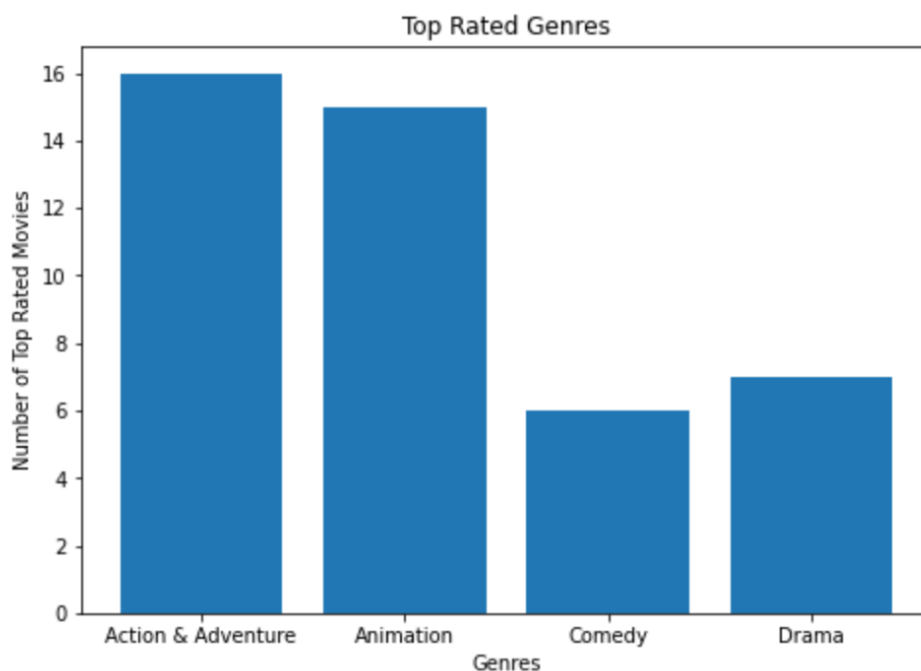
Authors: Andrew, Cameron, Hayden

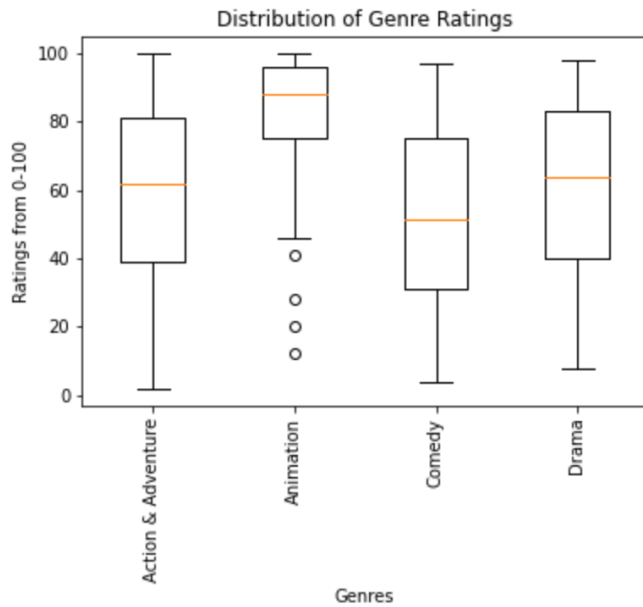
Overview

For this project we performed a simple analysis on a collection of film data obtained primarily from the IMDB website, with some additional rating data obtained from Rotten Tomato's and financial data from 'The numbers'. In order to answer our primary question 'How to produce a profitable movie/franchise' we looked at three primary metrics. The first metric was film ratings, and its correlation to a movie's genre. Similarly, analysis was performed to determine which genre's tend to be most profitable. In addition, we looked into the importance and influence of film directors, as well as the best time of month to release a film.

Ratings by Genre

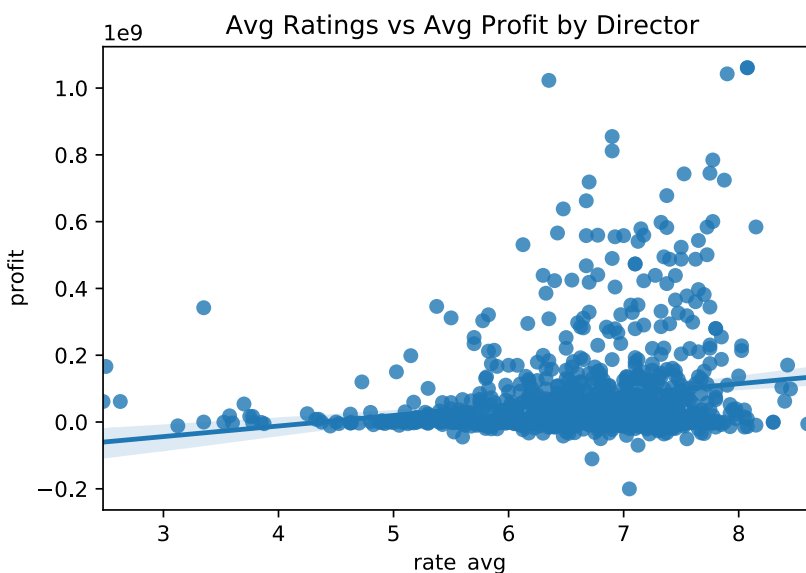
In order to look at the rotten tomato ratings data, we created a number of Boolean columns corresponding to each of the genres. After cutting down the data to the top 50 and examine it, it became clear that Action-Adventure, Animation, Comedy and Drama were the top performing genre's by far. As such we narrowed down into those genre's looking at both their number of movies in the top 50 rated, and their overall distribution.



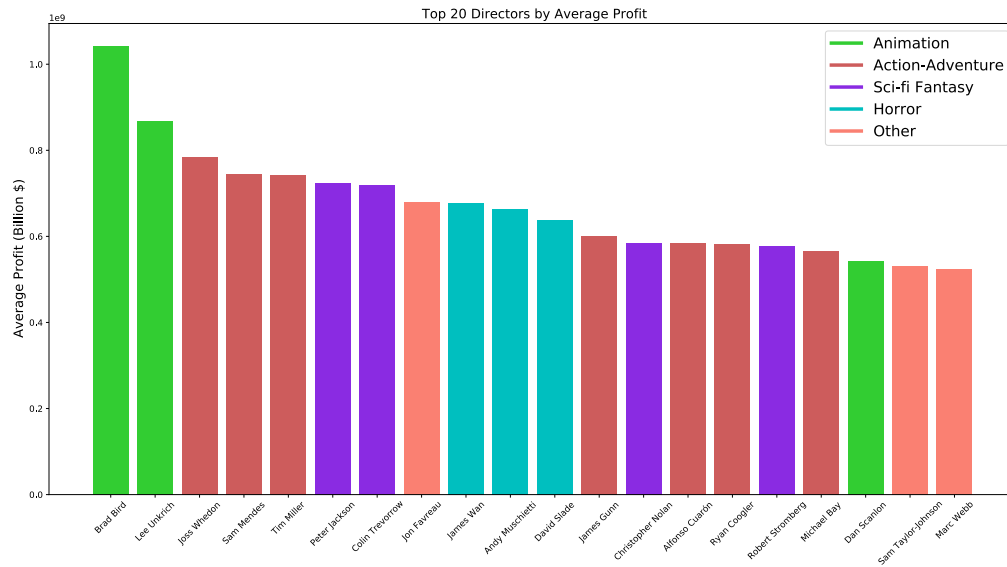


Influence of a Film Director

In order to observe the influence of a film director on movie profits a small sampling of ~1800 films and their monetary information was obtained from The Numbers.com, which contains a large film data base. For each film in this sampling IMDB data was used to identify these films directors as well as their standout works. In order to try and replicate the viewpoint of a consumer, who is unlikely to know director outside of a few of their most famous works only the ratings of these products were utilized. They were used to perform a regression with the movie profits the results of which are shown below.



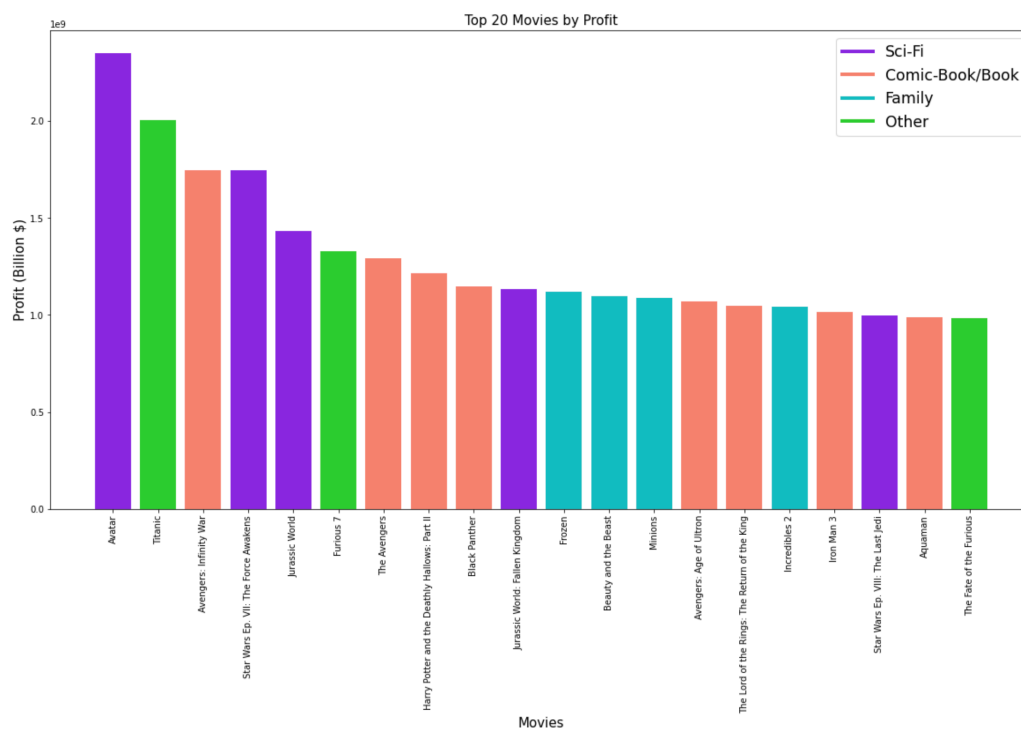
As demonstrated by the graph the relation between past ratings and profits is very weak, with only a select group of directors being able to stand out. AS a result it was decided to observe these top directors information in more detail by graph the top 20 most profitable directors and categorizing them by film specializations based on their history in order to try and identify any trends.



From these graphs a few trends are quite interesting. First of all both of top earning directors, Brad Bird and Lee Unkrich, work primarily with animation. Though notably both them and Dan Scanlon, the third animation director in the top 20, work with Pixar, which is indicative of the studio quality. Outside of them, there are a lot of action and adventure films, more if you include the likes of Peter Jackson, listed here as sci-fi fantasy, but whose works such as the lord of the rings contain major action and adventure elements. Speaking of the lord of the rings many of the directors here are involved in large series such as marvel directors, indicating the power of familiarity.

Monetary information

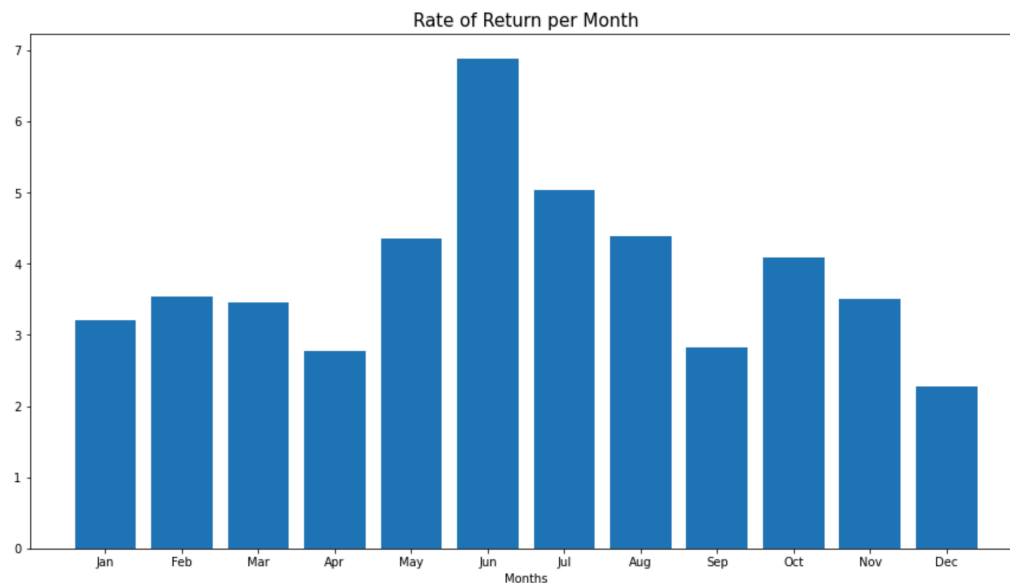
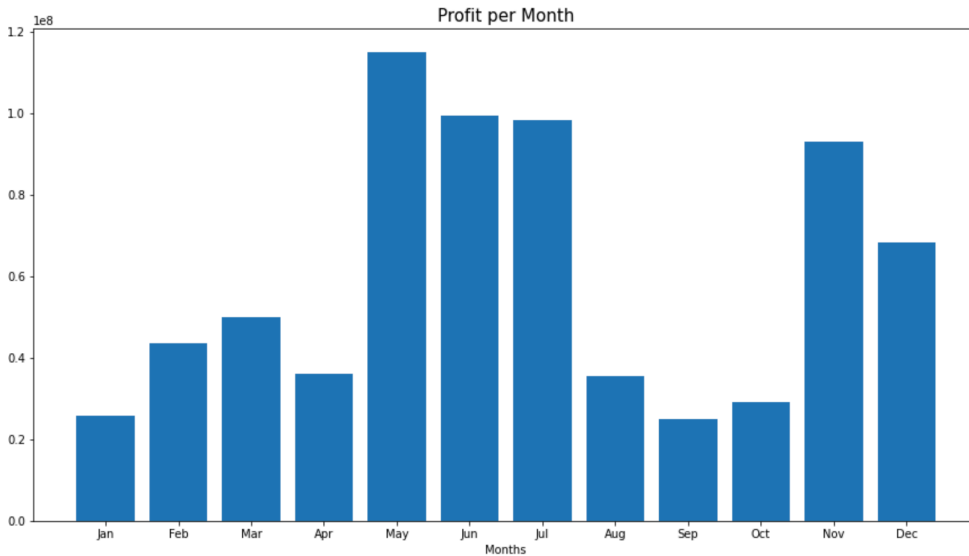
In order to look at monetary statistics the first step was to calculate some useful measures that could be used to compare films. In this case we looked at overall profits, global gross - budget, and rate of return, profits/budget, Narrowing in on some of the top performers in both there are some interesting results.



In terms of overall profit, the top performers are dominated by either sci-fi films or films that have been adapted from comics or books, for example Harry Potter or Marvel movies.

Animation also tends to do fairly well in profits; however, rate of return is another story. In rate of return all the top earners are low budget films that performed well, such as horror films or mad max. This indicates that for smaller budget productions a horror movie will tend to perform better.

In addition to this genre analysis I also looked at average movie earnings by month to help figure out the best times to release a movie.



Unsurprisingly the summer months perform the best in this category, with May seeing a lot of high performing Marvel releases, while June is similarly dominated by Disney films. The winter months, November and December, also tend to perform well though not quite to the extent as the summer.

Conclusions

Based on our analysis the best way to make a consistently profitable film is to start with a solid work to adapt, something people will recognize and likely get excited for. Preferably this will also feature action and adventure elements, with the director being either a top performer such as Joss Whedon or a relatively newer unknown director, to avoid an inflated budget. The best time to release the film is likely to be in July, to avoid direct competition with Marvel or

Disney films, while still benefiting from the summer spike. For a smaller one of production horror is the best way to go instead, with their high rate of returns. Directors such as James Wan or David Slade could help out here, though once again may be unnecessary.