Movie Data Analysis: a report

● ● ●

Jesse Moore

https://github.com/JesseMooreDS/dsc-phase-2-project-v3

Movie Data

We are analyzing multiple datasets to determine 3 actionable insights into entering the movie production business.

The datasets are:

Box Office Mojo (https://www.boxofficemojo.com/)
IMDB (https://www.imdb.com/)
Rotten Tomatoes (https://www.rottentomatoes.com/)
TheMovieDB (https://www.themoviedb.org/)
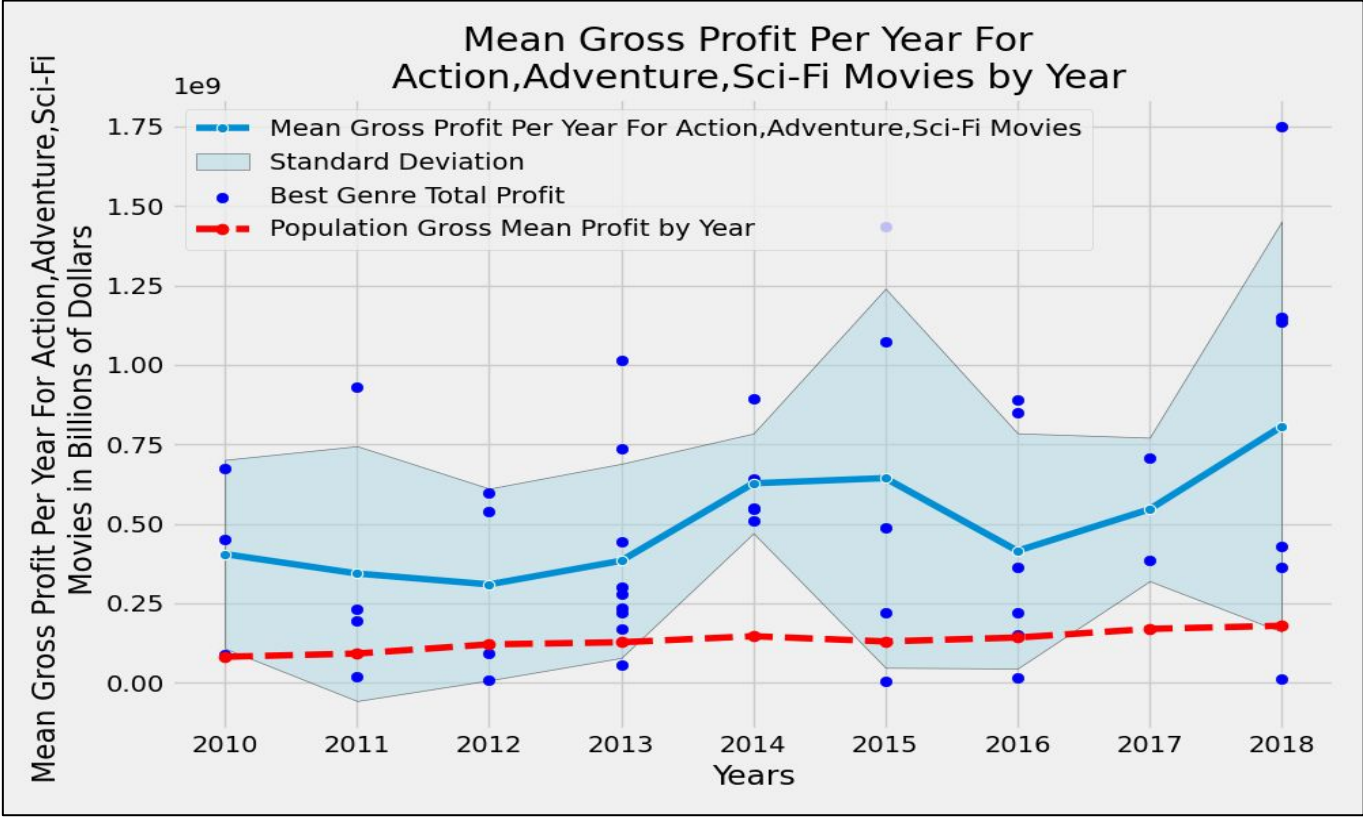The Numbers (https://www.the-numbers.com/)

The data has been merged and cleaned, and a 'total_profit' feature for each movie has been created from the difference between the production budget and the sums of domestic and worldwide gross.

In addition, values for the population mean of total_profit and also of the average production budget have been created to compare values to.
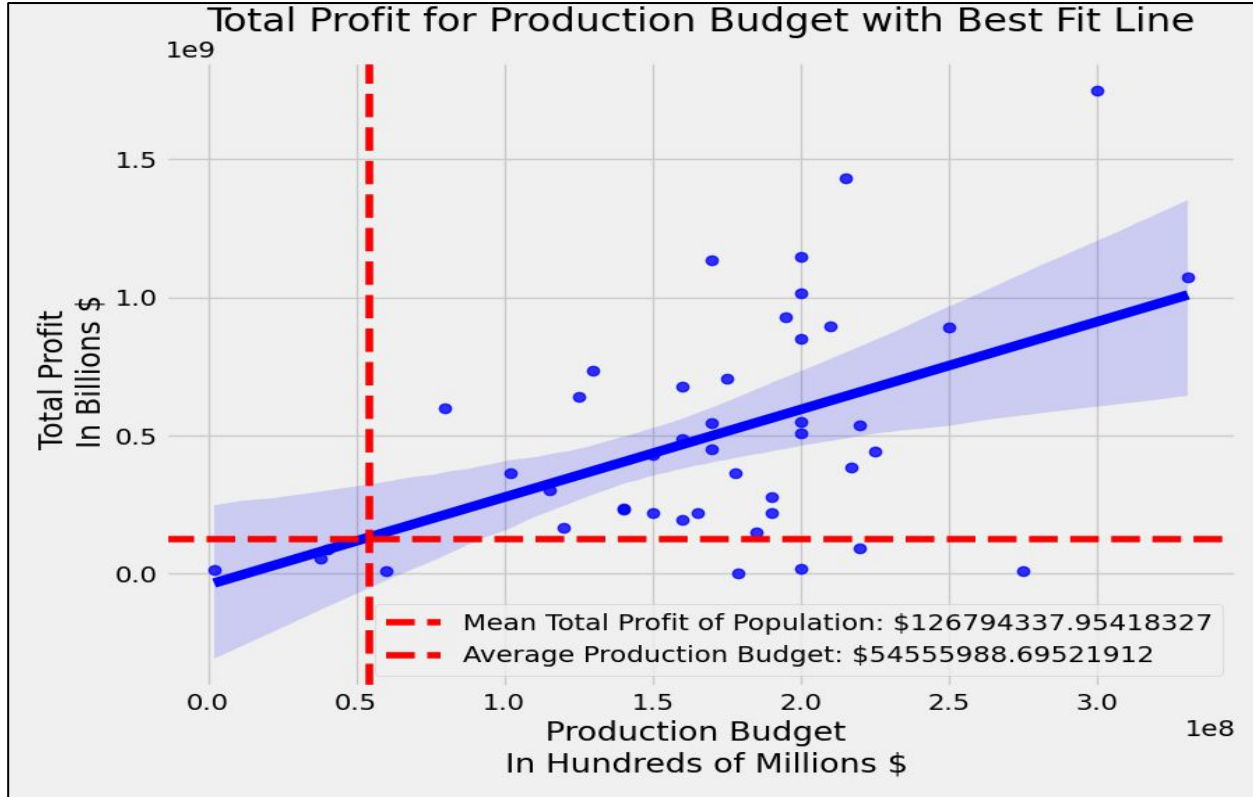
Investing in High-Performing Movie Genres:
The analysis indicates that the Action, Adventure, Sci-Fi genre has consistently outperformed the overall movie market in terms of average total profit over the past three years, increasing by over a quarter of a billion dollars during this period.
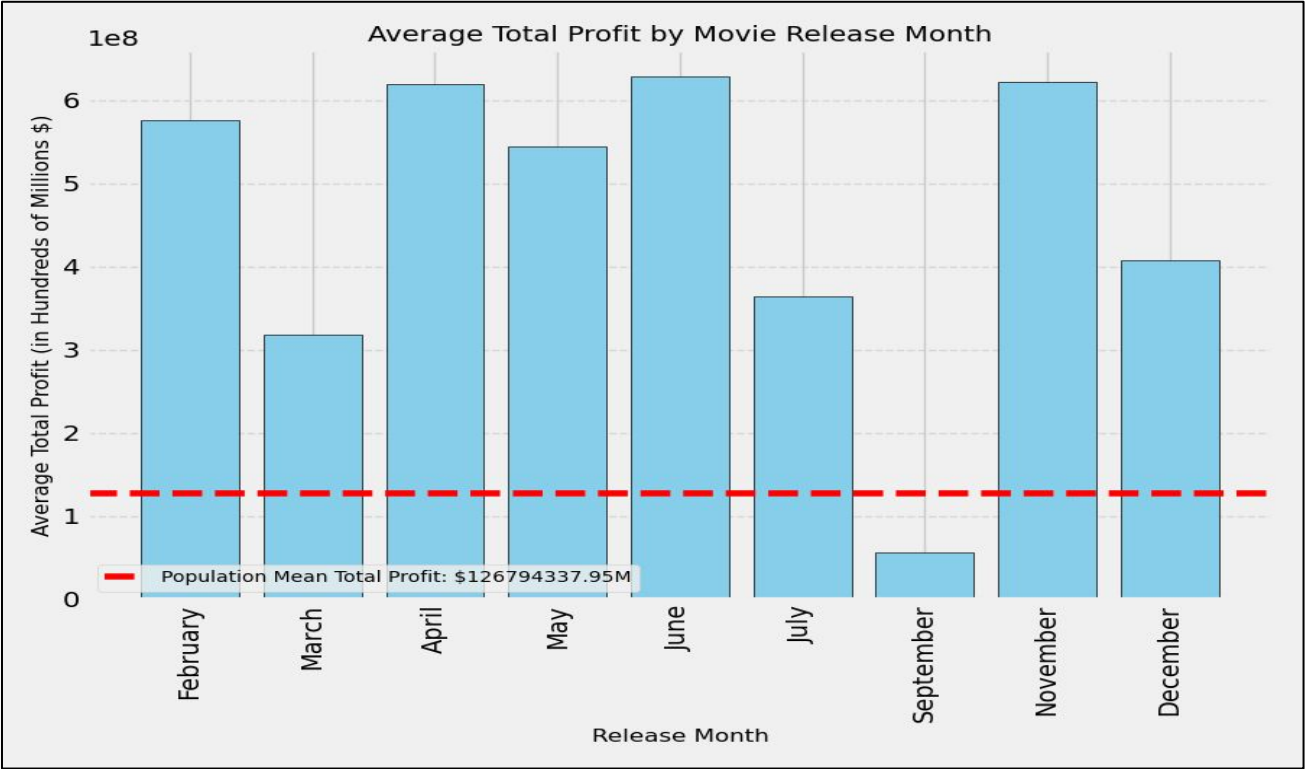

Mean Gross Profit Per Year For Action,Adventure,Sci-Fi Movies by Year

Optimizing Investment for Maximum Returns

Our analysis reveals a statistically significant positive correlation between production investment and movie profits. This suggests that increased investment directly leads to higher returns. While this may seem intuitive, the data substantiates that larger financial commitments yield a measurable and reliable boost in profit generation.

Total Profit for Production Budget with Best Fit Line

Timing the Release for Maximum Profitability

The analysis of monthly performance trends shows that June, November, and April are the highest-performing months for movie releases, with average profits significantly exceeding those of other months. To capitalize on peak profitability, we recommend scheduling movie releases during the months of June, November, or April, while avoiding September and other underperforming months.

Average Total Profit by Movie Release Month

Conclusions:

Based on the analysis, I would recommend the business:

Focus on high-performing genres: Given that the Action, Adventure, Sci-Fi genre has demonstrated strong and consistent profitability, the company should consider prioritizing investments in these genres when planning future film productions. This targeted approach can maximize the likelihood of financial success.

Optimize production budgets: Since data indicates a direct correlation between increased investment and higher profits, the company should consider allocating larger budgets to future films. However, this   should be done strategically to ensure that investment is maximized without overspending.

Time film releases strategically: The analysis suggests that certain months (e.g., June, November, and April) are more profitable for movie releases than others. Therefore, the company should schedule movie premieres during these peak months to capitalize on higher audience engagement and better box office performance.

Next Steps:
Conduct additional research into factors such as how marketing budgets are spent, levels of social media engagement, and integrating external factors (such as economic conditions and movie theater concession prices) into our dataset.

For more information, please read my notebook here:
https://github.com/JesseMooreDS/dsc-phase-2-project-v3

Thank you!
Jesse Moore
https://github.com/JesseMooreDS
www.linkedin.com/in/jesse-moore-datascience