

Microsoft Studio

Box Office Analysis

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Summary

Descriptive analysis of the last 15 years of box office profits to produce recommendations for Microsoft Studio on which types of movies it should produce, when it should release them and the features the movies should include:

- Wait until the major markets have fully reopened after the pandemic lockdowns before releasing movies
- Early blockbuster movies should be in the Action/Adventure/Sci-Fi genre, with lower budget movies in the Horror/Mystery/Thriller genre
- The studio should try and recruit Mark Ruffalo and Joss Whedon or JJ Abrams for the Adventure/Action/Sci-Fi movies and Rose Byrne and Jordan Peele for the Horror/Mystery/Thriller movies

Outline

- Business Problem
- Data & Methods
- Results
- Conclusions

Business problem

- Produce profitable movies for stakeholders
- Make efficient use of budgets for the studio's debut movies
- Recruit crew with a track record of producing profitable and acclaimed movies
- Include features most associated with successful movies

Data & Methods

Data

Data drawn from three sources:

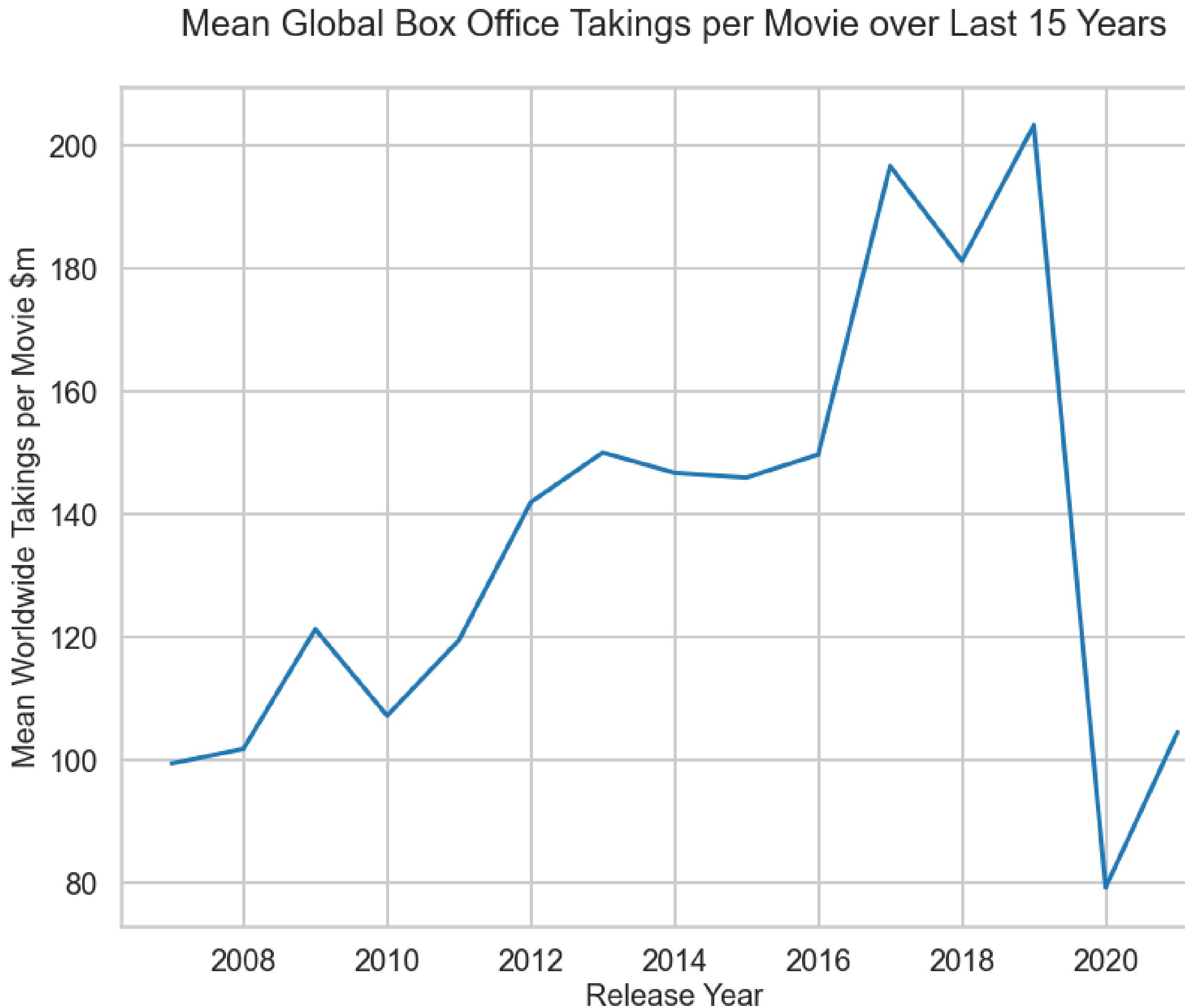
- The box office performances of 2,407 movies released in the last 15 years with budgets of over \$1 million were scraped from The Numbers website -- the most comprehensive public repository of financial data for global movie releases
- Data on the movies' genre, crew, release date and user ratings from Rotten Tomatoes, IMDb and Metacritic were extracted from Open Movie Database (OMDB) using its API
- Keywords attached to movies were extracted from The Movie DB (TMDB) using its API

Methods

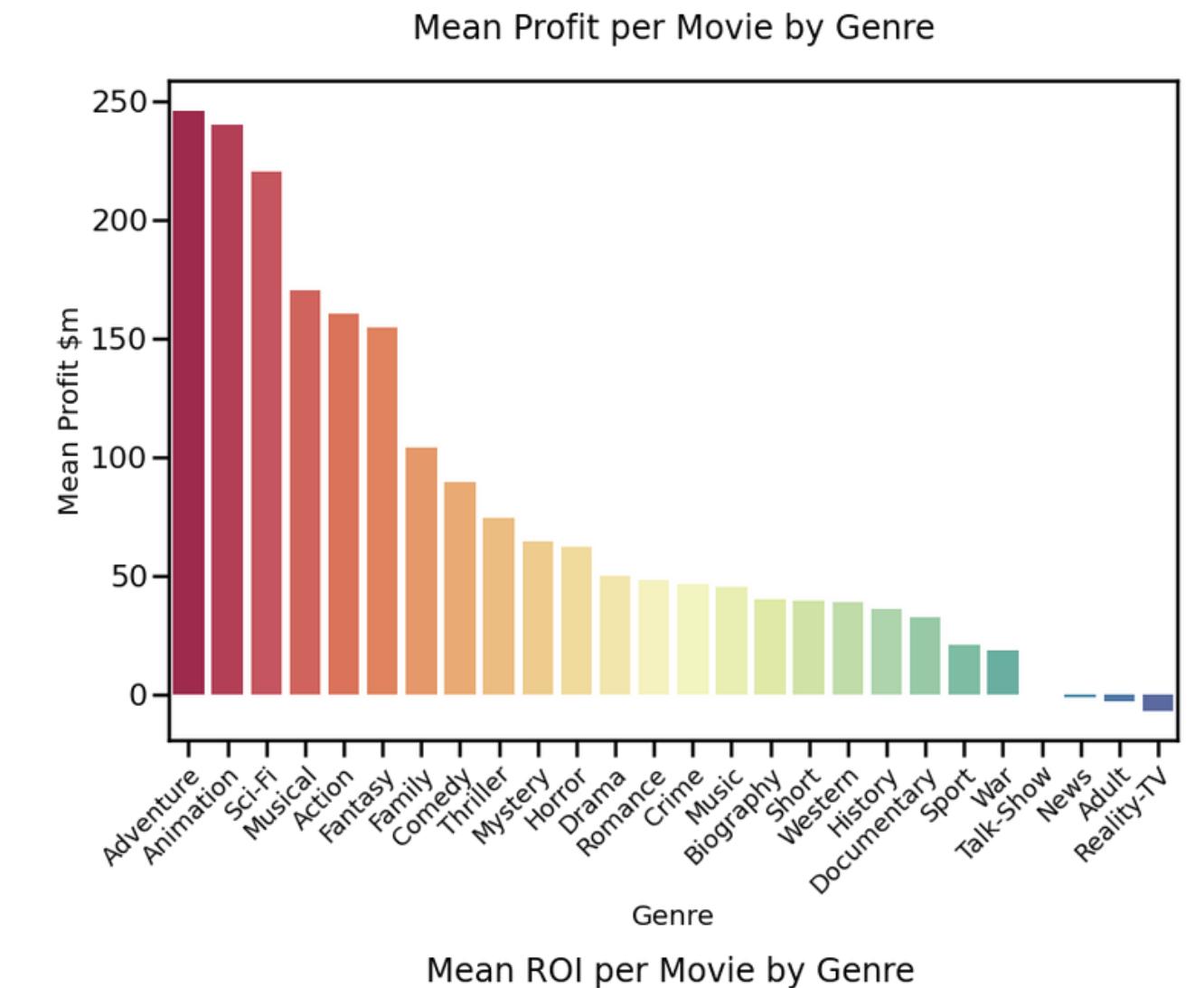
- We initially calculated the profit/loss and ROI for each of the 2,407 movies. We then analysed the overall year-by-year trend to see how profits per movie have evolved
- We then analysed each movie to find the most profitable genres, both in terms of gross profit and ROI
- Within those genres, we analysed the movies to find which actors, directors and writers were most successful, the runtime most associated with hits and the budgets that have generated the best returns

Results

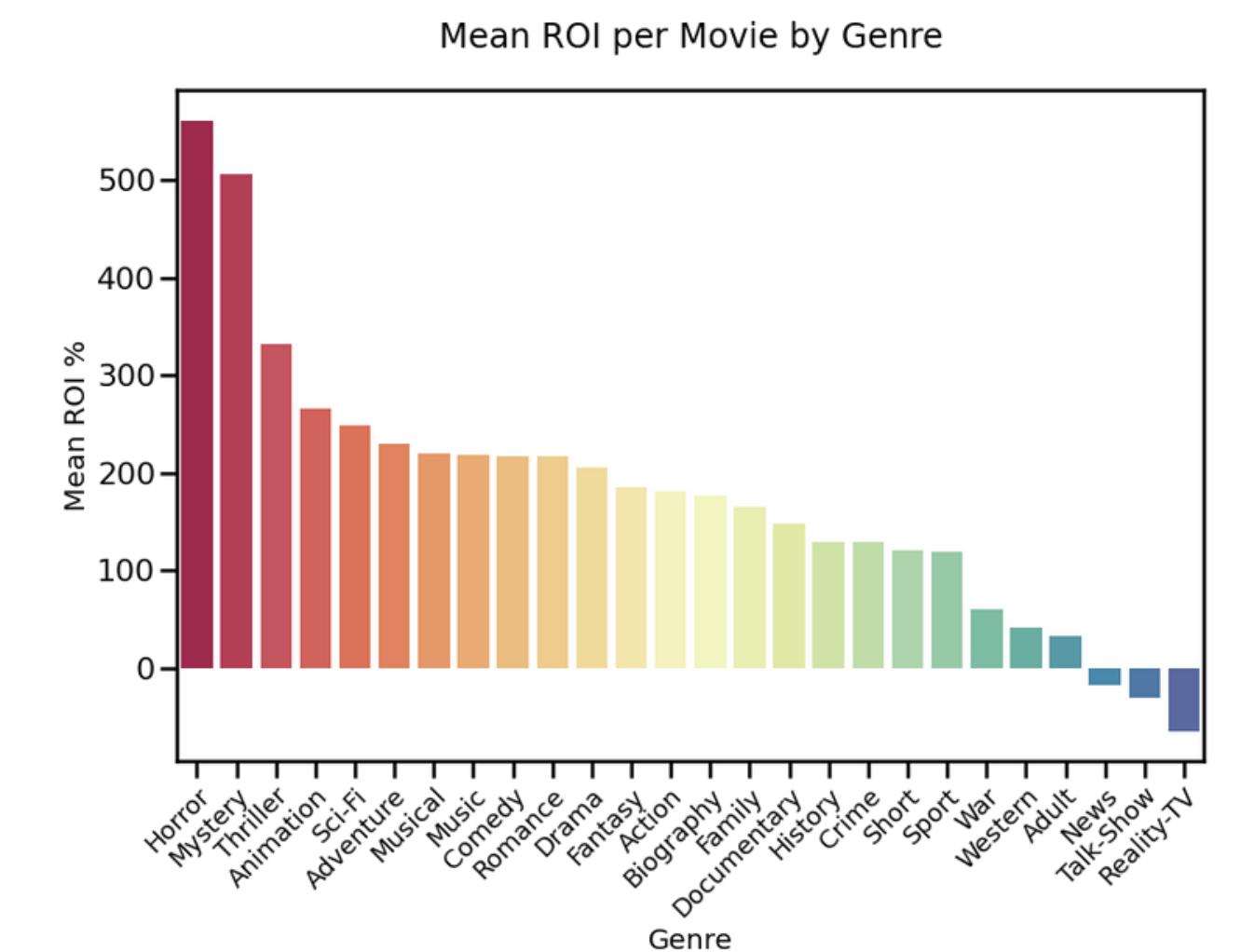
- Box office takings are still down sharply on pre-pandemic levels, with only small signs of recovery so far in 2021



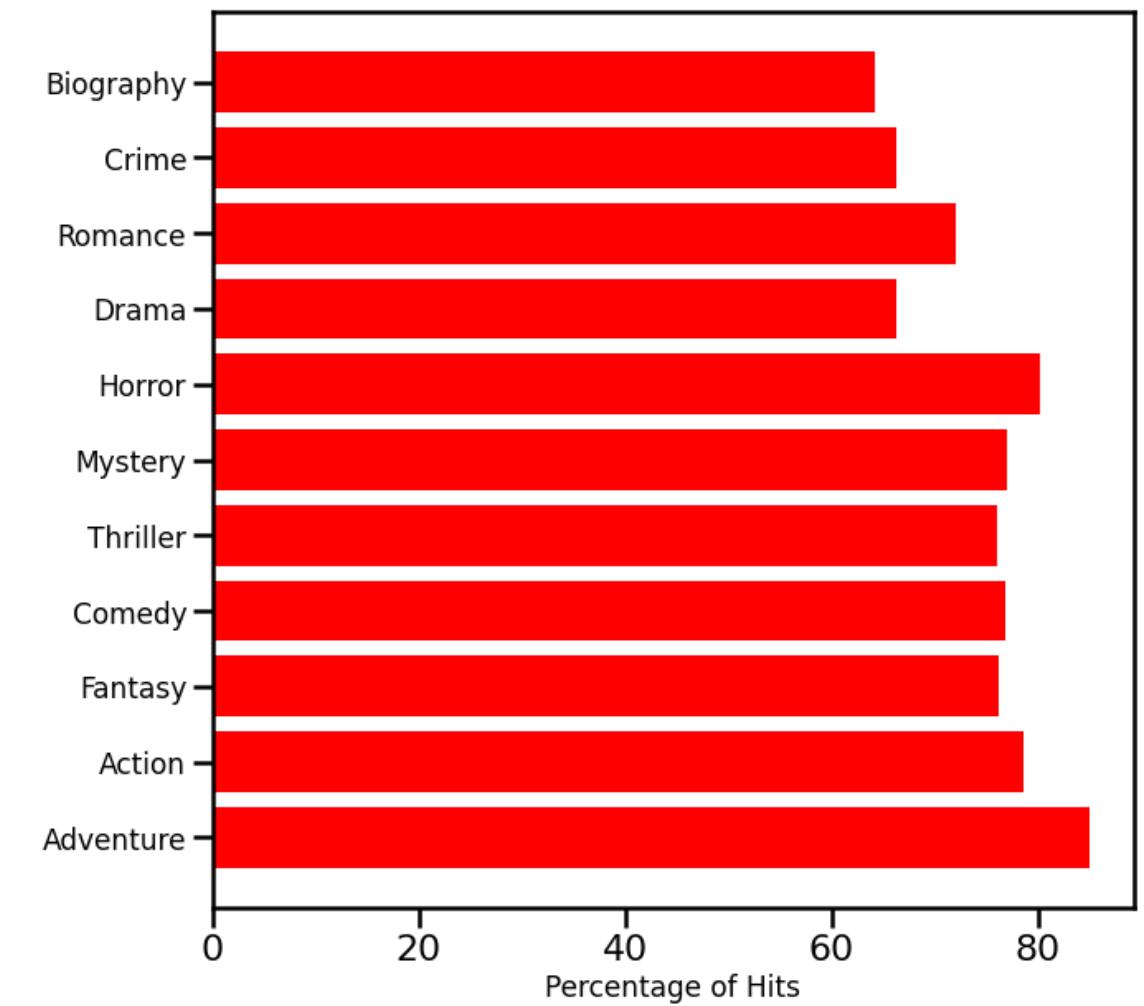
- Adventure movies returned the highest gross profits, on average



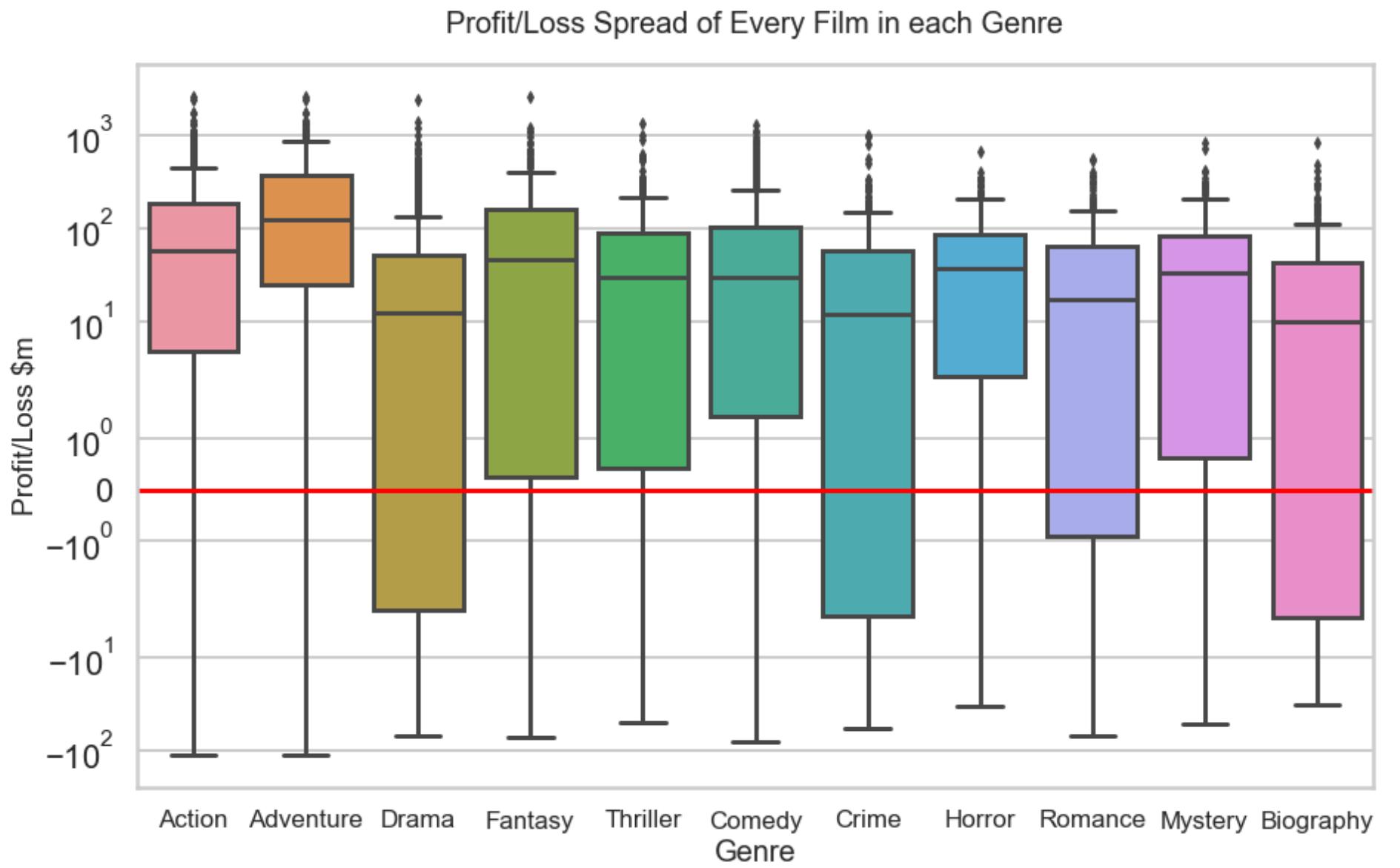
- Horror movies provided the best Return On Investment, on average



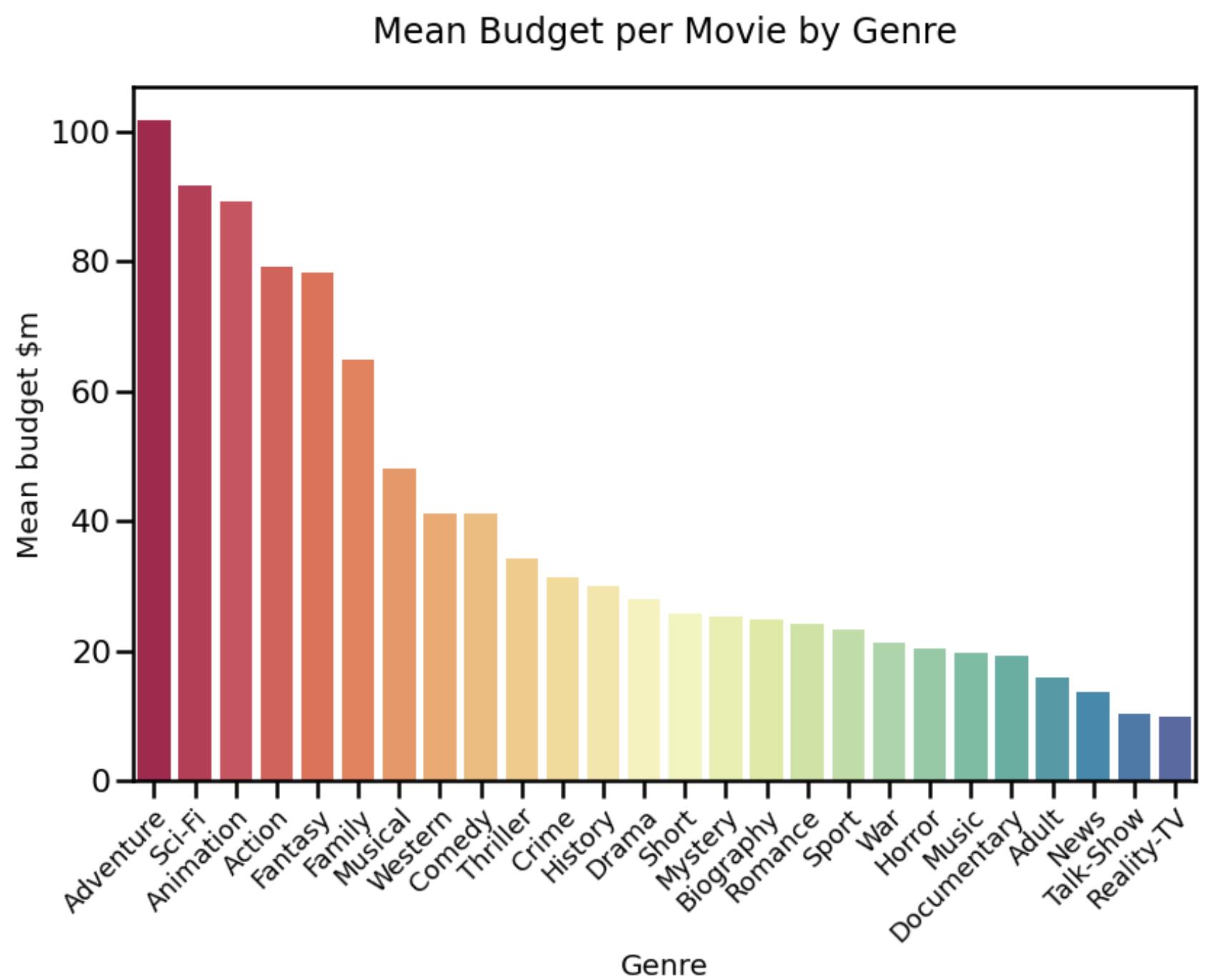
Percentage of Hits by Genre



Adventure and Horror movies also provided the highest chance of making a profit, with over 80 percent of movies in each genre making money



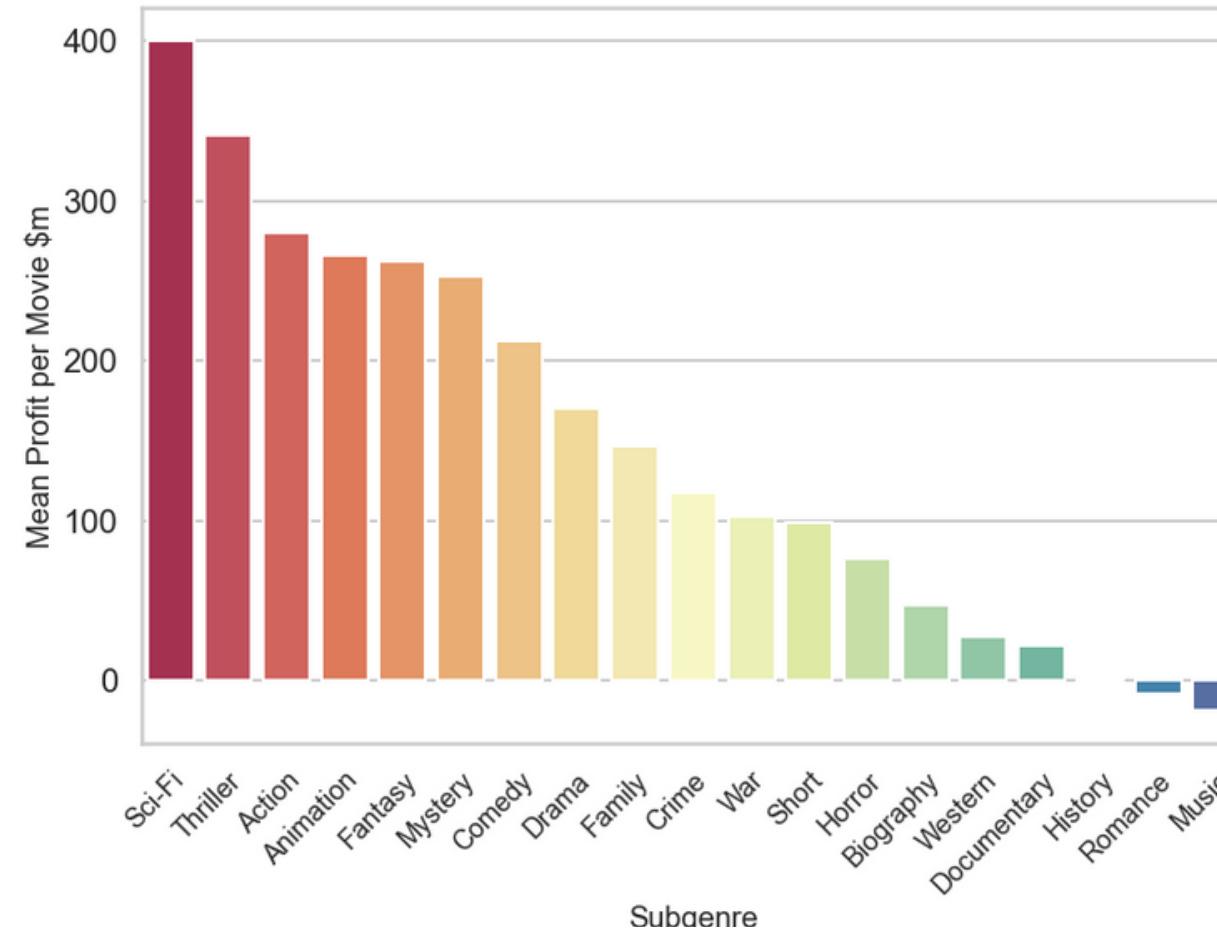
Action and Adventure returned the highest gross profits, but also suffered the heaviest losses. Horror returned good profits and also had limited losses



- Adventure movies had the highest budgets, while Horror had low budgets
- The studio should focus on high budget Adventure movies and low budget Horror movies

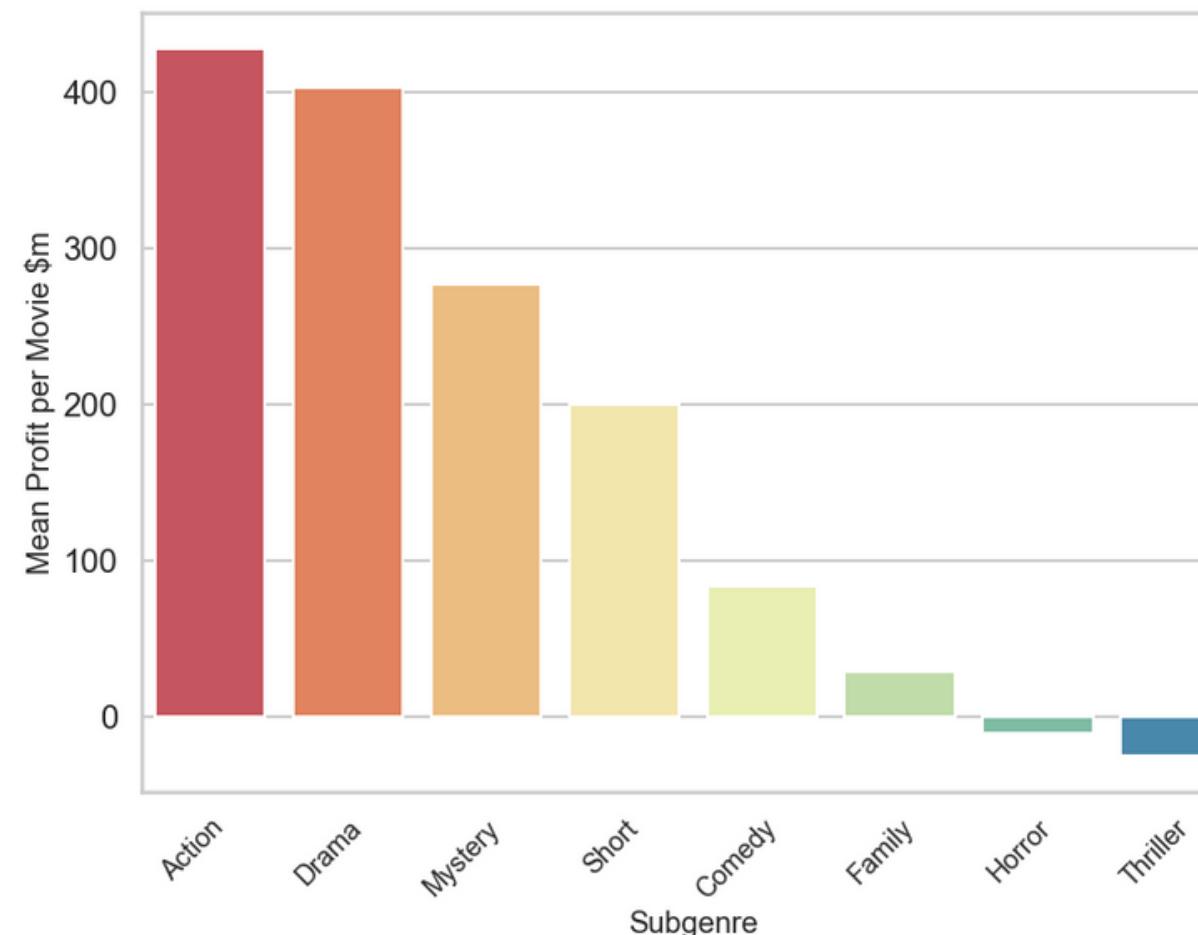


Mean Profit per Movie by Subgenre in Adventure Genre



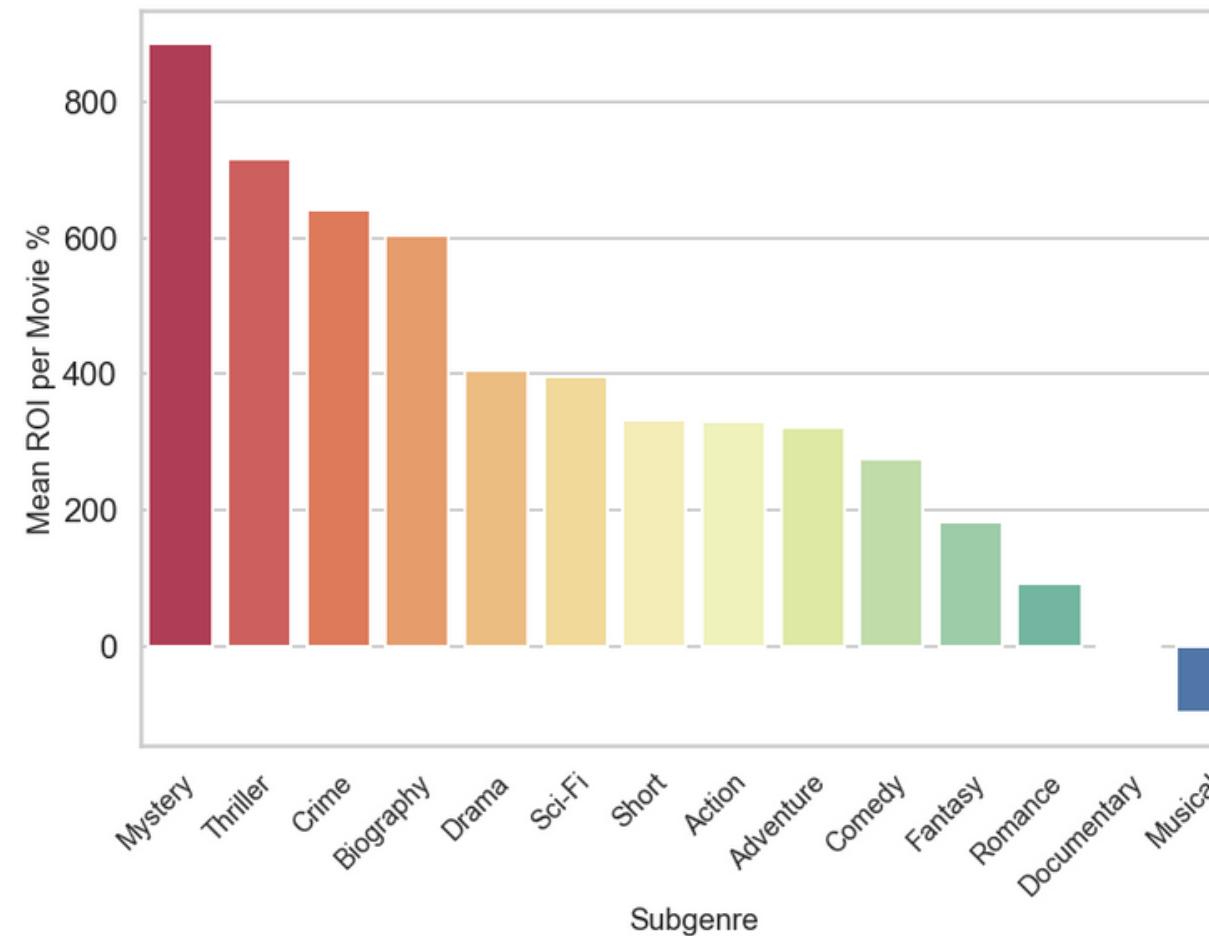
- Within the Adventure genre, Sci-Fi/Action was the most popular subgenre

Mean Profit per Movie by Subgenre in Adventure/SciFi Genre



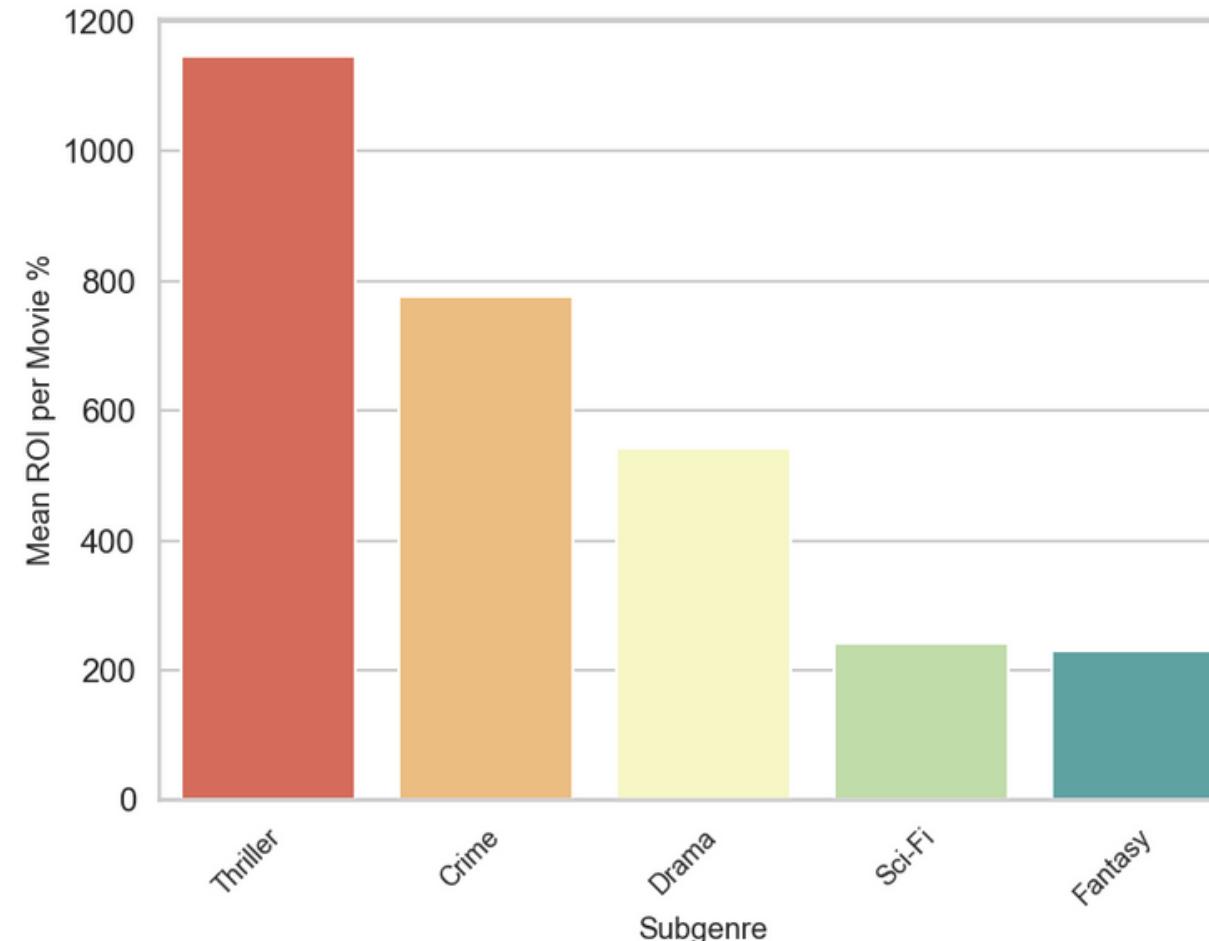
- The studio should focus on high budget Adventure/Sci-Fi/Action movies

Mean ROI per Movie by Subgenre in Horror Genre



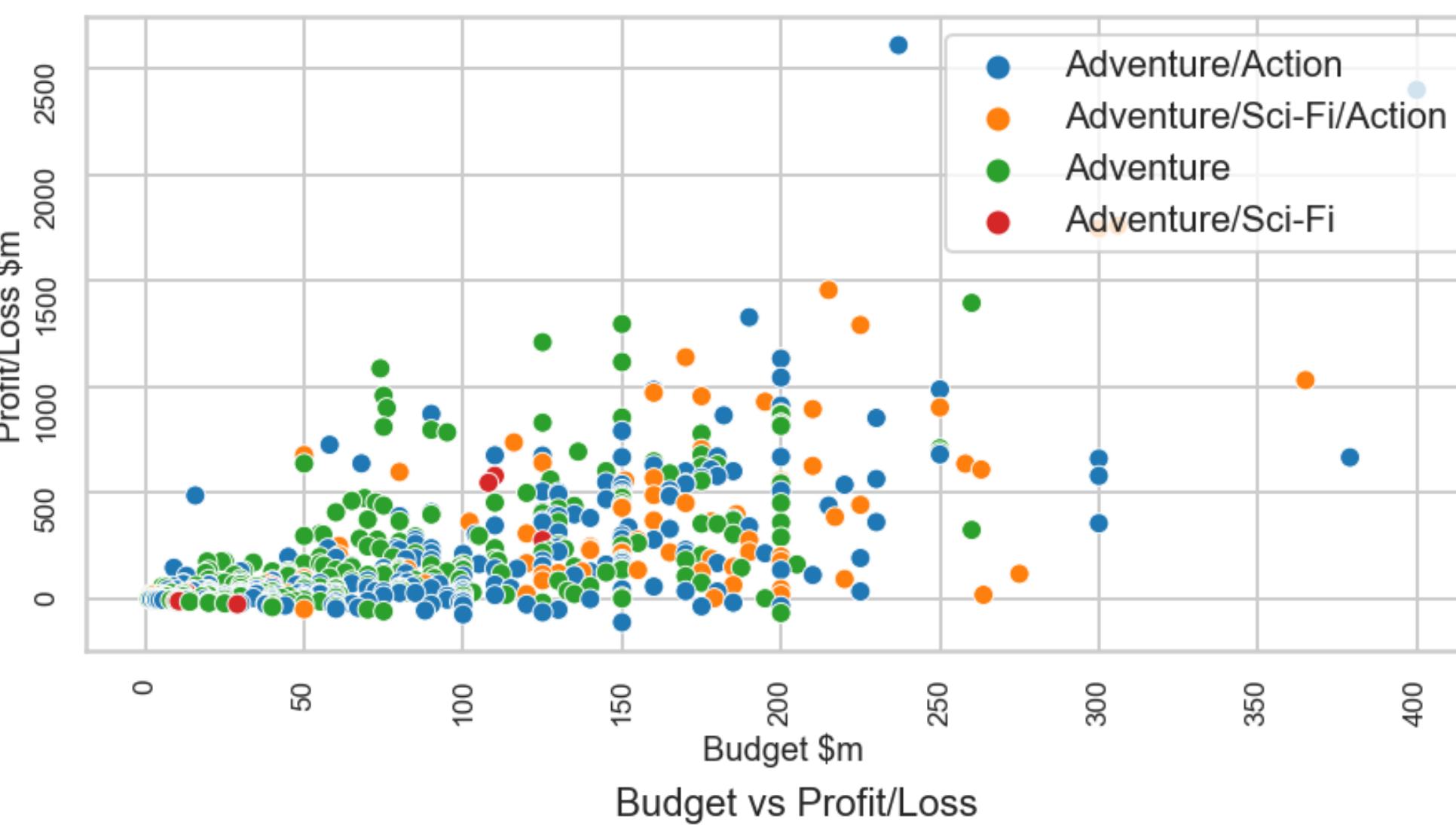
- Within the Horror genre, Thriller/Mystery was the most popular subgenre

Mean ROI per Movie by Subgenre in Horror/Mystery Genre

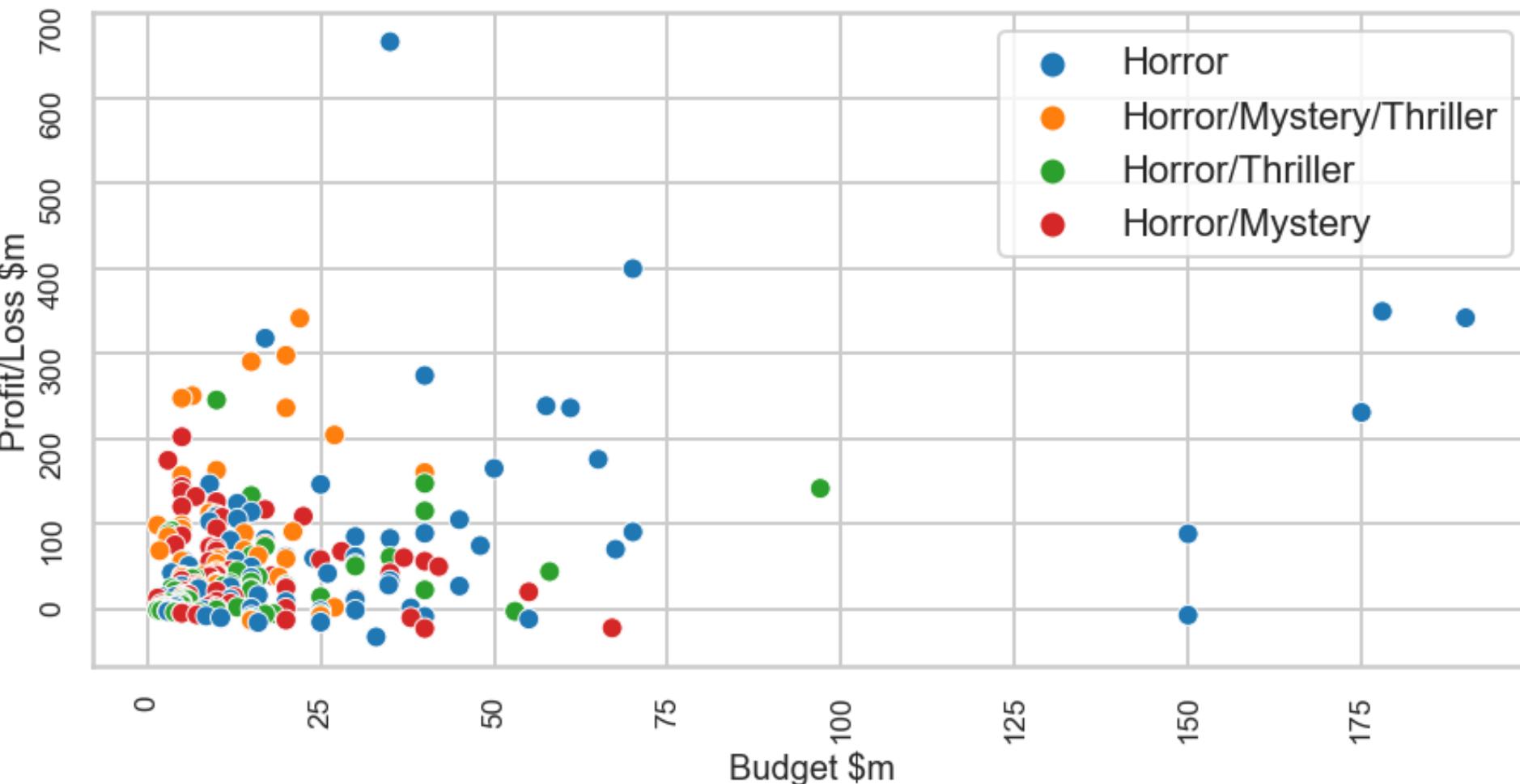


- The studio should focus on making low budget Horror/Thriller/Mystery movies

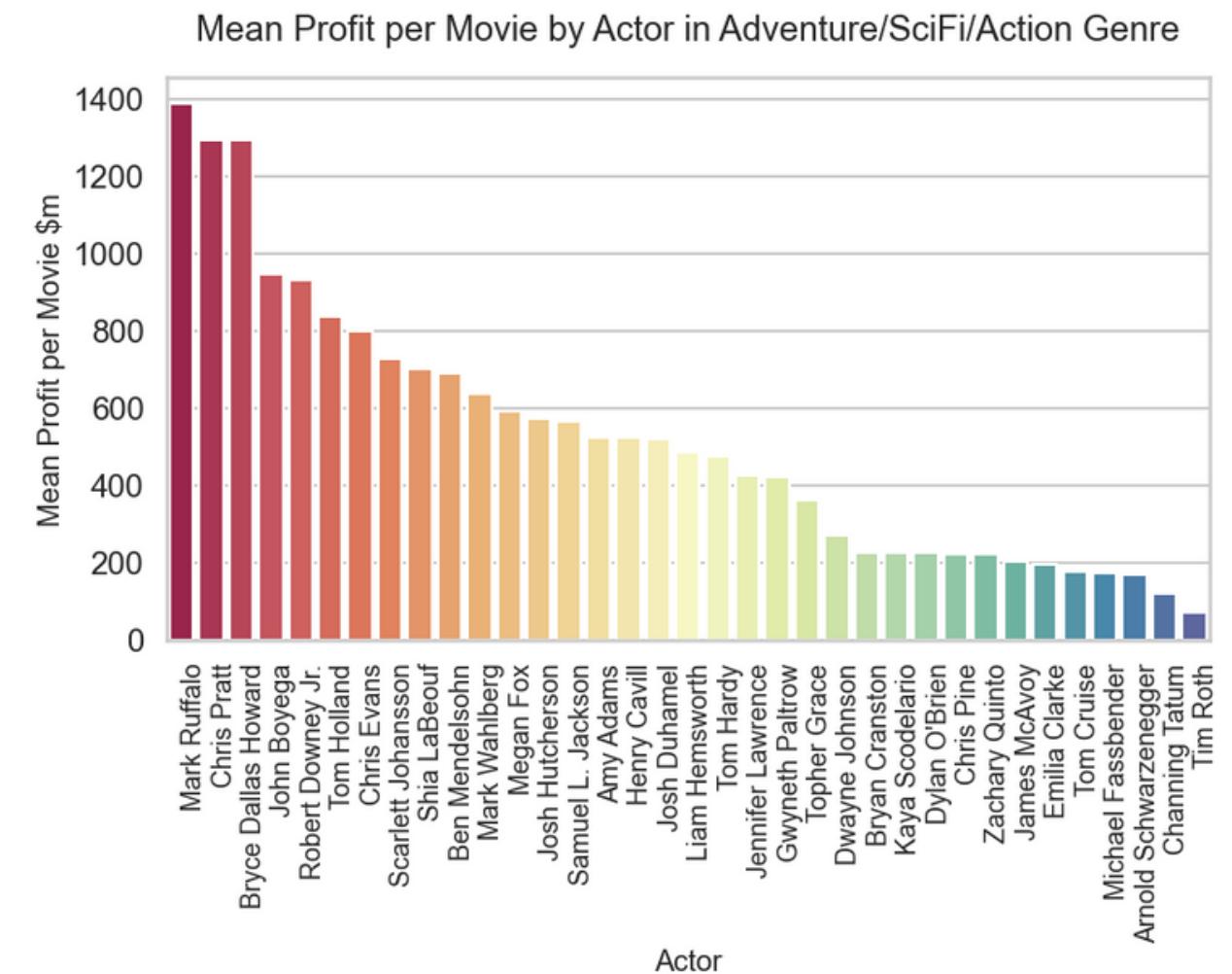
- The most profitable Adventure/Sci-Fi/Action movies were made on budgets of between \$150 and \$250 million



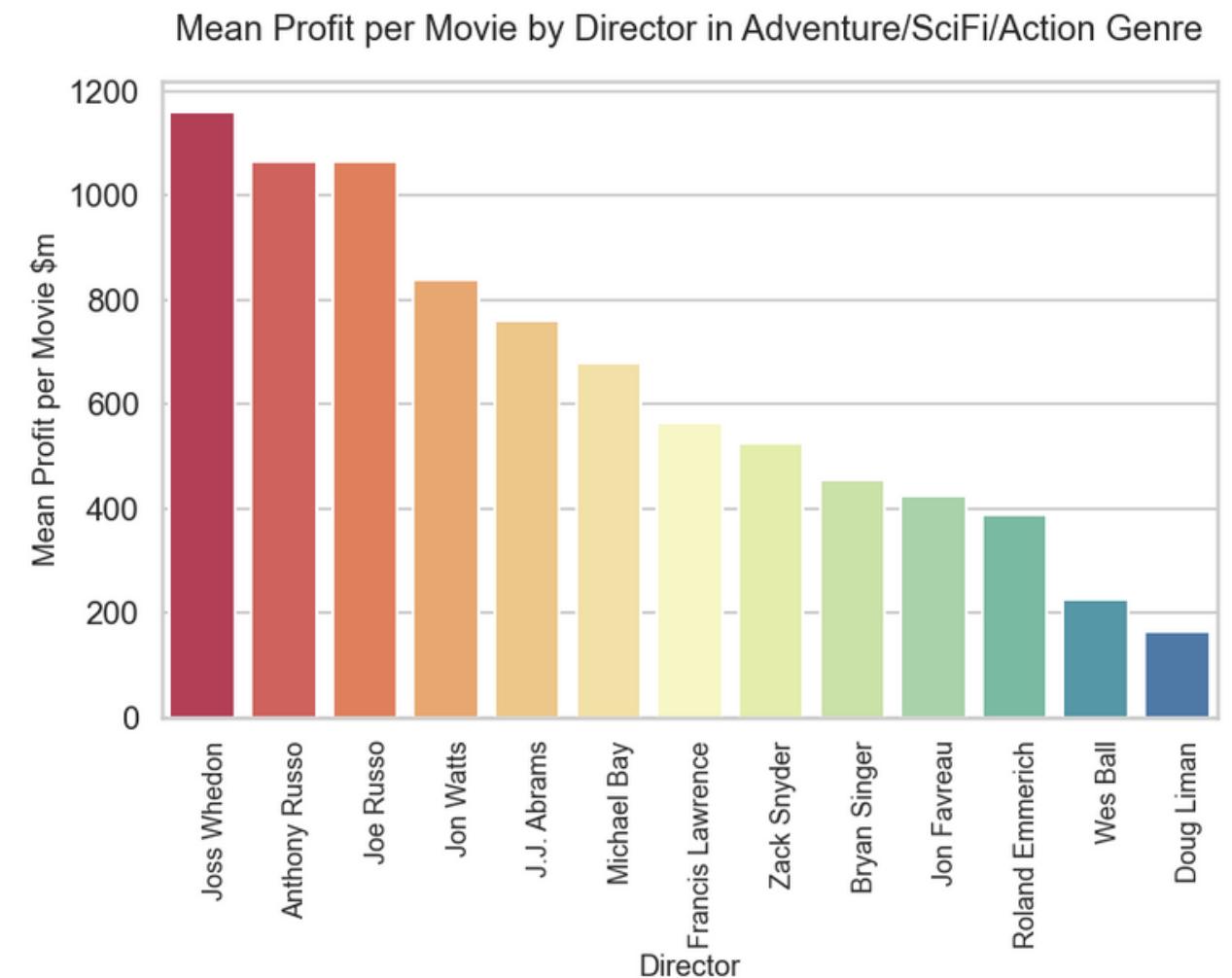
- The most profitable Horror/Mystery/Thriller movies genre were made on budgets of between \$20 and \$25 million



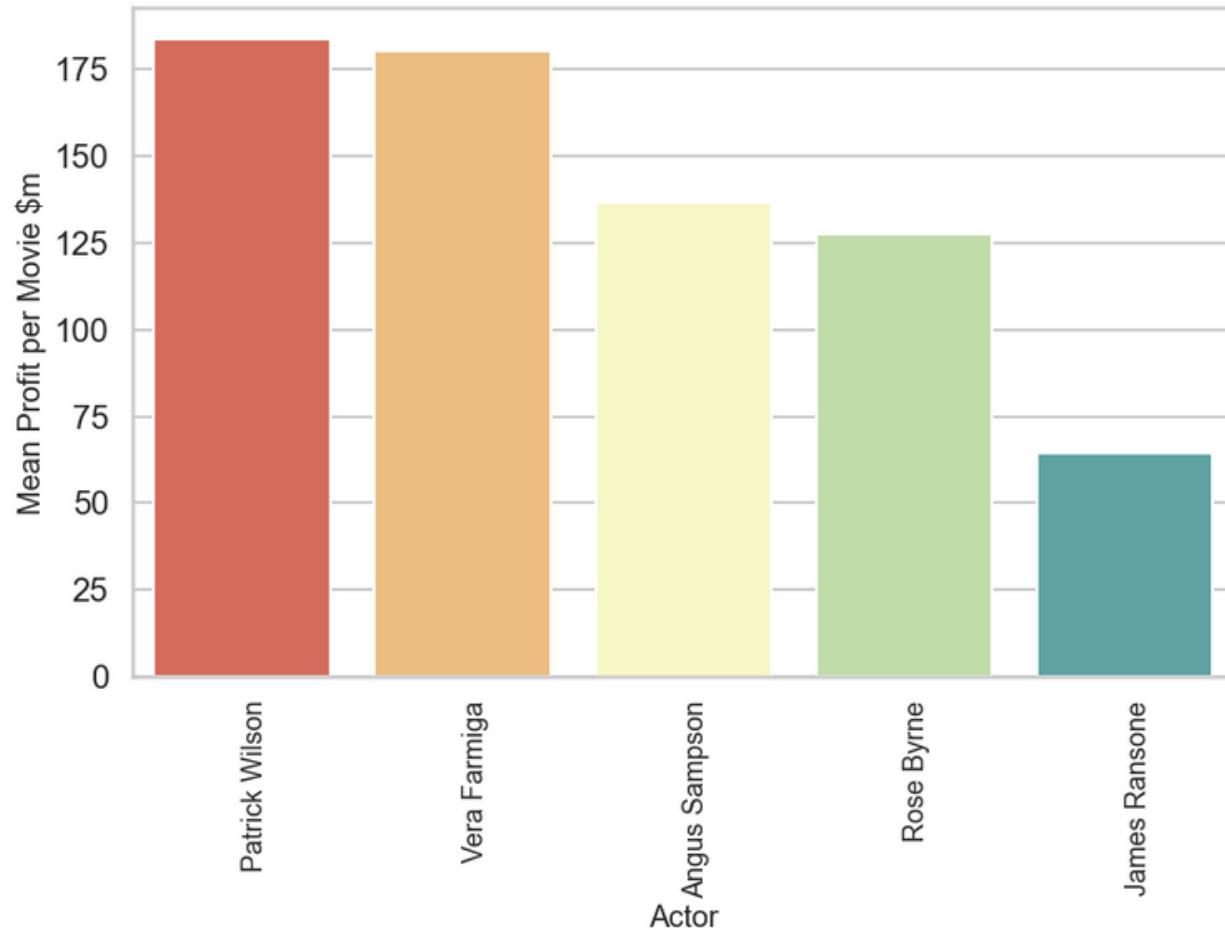
- Mark Ruffalo, Chris Pratt and Bryce Dallas Howard were the most profitable actors in the Adventure genre



- Joss Whedon, the Russo brothers and JJ Abrams were the most profitable directors

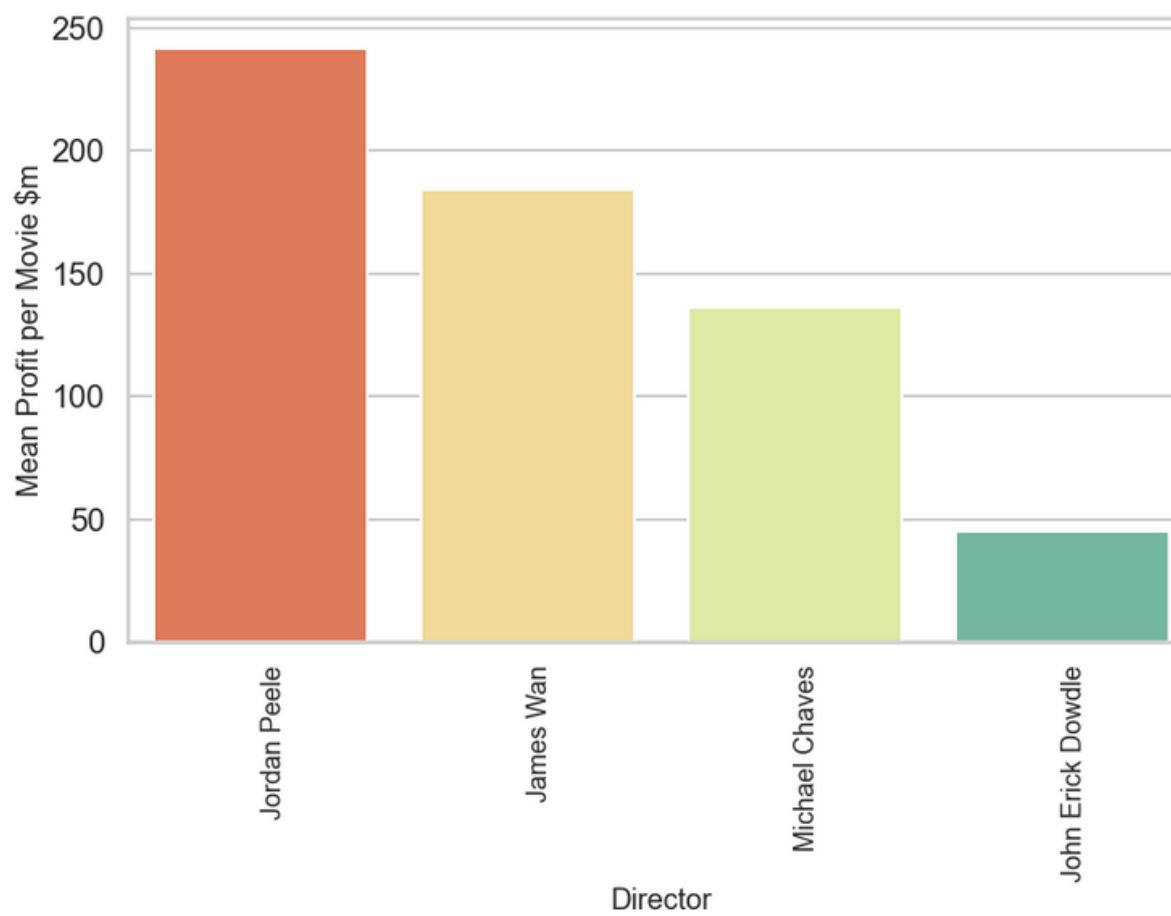


Mean Profit per Movie by Actor in Horror/Mystery/Thriller Genre



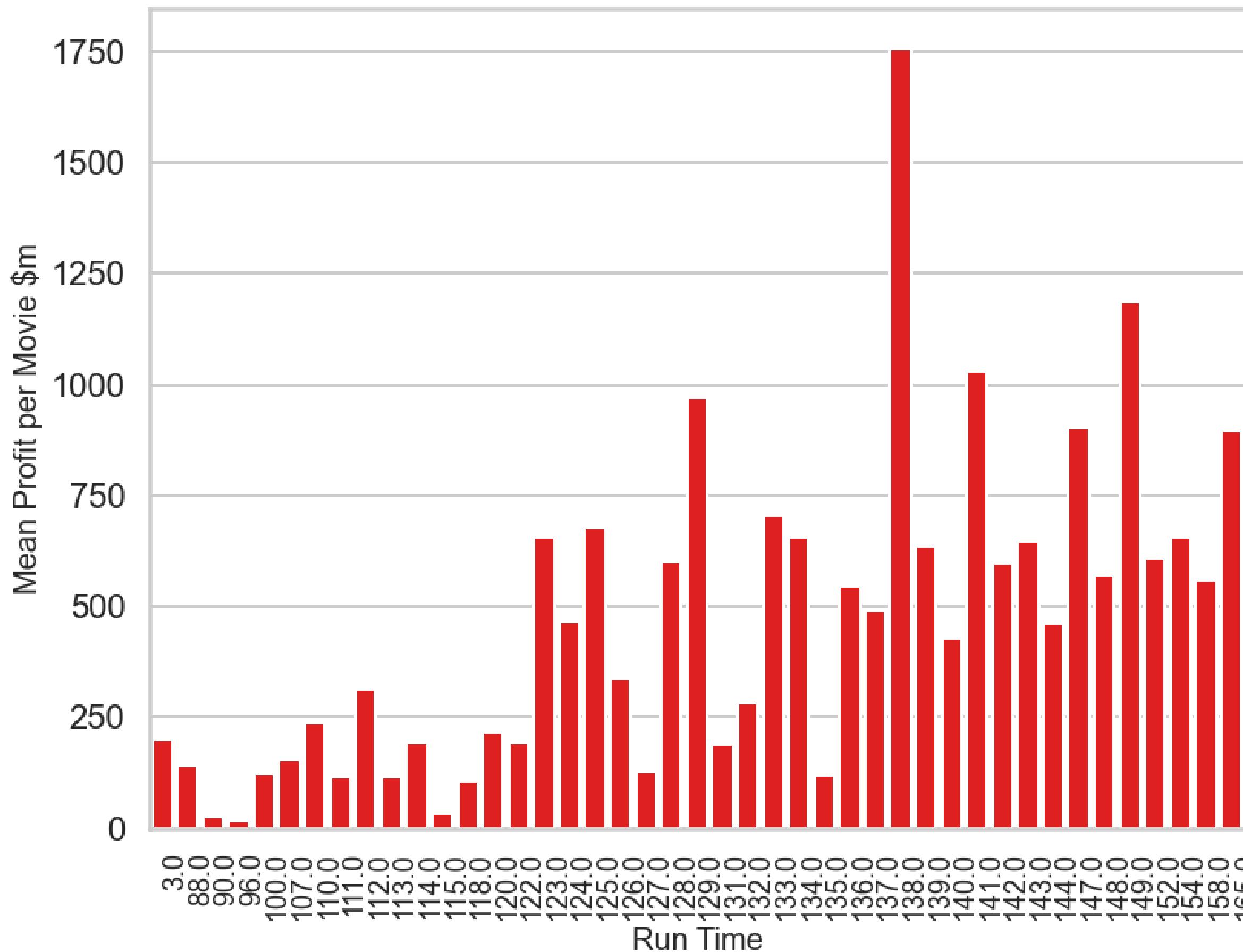
- Patrick Wilson, Vera Farmiga and Rose Byrne have been amongst the most most profitable actors

Mean Profit per Movie by Director in Horror/Mystery/Thriller Genre



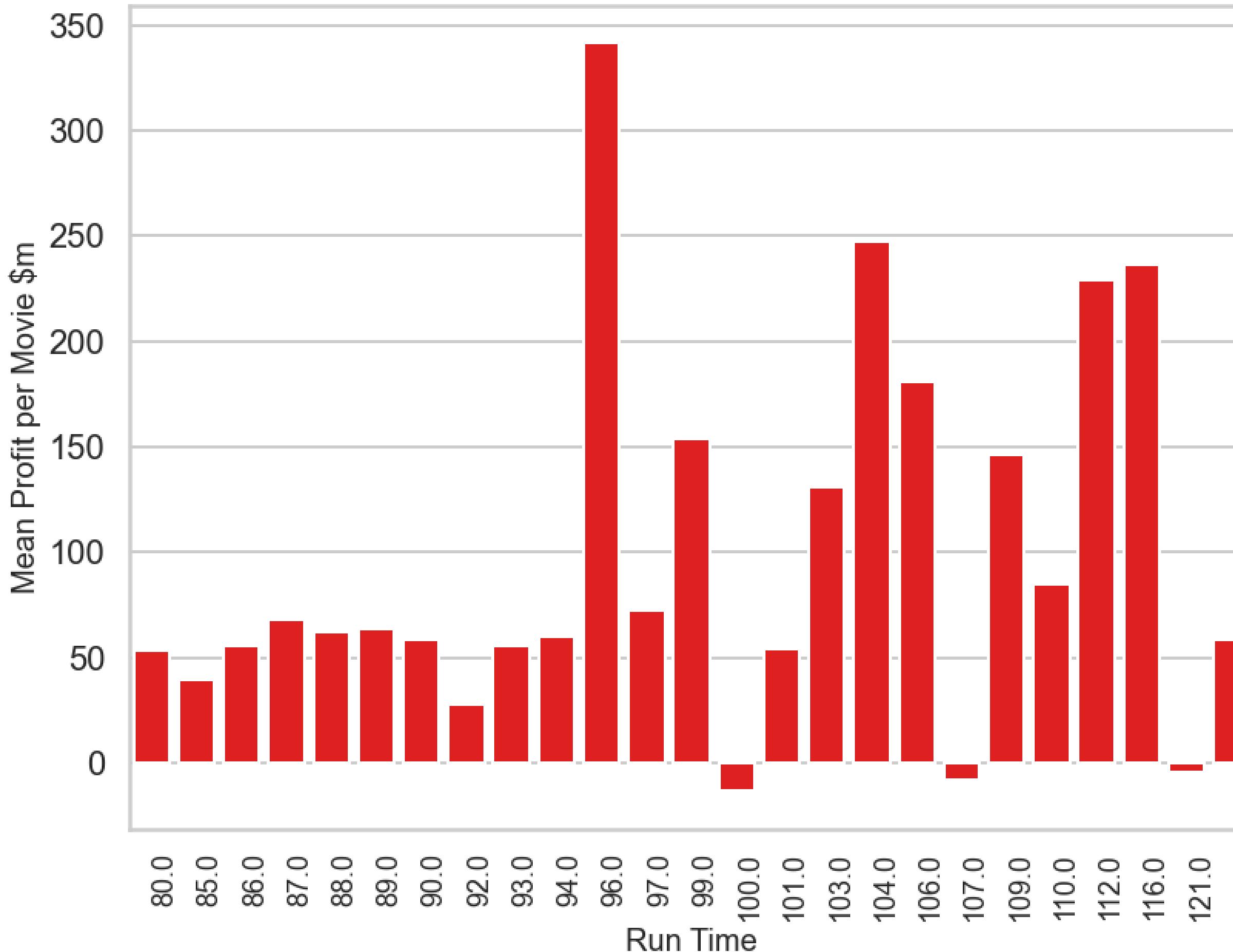
- Jordan Peele has been the most profitable director

Mean Profit per Movie by Runtime in Adventure/SciFi/Action Genre



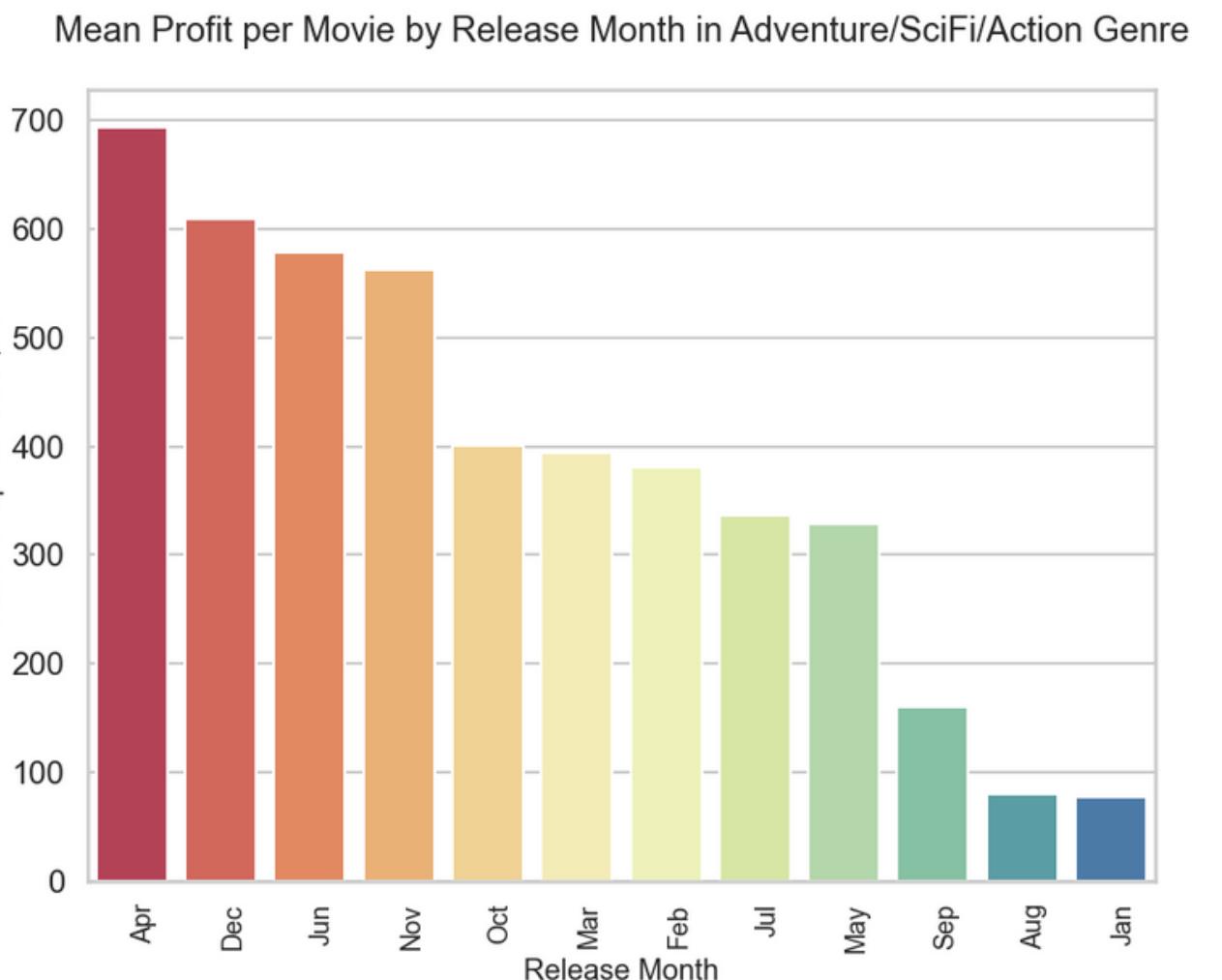
- Adventure movies with run-times of over 137 minutes returned the best profits

Mean Profit per Movie by Runtime in Horror/Mystery/Thriller Genre

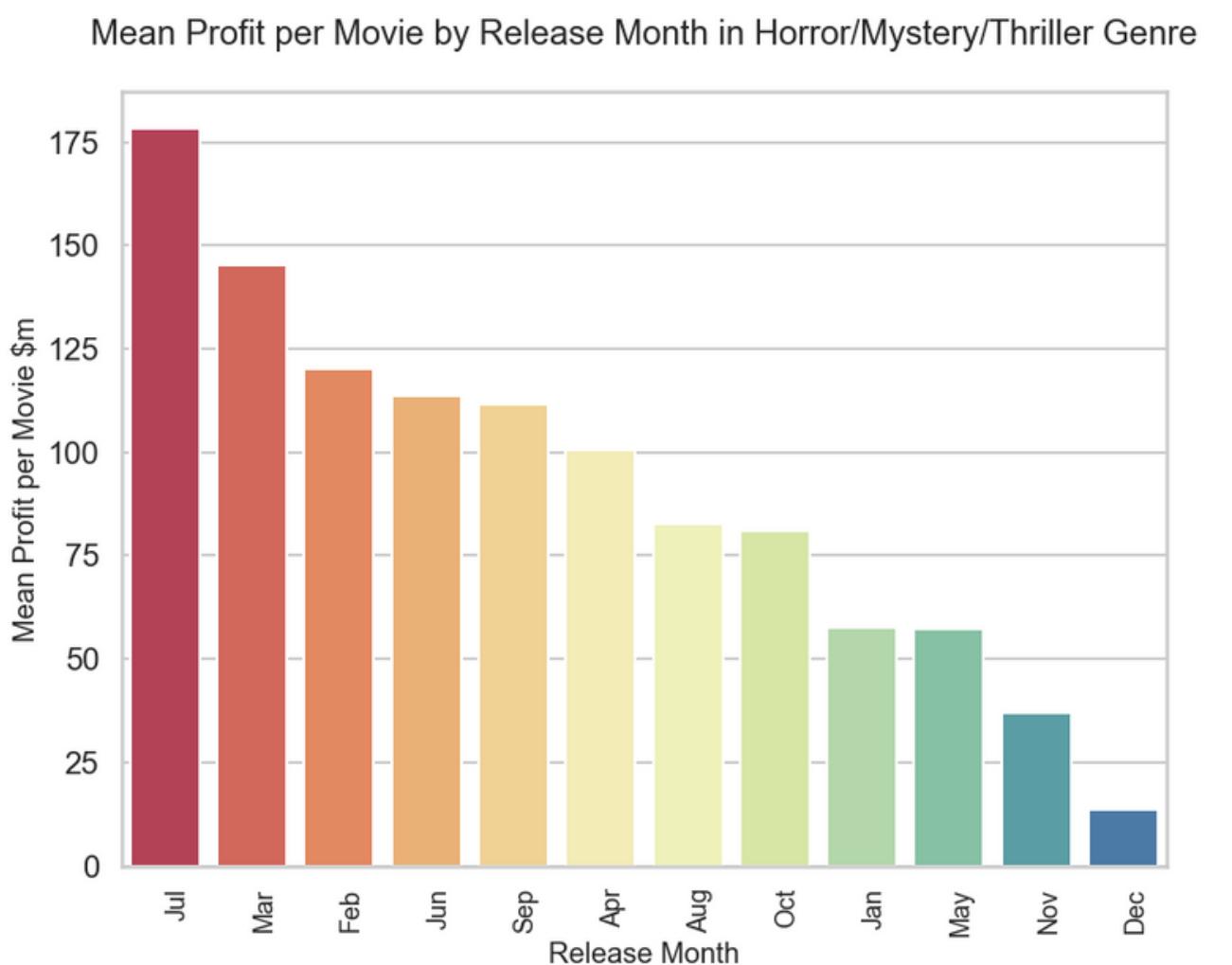


- Horror movies with run-times of between 96 and 116 minutes returned the best profits

- April, December and June were the most profitable release months for Adventure movies



- July, March and February were the most profitable release months for Horror movies



Conclusion

General Timing

- The first movies should not be released until the world's top 10 markets have fully reopened from lockdown - subject to the pandemic

High Budget

- The studio's high budget movies should be in the Adventure/Sci-Fi/Action genre
- They should have a budget of between 150 and 250 million dollars
- The studio should target Mark Ruffalo and/or Bryce Dallas Howard as lead actors
- It should target Joss Whedon or JJ Abrams as director
- The movies should be over 137 minutes long and be released in April, December or June

Conclusion

Low Budget

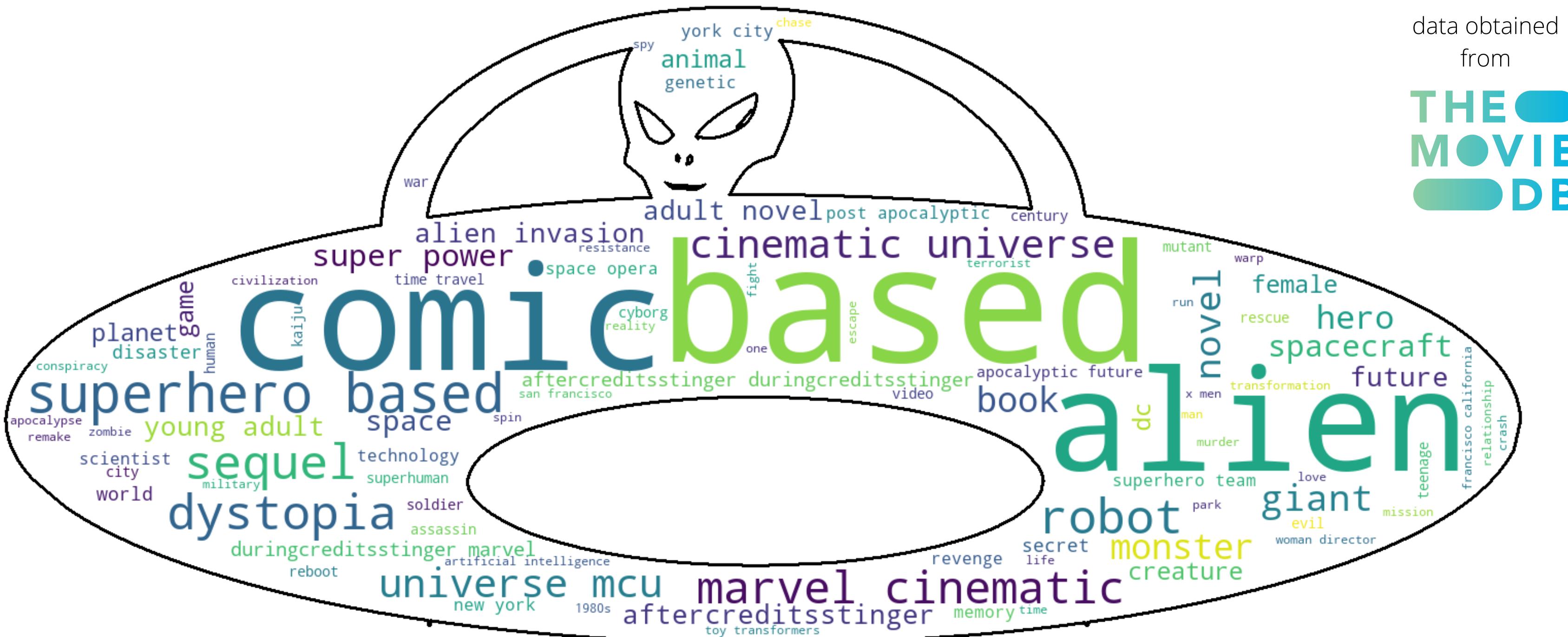
- The studio's low budget movies should be in the Horror/Mystery/Thriller genre
- They should have a budget of between 20 and 25 million dollars
- The studio should target Rose Byrne and/or Patrick Wilson as lead actors
- It should target Jordan Peele as director and writer
- The movies should be between 96 and 116 minutes long and be released in July, March or February

Next Steps

- Collect as much information as possible from the top 10 global markets to see if they are recovering from the pandemic
- Conduct surveys to find the types of films that people want to see post-pandemic
- Collect as much real-time data as possible on the movie viewing habits on streaming services, given the black hole in box office data over the last two years and the numbers of people now watching online

MOST COMMON KEYWORDS ASSOCIATED WITH THE BEST-PERFORMING ADVENTURE/ACTION/SCI-FI MOVIES

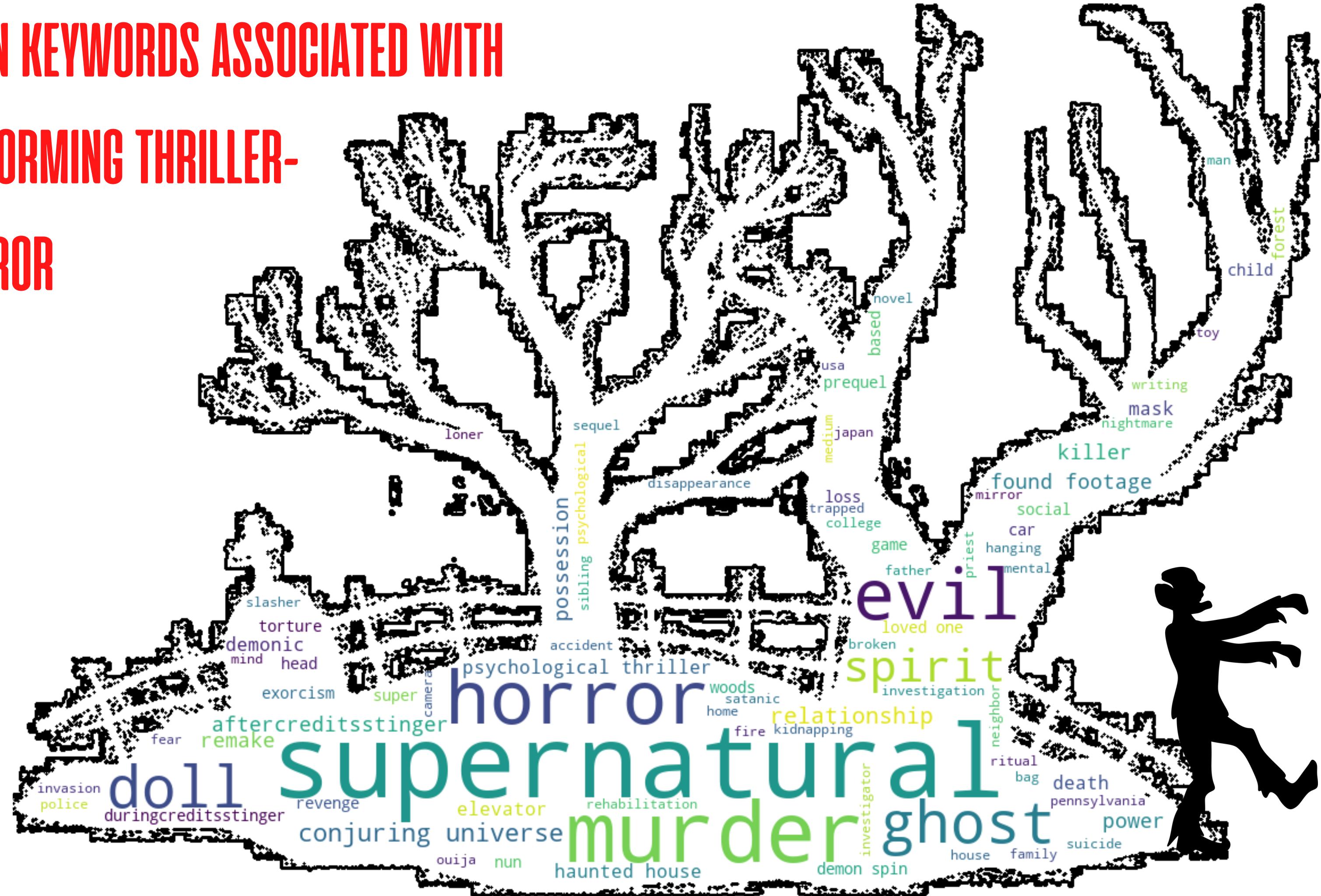
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MOST COMMON KEYWORDS ASSOCIATED WITH THE BEST PERFORMING THRILLER- MYSTERY-HORROR MOVIES



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THE END

