

Phase 1 Project:

Movie Analysis for Microsoft

By Tommy Phung

Overview

What we are given:

Several dataset containing movie description, reviews and rating from various websites.

- IMDB, Rotten Tomatoes, The Movies and Box Office Mojo

Overarching goals

Find the indicators on how to make a movie successful and profitable

- Box office to budget ratio, popularity and genre, directors

Stakeholders want to invest in a movie that is profitable and successful with the highest return and guarantee with the available data.

Summary

- The top 5 best genre are action movies, adventure, science fiction, fantasy and drama.
- The top 5 worst genre are documentary, comedy, horror, thriller, and dramas.
- Budget has small impact on foreign gross box office
- The best film directors:

Top Directors

Anthony Russo, Byron Howard, Chris Williams, Dean DeBlois,
James Gunn, Peter Ramsey, Taika Waititi

Outline

- Business Problem
- Data Understanding
- Methods
- Results
- Conclusion
- Next Steps

Business Problem

- What type of movie would be the most profitable and the least profitable?
 - Popular movies with the best profit
- Does production budget influence the success or failure of a movie?
 - Budget Cost, Domestic Gross, Foreign Gross and Ratio
- Who is the best director to produce the movie?
 - Best track record in making quality movies

This will give Microsoft the best chances to succeed in making a movie.

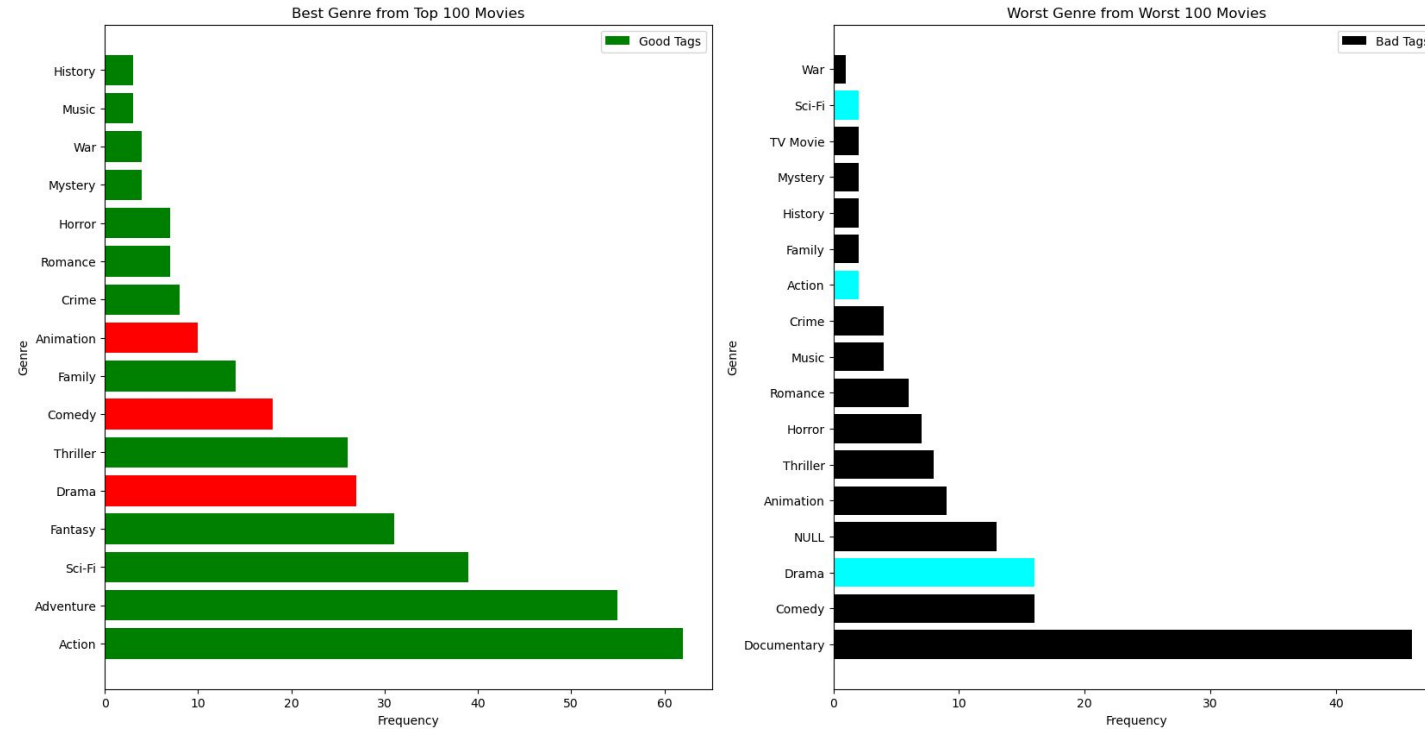
Data Understanding

- Genres are the easiest attributes to group and data are already provided.
 - Easy to change and track on a movie pre-production
- Budget and gross box office can be compared to see the most profitable movie.
 - Profit is the most important to stakeholder and investors.
- Directors may have a influence in the movies performance.
 - One of the most important role.

Methods

- Sort movie by popularity and count the number of times a given genre is used for those movies.
- Create a new variable, ratios, to determine if a movie is profitable.
 - $\text{Ratio} = \text{Gross Box Office} / \text{Production Budget}$
- Using the most popular list, compare their budgets and profit to see any correlations.
- Group the list of movies by their directors and obtain the top directors with the most experience and highest performing ratings.

Results



Best: Action

Worst:
Documentary

Neutral: Drama

Fig 1. Graphs showing best and worst genres

Does popular genre result in the most profitable movies?

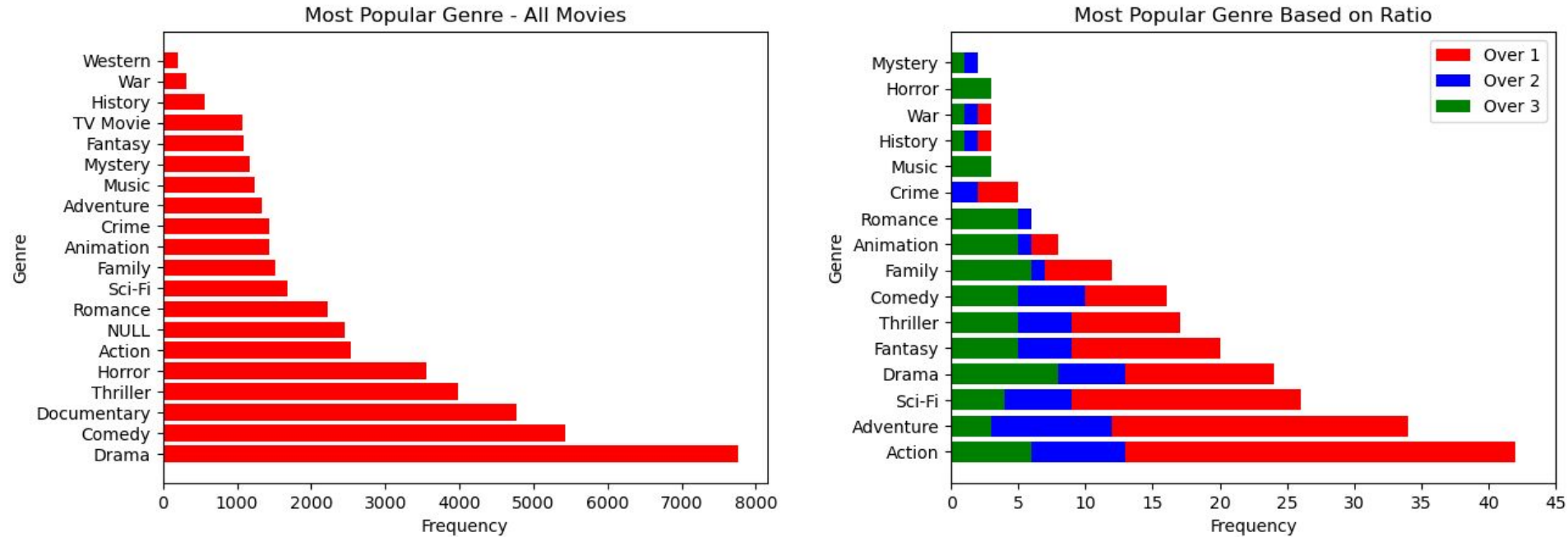


Fig 2. Graphs showing most popular genres and most popular genres when grouped by ratios

Best Genre vs Most Popular Genre

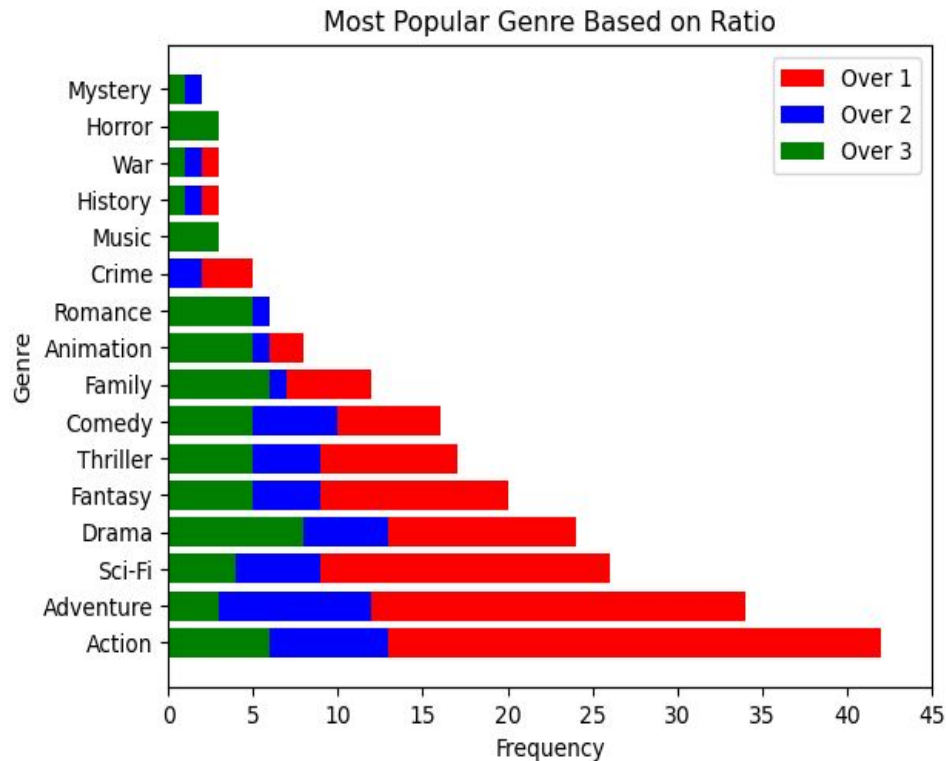
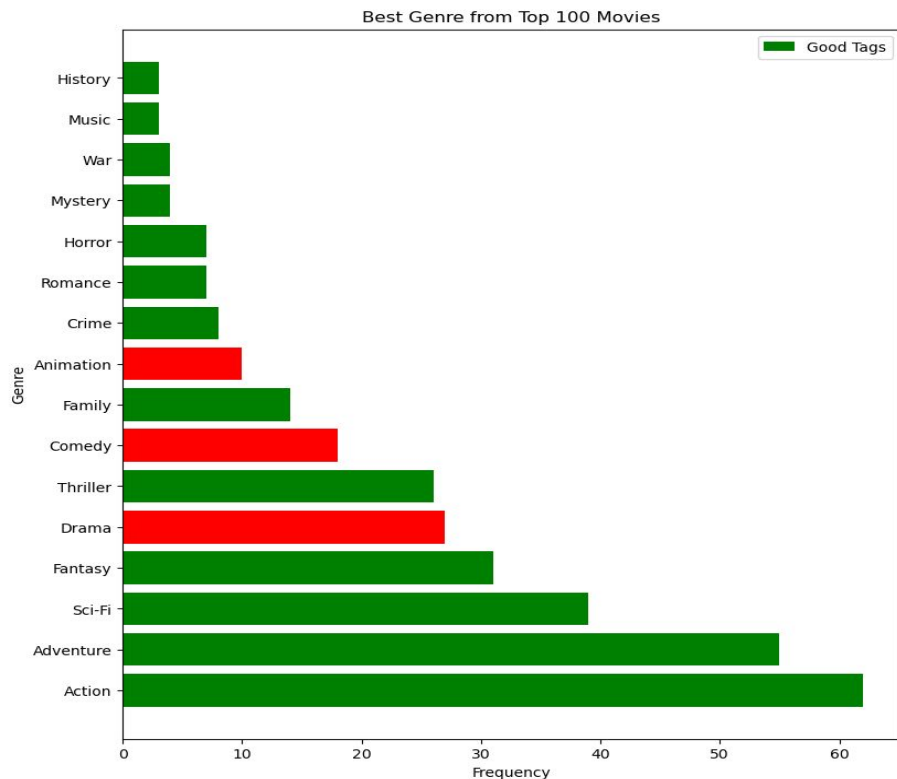


Figure 1 and 2 to see correlation

Does budget have any effect on gross profit?

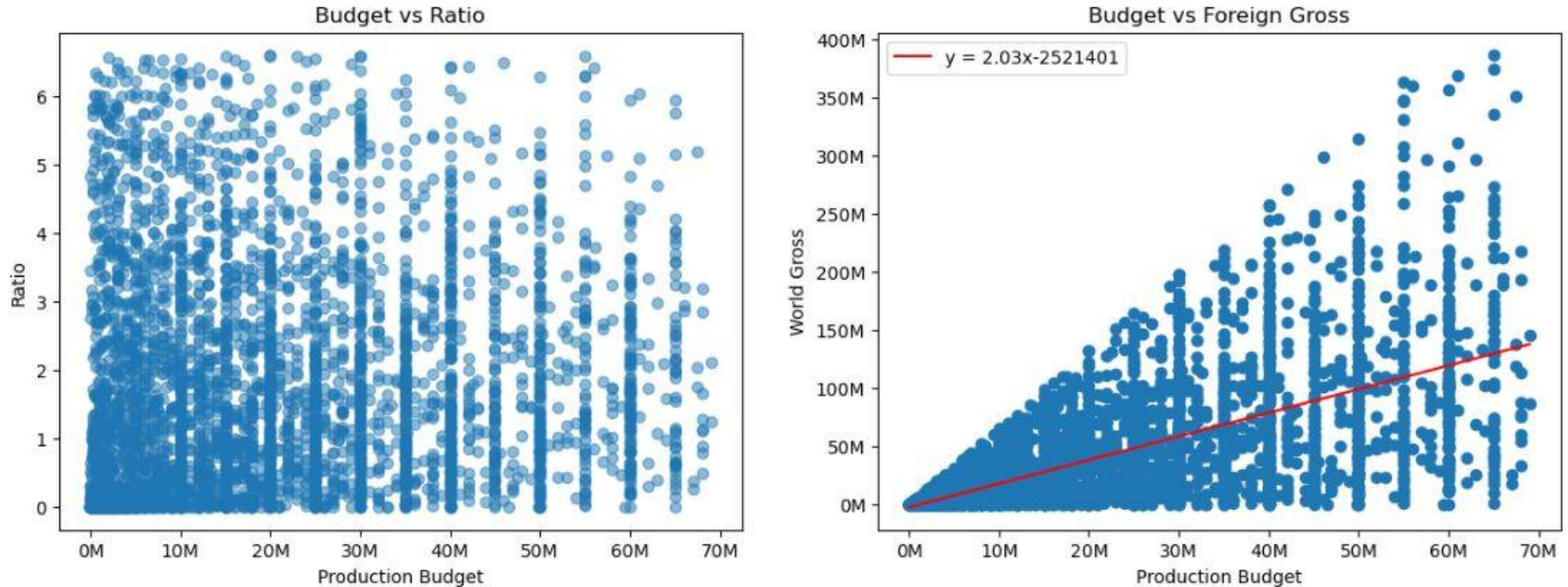


Figure 3: Two graphs plotting production budget with their ratio and their world gross from the top movies

The Best Directors

	Movie Title	Director Name	Number of Movies	Average Movie Ratings
0	Spider-Man: Into the Spider-Verse	Peter Ramsey	6	8.5
1	Avengers: Infinity War	Anthony Russo	24	8.5
2	How to Train Your Dragon	Dean DeBlois	12	8.1
3	Guardians of the Galaxy	James Gunn	11	8.1
4	Zootopia	Byron Howard	24	8.0
5	Thor: Ragnarok	Taika Waititi	9	7.9
6	A Star Is Born	Bradley Cooper	9	7.8
7	Captain America: Civil War	Anthony Russo	12	7.8
8	Big Hero 6	Chris Williams	12	7.8
9	Guardians of the Galaxy Vol. 2	James Gunn	13	7.7

- Peter Ramsey
- Anthony Russo
- Dean DeBlois
- James Gunn
- Byron Howard
- Taika Waititi
- Bradley Cooper
- Anthony Russo
- Chris Williams
- James Gunn

Conclusion

Checklist

- Most favorable genre - Action, Adventure, Fantasy, Sci-Fi
- Worst genre - Documentary, Horror, Thriller
- High budget DOES NOT result in a higher profit ratio
 - Does have some effect on foreign gross box office, 1 to 2 return (average)
- Get one of the following directors to direct the movie (Top movies with above average ratings)
 - Anthony Russo, Byron Howard, Chris Williams, Dean DeBlois, James Gunn, Peter Ramsey, Taika Waititi

Next Step?

- More datasets on reviews and critics to see if individuals have impacts on movies performance.
- Compare different genre ID combinations for best results.
- Gather datasets on leading actors average movie ratings.

Thank you

Email: phungtommy109@gmail.com

Github: @Tommyphung1

Question?