

All about Movies

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Does Spending Big Money on Movies get you the best box office returns and IMDB ratings?

- More than 15,000 movies released in the last century
- >400B spent on movies worldwide
- >500B gross revenue generated at the box office
- >100% increase in the number of movies in the last 20 years
- All the movies can be classified into 21 main Genres
- Other than Revenue generated, IMDB ratings and Facebook likes used as a metric to measure the success/popularity of movies/directors/actors

“The whole of life is just like watching a film. Only it's as though you always get in ten minutes after the big picture has started, and no-one will tell you the plot, so you have to work it out all yourself from the clues.” — **Terry Pratchett, Moving Pictures**

Data Source:



- Comprehensive Dataset containing information about >5000 movies from 1916-2016
- Contains information about:
 1. Movie budget
 2. Gross box office revenue
 3. Actors, supporting actors
 4. Directors
 5. IMDB ratings
 6. Movie genre
 7. Facebook likes for the movie/actor/director
 8. Country, language
 9. Content rating
 10. Year of release
 11. Movie duration etc.

A few questions I intend to answer through this data and visualization are:

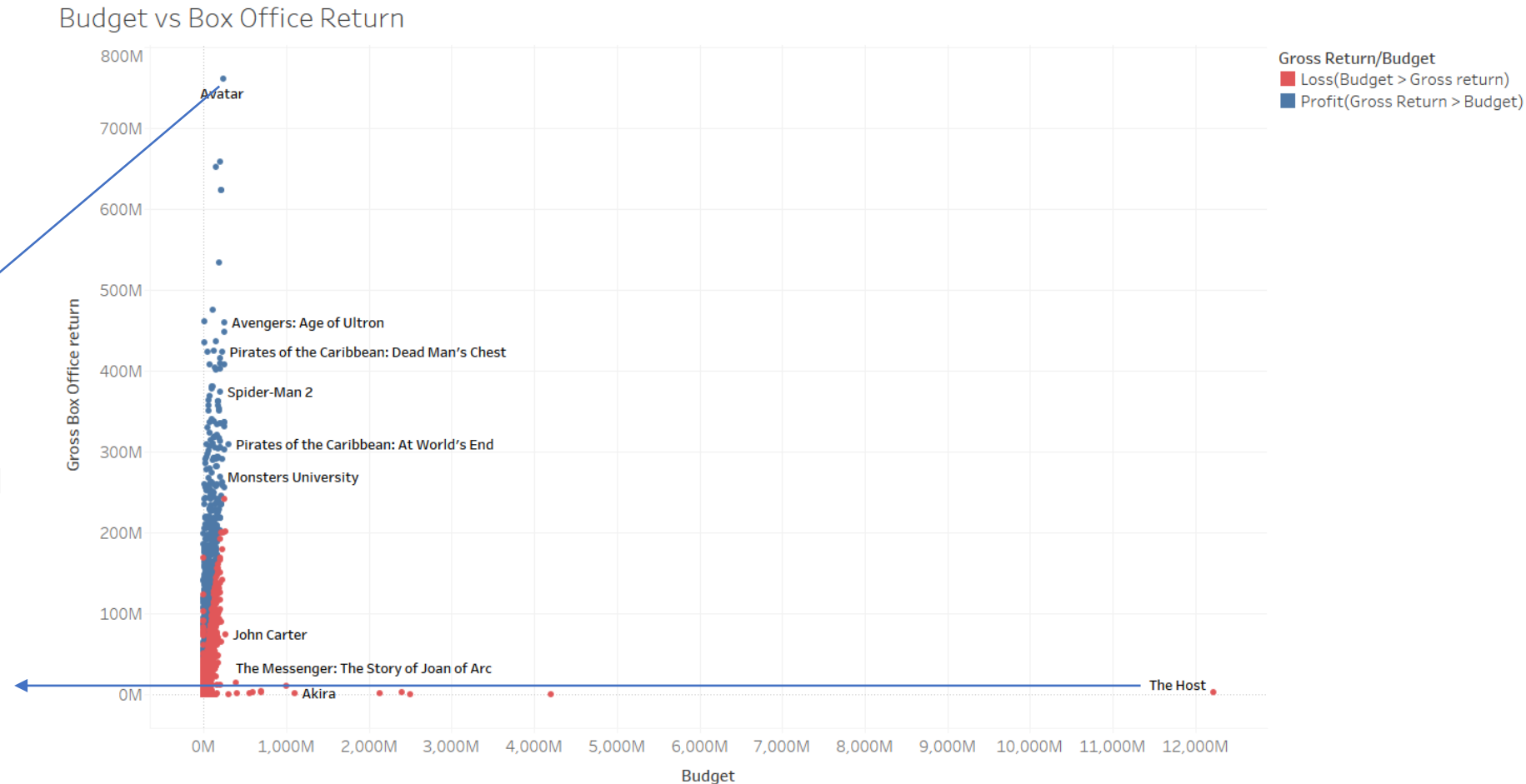
- Does spending big bucks on movies guarantee good box office returns?
- Does spending big bucks on movies guarantee good IMDB ratings and Facebook likes?
- Which movies have the highest Profit ratios (Gross box office return/Budget)?
- Which actors and directors are the most popular among the audience?
- Which movie genres are the most watched and liked?
- Are the IMDB ratings and Facebook likes correlated?
- Is there an impact on movie ratings/Facebook likes for movies released in the pre-IMDB/Facebook era?
- Which genre-director-actor combinations grosses the highest money in the box-office?

Does spending big bucks on movies guarantee good box office returns?

It's clear from the chart that spending big bucks on movies doesn't guarantee good box office returns

Avatar is the highest grossing movie till 2016 with a revenue of ~760M

The host is the most expensive movie produced with a budget of >12B

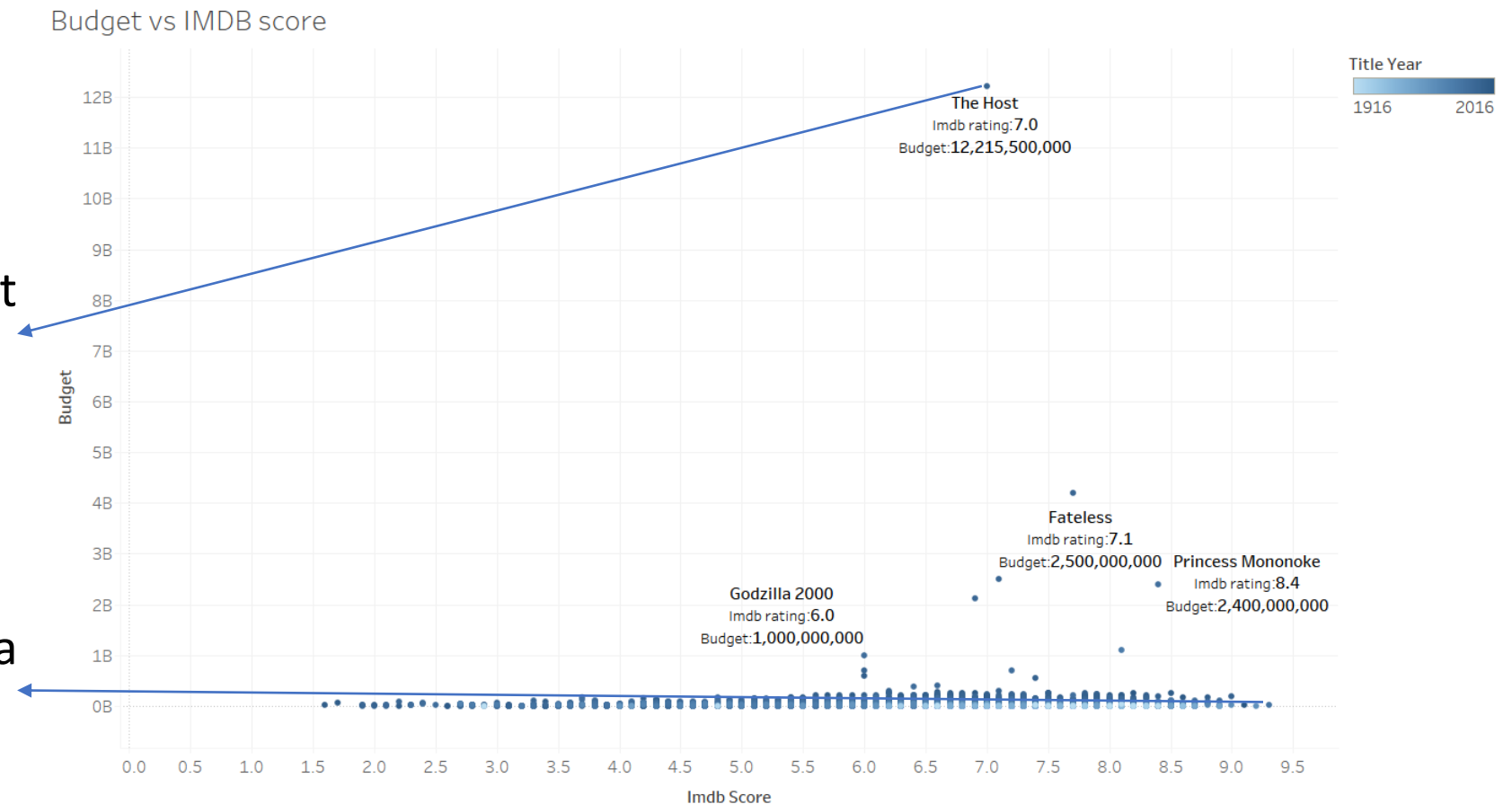


Does spending big bucks on movies guarantee good IMDB ratings and Facebook likes?

From the above chart it's clear that spending big on movies doesn't guarantee high **IMDB ratings**.

The Host which is the most expensive movie has a mere rating of just 7

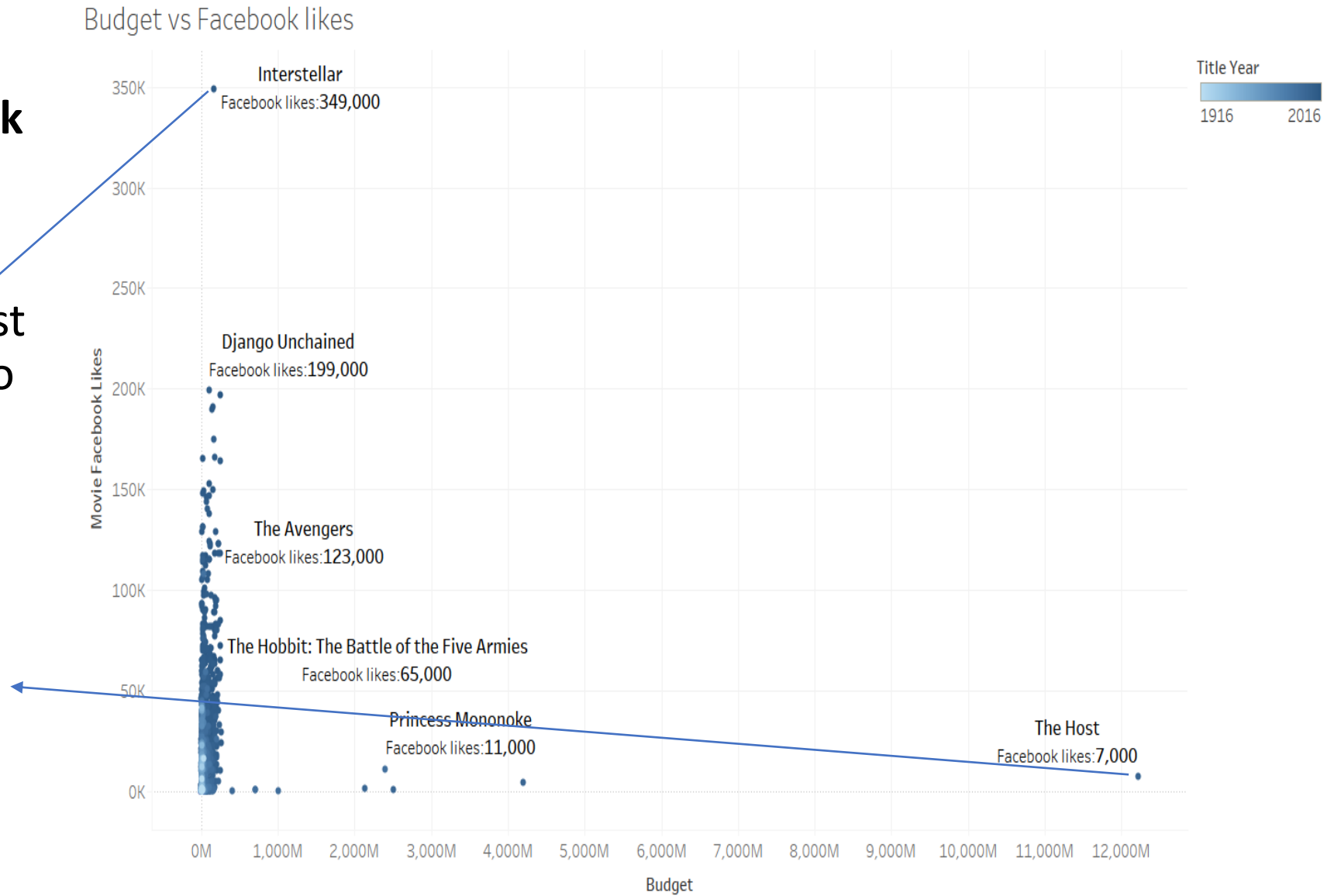
The Shawshank Redemption is the highest rated movie with a rating of 9.3 was produced with a budget of only \$25M



The same trend with IMDB ratings is also observed with **Facebook likes**

Interstellar has the most likes followed by Django Unchained

The Host just has 7000 likes



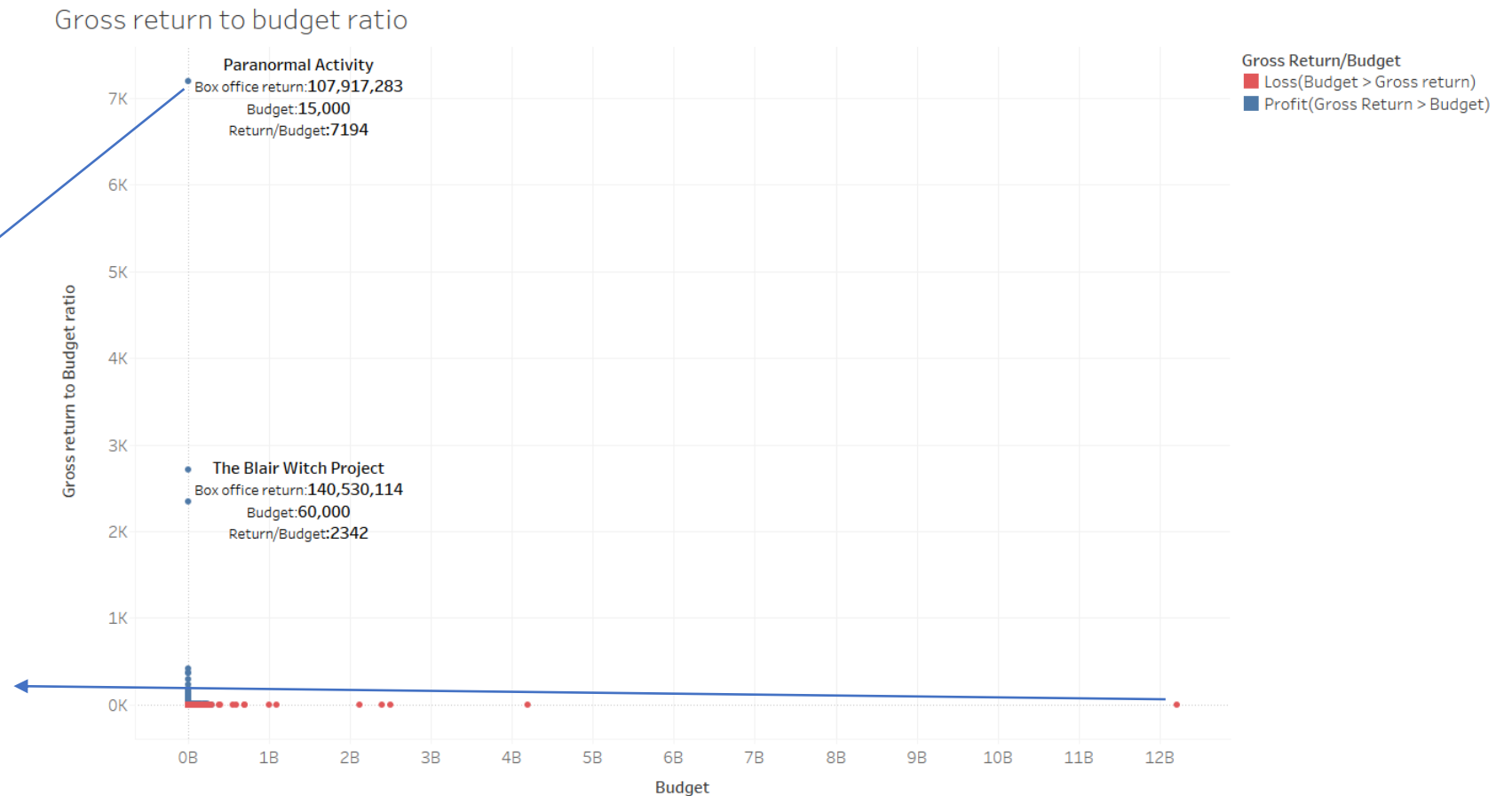
Which movies have the highest Profit ratios (Gross box office return/Budget)?

This gives us an indication of the movies with the best “Returns on Investment”.

Profit ratio = $\frac{\text{Gross revenue}}{\text{Budget}}$

Paranormal Activity has the best Profit ratio of 7194 mainly because it was produced with a minimal budget of \$15,000

The Host has a profit ratio of ~0 because of its huge budget and very low gross revenue



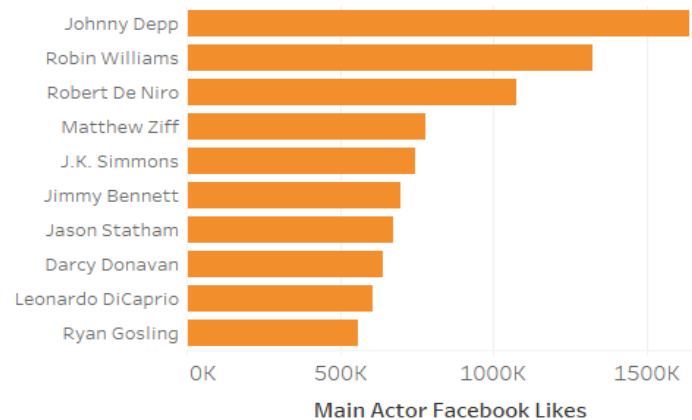
Which actors and directors are the most popular among the audience?

It's no surprise that the most liked and the highest grossing actor is Johnny Depp given that he's the main actor in blockbuster movies like Pirates of the Caribbean and Alice in Wonderland. However, he's not the Most profitable actor since the budget of his movies is very high.

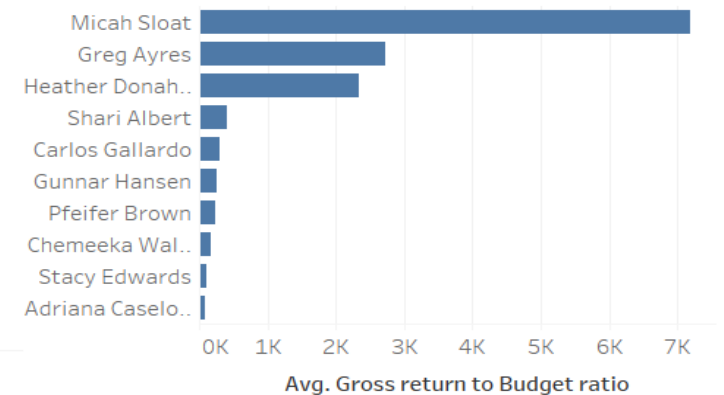
Most of the actors feature at the top in both the "Most liked" and "Highest grossing" charts, showing that there is a strong correlation between Facebook likes and Gross Box office revenue

Actors

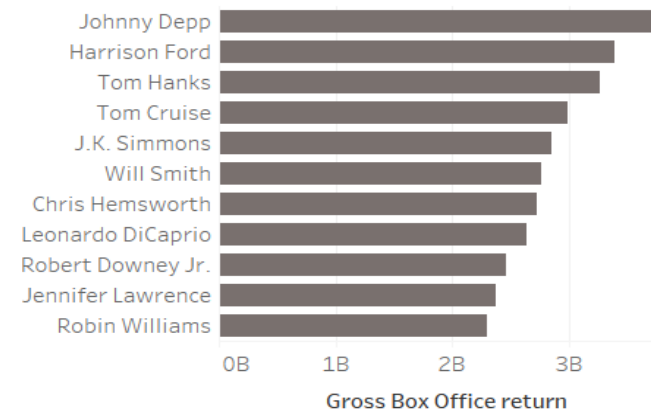
Most liked actors



Most Profitable Actors

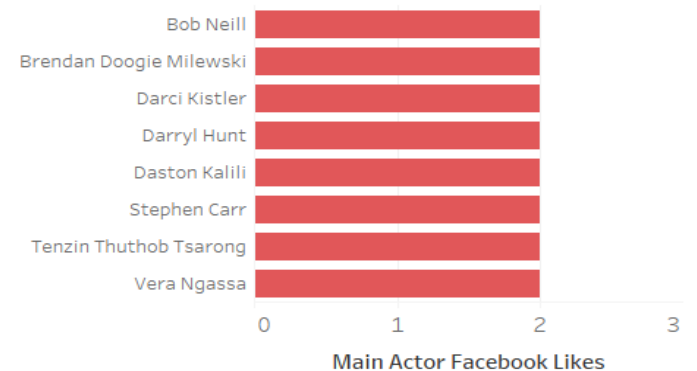


Highest grossing actors



Profit is calculated as a ratio of Gross Movie Return over the Movie Budget

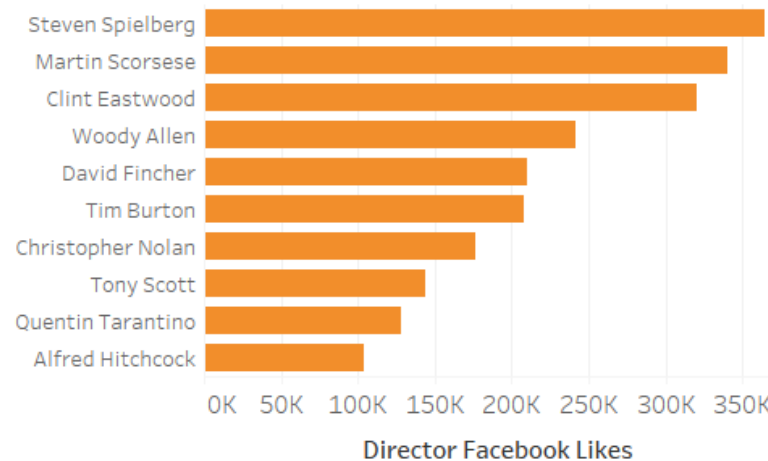
Least liked actors



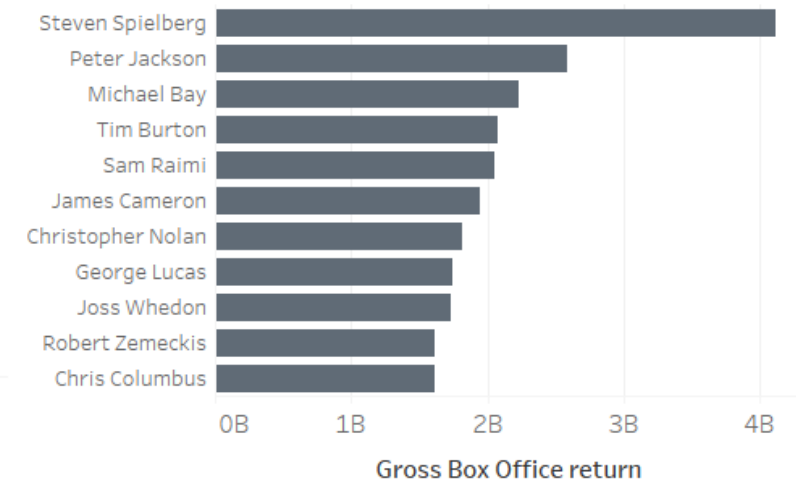
The same trend as actors is observed with the directors with Steven Spielberg topping the “Most liked” and “Highest Grossing” charts. He’s also considered one of the best directors of all time having directed blockbuster movies like Catch me if you can, Jurassic park, The extra terrestrial, Schindler’s list(my personal favorite of his), Empire of the Sun, Saving private Ryan and the list goes on.

Directors

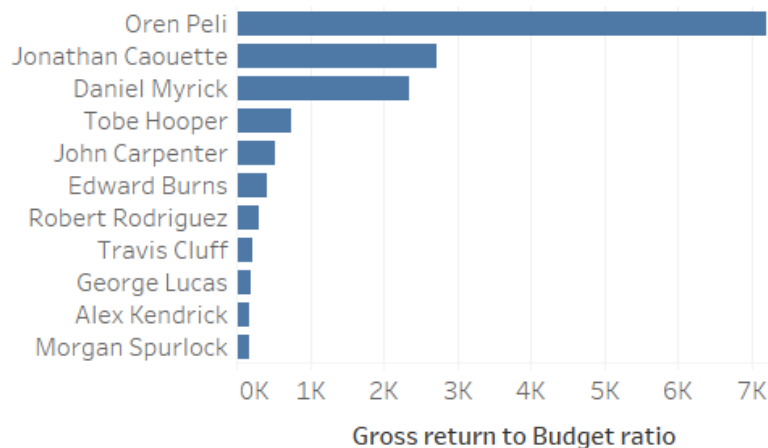
Most liked Directors



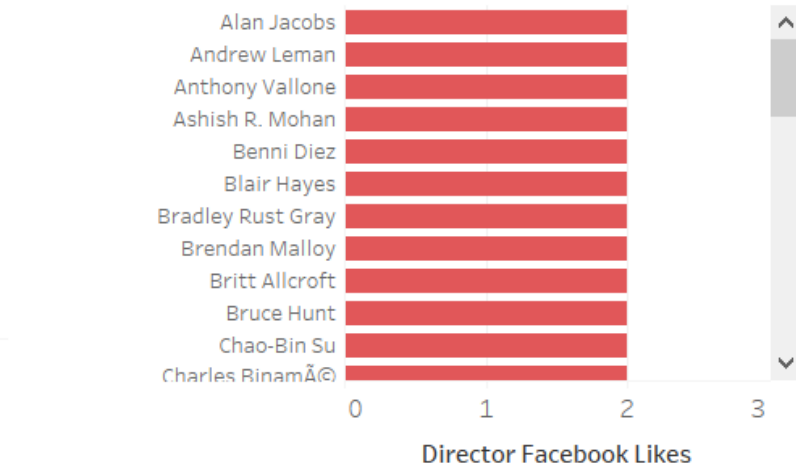
Highest grossing directors



Most Profitable directors



Least liked Directors

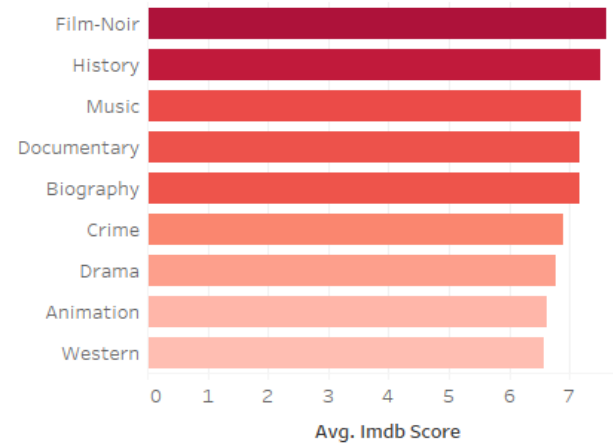


Which movie genres are the most watched and liked?

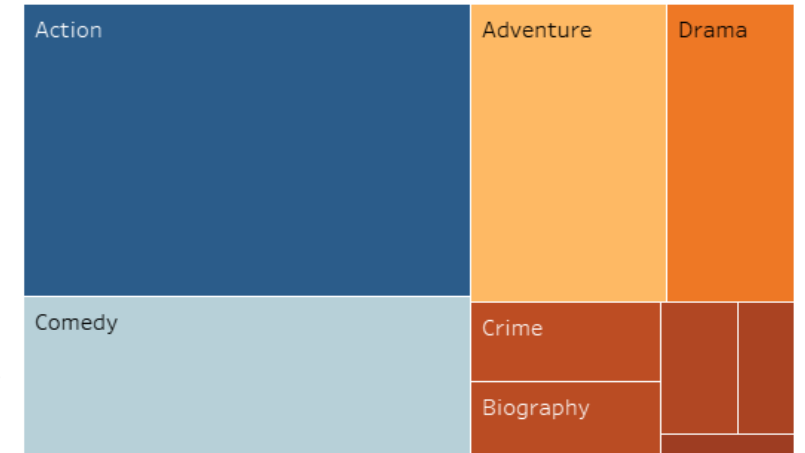
The top 6 “Highest Grossing”, “Most liked” and “Most produced” genres comprises of the same genres although not in the same order, with Action topping both the highest grossing and the most liked genres list.

Comedy movies are the most released while, Film-noir genre has the highest average IMDB ratings.

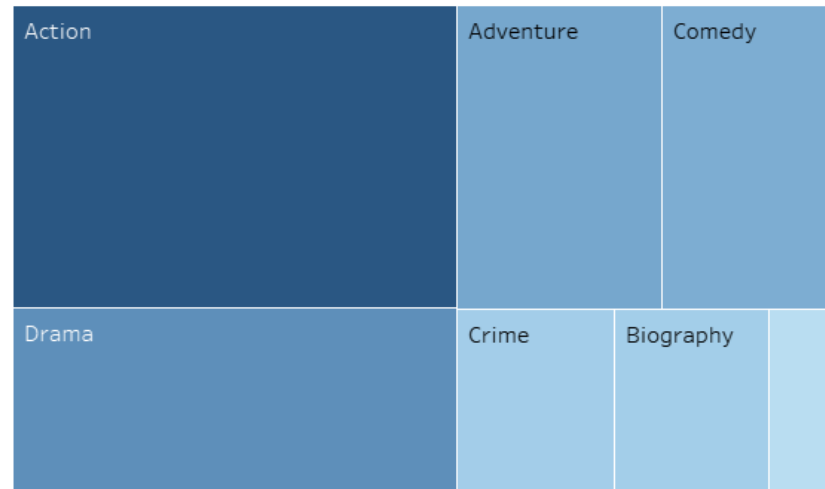
Highest Rated Genres



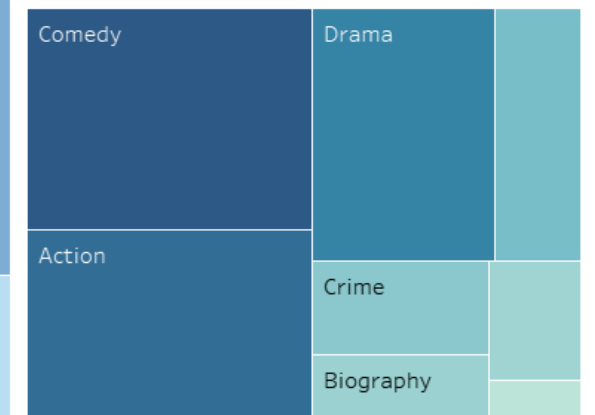
Highest Grossing Genres



Most liked Genres



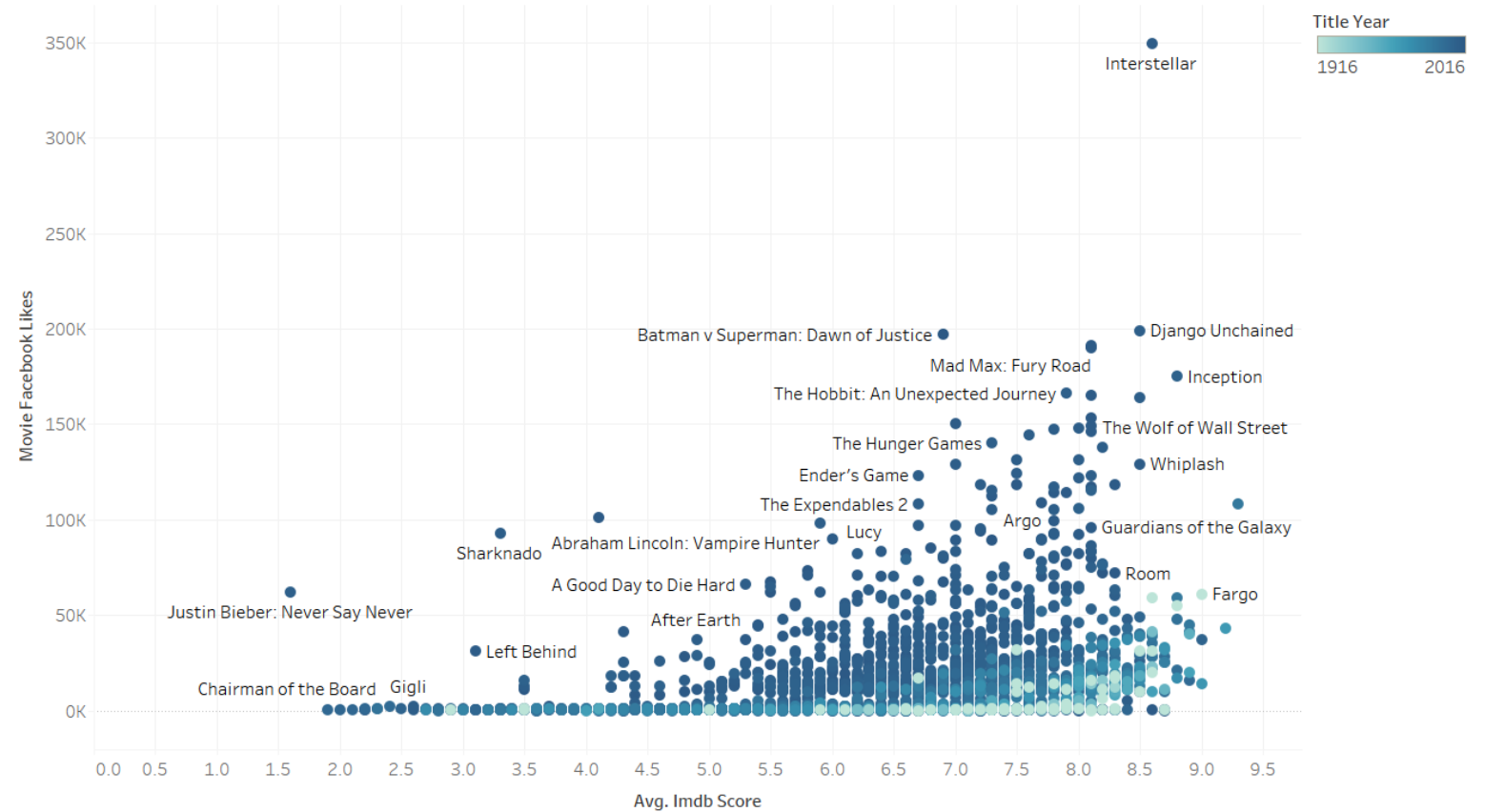
Movies by Genre



Are the IMDB ratings and Facebook likes correlated?

- There is a slight correlation between the IMDB ratings and Facebook likes received by a movie.
- One main reason for this being not all people who have rated the movie have a Facebook account.
- This dataset was compiled in early 2016 and since then the number of Facebook accounts have increased enormously.
- Even though the correlation is only slight there is still an indication that movies with high rating tend to have a lot of Facebook likes and vice-versa

IMDB vs Facebook likes



Is there an impact on movie ratings/Facebook likes for movies released in the pre-IMDB/Facebook era?

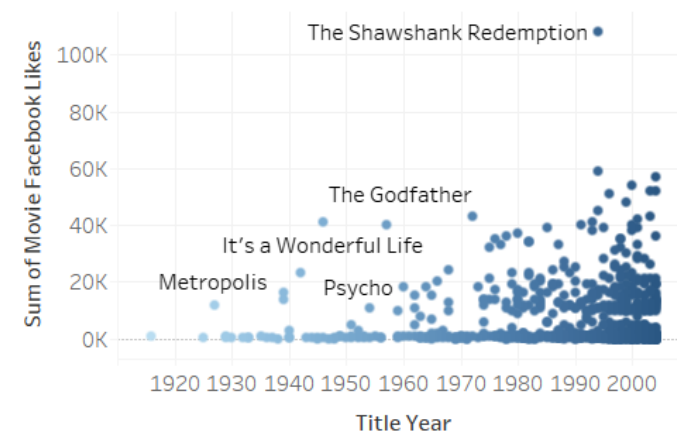
From these graphs it's clearly evident that there is no negative impact on movie ratings/likes for movies released in the pre-IMDB(1990) and pre-Facebook(2004) era.

Although, from the 3rd graph you can observe that the average IMDB ratings have gone down 1970s. This is mainly due to the production of a lot of bad quality movies as it's clearly evident that the number of movies released in a year has more than doubled since 1990.

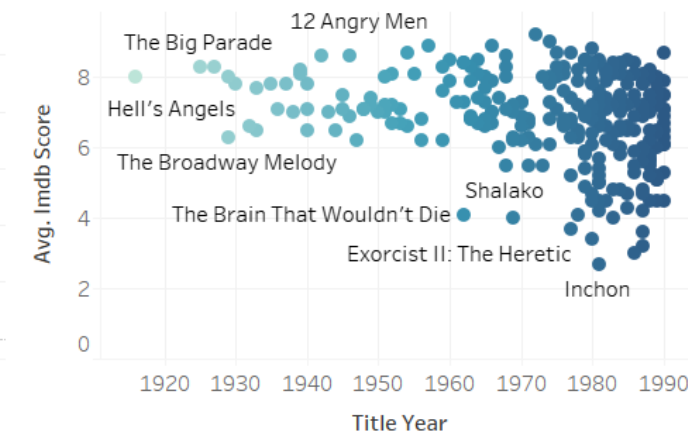
With Facebook it's the opposite with the number of likes having more than doubled since 2010.

Ratings and Likes

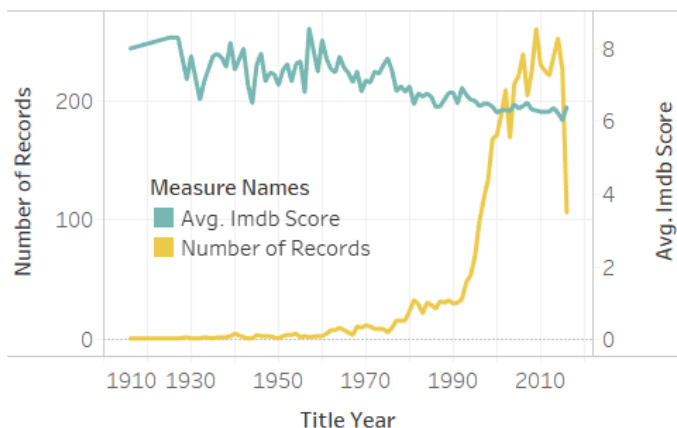
Pre-Facebook Likes



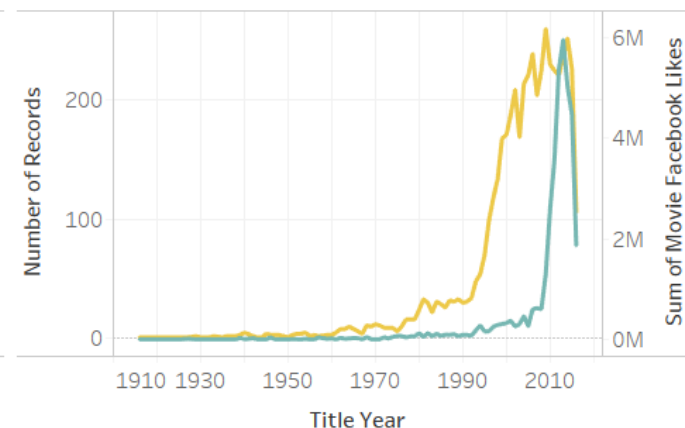
Pre-IMDB Ratings



Movies vs Rating over the years



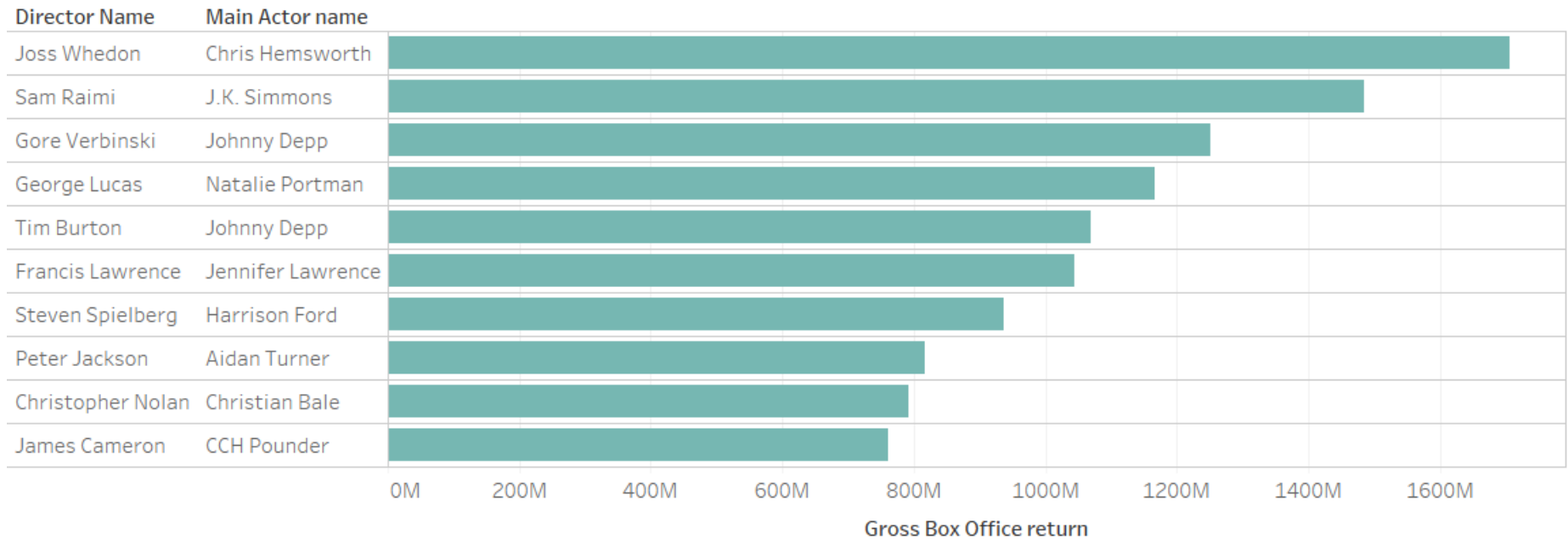
Movies vs Likes over time



Which genre-director-actor combinations grosses the highest money in the box-office?

Unsurprisingly, Joss Whedon (director of the Avengers franchisee of movies) tops the list with the lead actor Chris Hemsworth (along with other actors such as Robert Downey Jr. and Scarlett Johansson). Followed by Sam Raimi and JK Simmons of the Spider man franchisee.

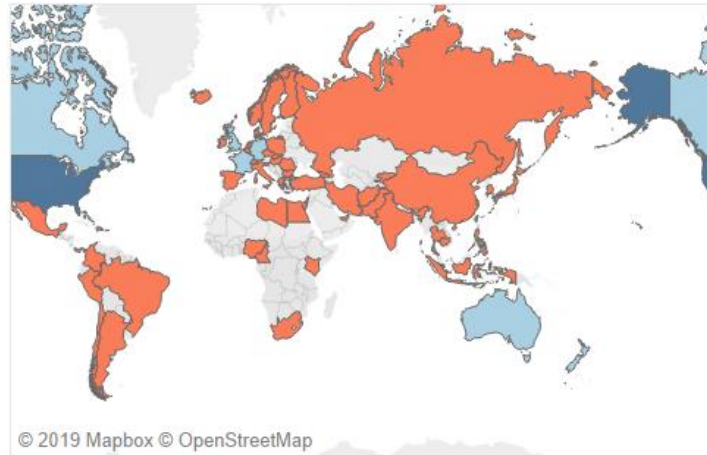
Highest Grossing Director-Actor Combination



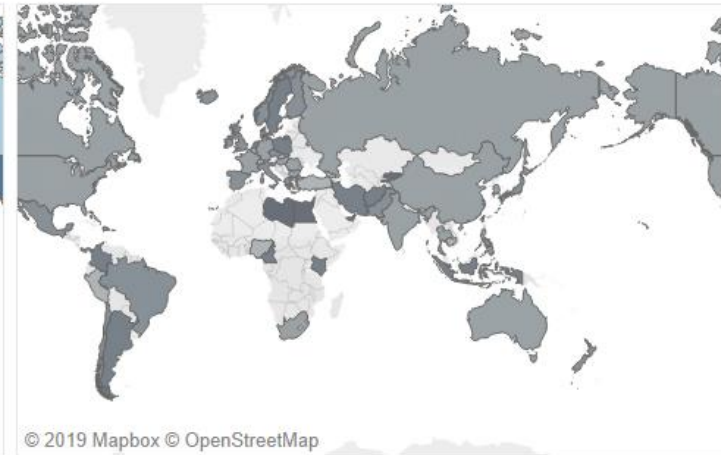
Here's a couple of more interesting visuals:

Trends across countries

Gross Return across Countries

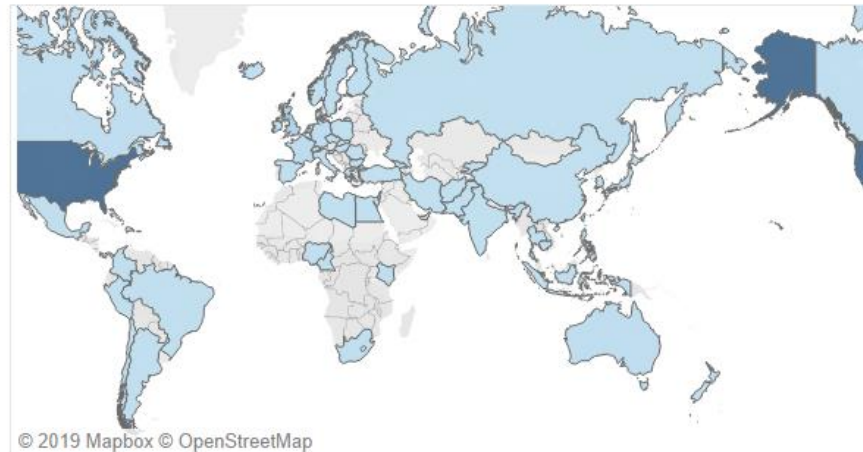


IMDB Ratings across countries



This visualization shows some interesting trends across the globe such as the Gross revenue generated in each country, The IMDB ratings and likes the movie gets across various countries and lastly, the number of movies produced in various countries

Movie likes across countries



Movies across countries

Country	🇺🇸	
USA	3,807	^
UK	448	
France	154	
Canada	126	
Germany	97	
Australia	55	
India	34	
Spain	33	
China	30	
Italy	23	
Japan	23	
Hong Kong	17	▼

- This is a visualization that depicts the top 10 actors and directors along with the count of movies and their average scores by each genre
- The bar in bar graph below depicts the Average Budget vs Average Gross by Subgenre of each genre. For eg here I have considered Action as my main Genre. The various bars represent the subgenre under the main genre i.e. Action along with the Avg Budget and the Avg Gross revenue generated by each genre. If the black line is above the bar, then this indicates that the genre has a Gross return > Budget which means that it has made an overall Profit and vice-versa

Genre Dashboard

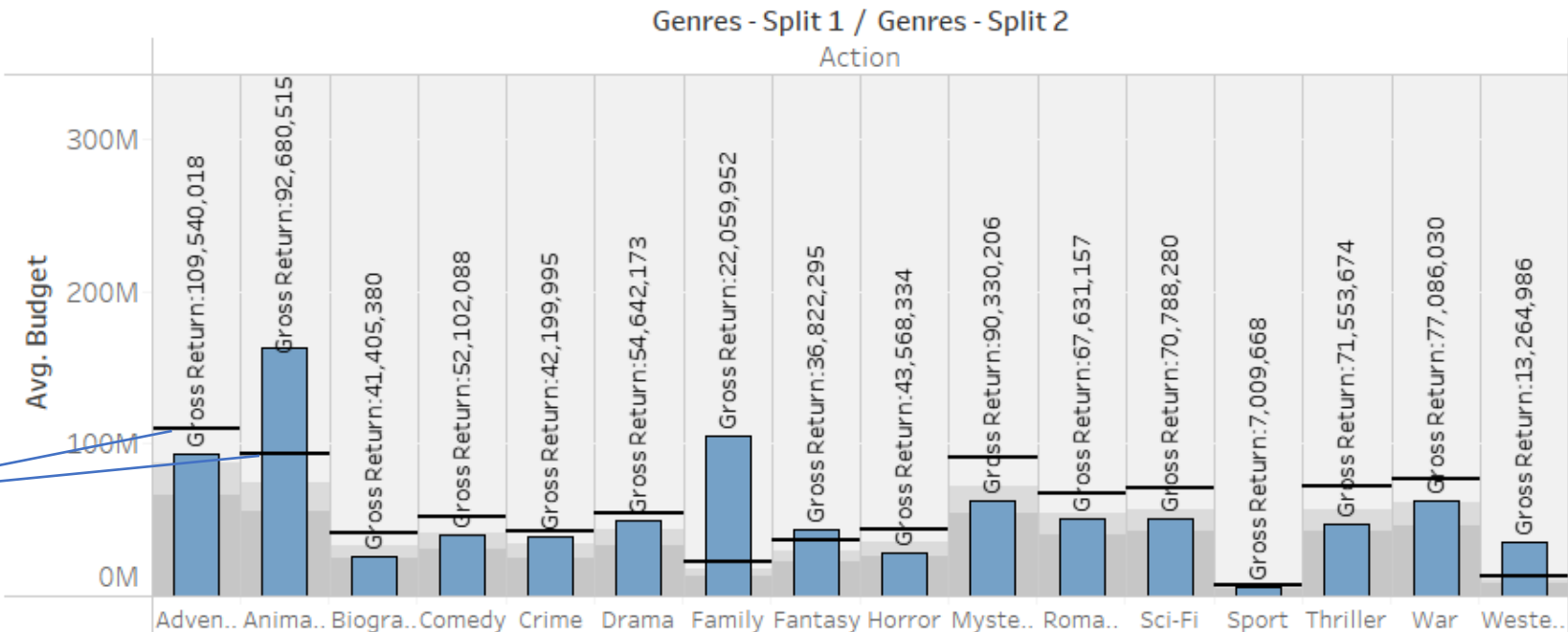
Directors by Genre

Director N..	Count of Movie Title	Avg. Imdb Score
Michael Bay	12	6.650
Tony Scott	12	6.792
Renny Harlin	11	5.736
Rob Cohen	10	5.900
Robert Rodrig..	10	5.540
Paul W.S. And..	9	5.911
Steven Spielbe..	9	7.411
Brett Ratner	8	6.275
John McTiernan	8	6.688
Ridley Scott	8	6.763

Actors by Genre

	Count of Movie Title	Avg. Imdb Score
Jason Stath..	20	6.25
Harrison Fo..	16	7.16
Liam Neeson	16	6.54
Bruce Willis	15	6.35
Nicolas Cage	15	5.63
Sylvester St..	15	6.01
Dwayne Joh..	14	6.18
Paul Walker	12	6.29
Tom Cruise	12	7.03
Chris Hems..	11	7.14

Avg Budget vs Avg Gross by Subgenre



Genres - Split 1

- ☐ (All)
- ☒ Action
- ☐ Adventure
- ☐ Animation
- ☐ Biography
- ☐ Comedy
- ☐ Crime
- ☐ Documenta...
- ☐ Drama
- ☐ Family
- ☐ Fantasy
- ☐ Film-Noir
- ☐ Game-Show
- ☐ History
- ☐ Horror
- ☐ Music
- ☐ Musical
- ☐ Mystery
- ☐ Romance
- ☐ Sci-Fi
- ☐ Thriller
- ☐ Western

