The Next Big Hit

EXECUTIVE SUMMARY

The movie production characteristics (including production company, budget, release date and runtime) of the next "Big Hit" in each movie genre can be predicted using previous movie successes!

Some highlights of the detailed analysis of movie data include:

- Universal production company have made the most profit having produced the most movies, whilst Ingenious Film Partners made the most profit in a single movie through Avatar
- Big movie budgets do not simply equate to big profits
- Horror, Romance and Comedy genre movies have the greatest profit gain compared to budget input
- Late Summer tend to have fewer movie releases identifying an opportunity for release of future movies when competition will be lower
- Adventure, Action and History movies have, on average, the longest runtimes, whilst Animation, Documentary and Family movies have the shortest

A recipe card describing the key movie production characteristics (including production company, budget, release date and runtime) for each movie genre has been derived and is our recommendation for the next "Big Hit"!

OVERVIEW OF ANALYSIS

The problem statement:

What are the key characteristics of movie attributes (including production company, budget, release date, and run time) for the 10 most profitable movies of each movie genre?

The below analysis focusses on four aspects of movie production to identify the optimum production characteristics for each movie genre including:
- The Production Company
- The Budget
- The Release Date
- The Runtime

Movie genres analysed include: Adventure, Animation, Comedy, Crime, Documentary, Drama, Family, Fantasy, Foreign, History, Horror, Music, Mystery, Romance, Sci-Fi, TV, Thriller, War and Western.

WHICH PRODUCTION COMPANY TO USE?

Total Profit Made by Production Companies in the Top 10 Movies of each Genre
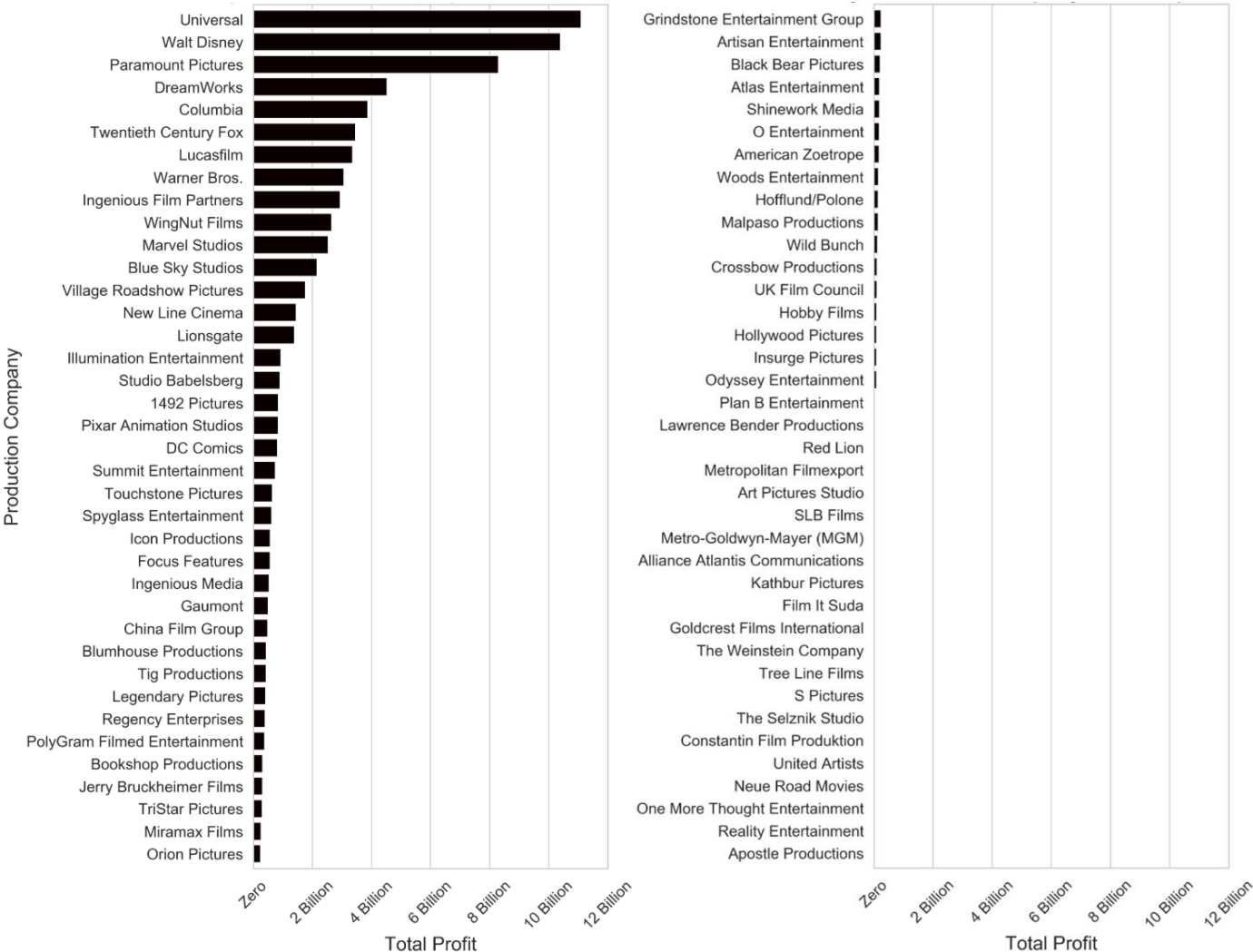
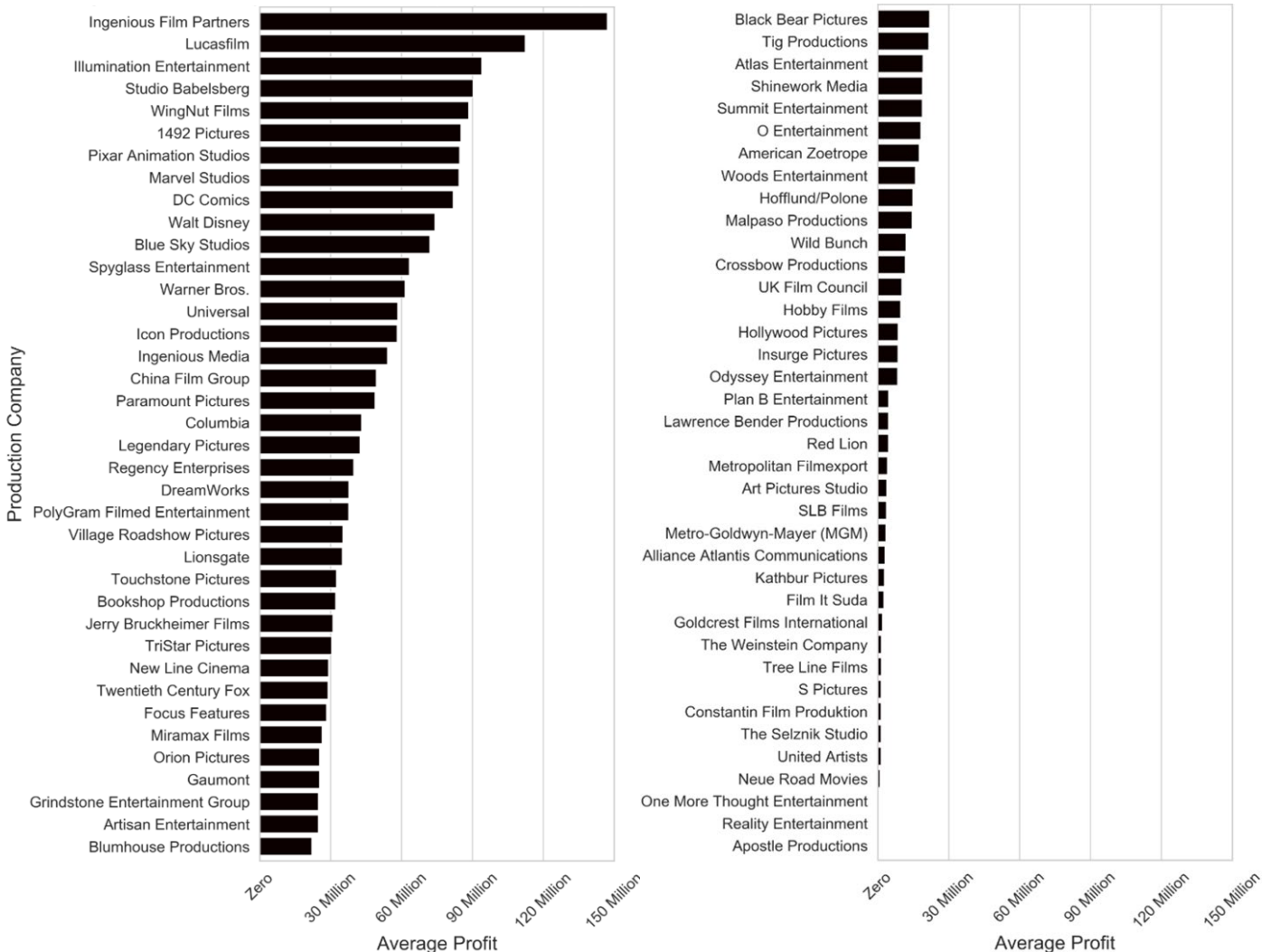| GENRE	MOST PROFITABLE PRODUCTION COMPANY	NUMBER OF FILMS PRODUCED
Action	Universal	3
Adventure	WingNut Films	3
Animation	Walt Disney	3
Comedy	Universal	2
Crime	Woods Entertainment	1
Documentary	Wild Bunch	1
Drama	Warner Bros.	1
Family	Warner Bros.	1
Fantasy	Walt Disney	1
Foreign	S Pictures	1
History	Universal	1
Horror	Universal	2
Music	Warner Bros.	1
Mystery	Twentieth Century Fox	2
Romance	Walt Disney	2
Sci-Fi	Warner Bros.	1
TV	Universal	1
Thriller	Village Roadshow Pictures	2
War	Village Roadshow Pictures	1
Western	Universal	1

Takeaways:
- The major production companies make the most profit
- Universal are the most profitable, making the most profit in six different movie genres
- Half of the top 10 most profitable production companies are not the most profitable in a single movie genre suggesting genre dominance may not be key to profit
- Genre diversification in a production company may be important to maximising profit

WHICH PRODUCTION COMPANY TO USE?

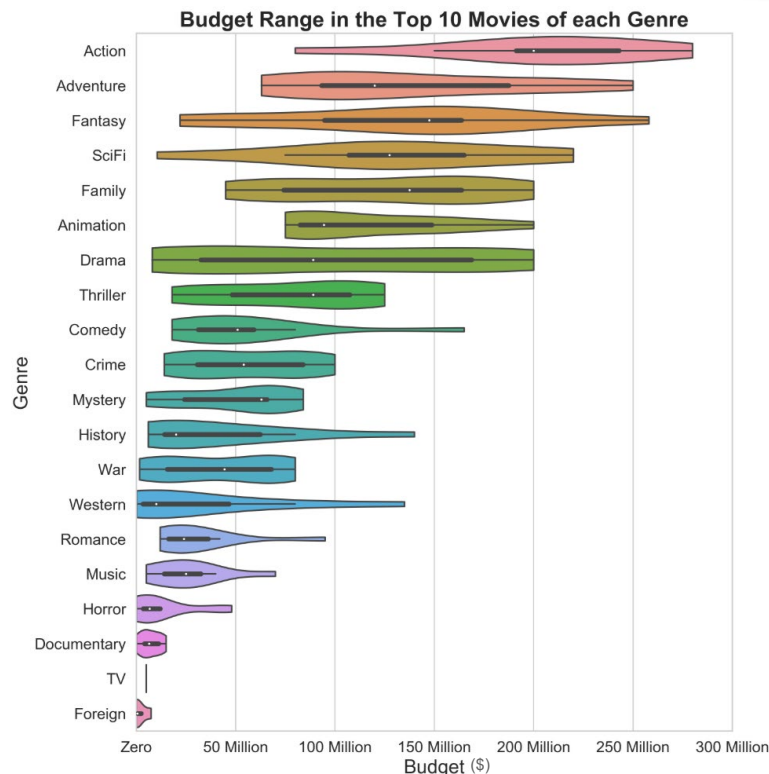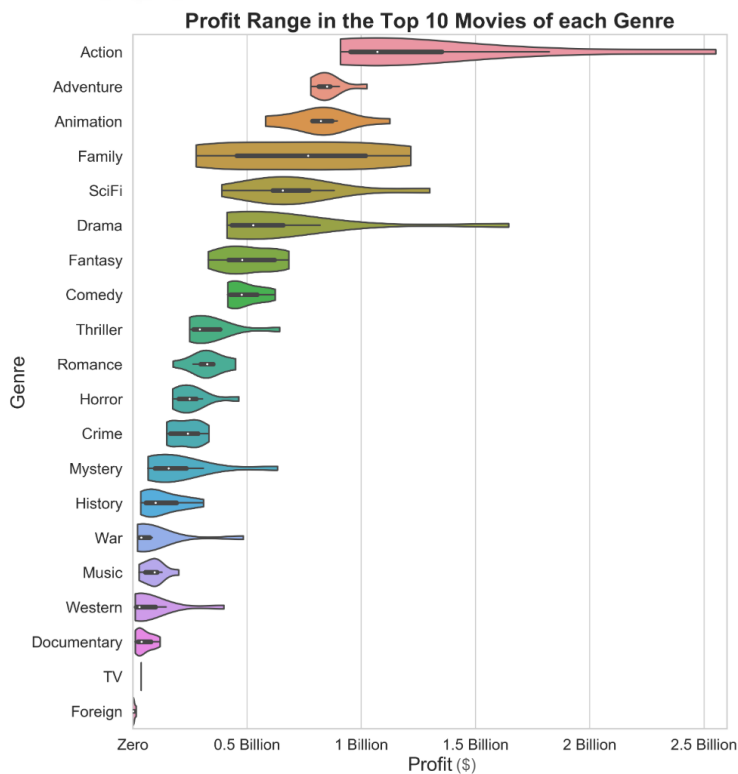**Average Profit per Movie made by Production Companies in the Top 10 Movies of each Genre**

GENRE	HIGHEST MEAN PROFIT PRODUCTION COMPANY	NUMBER OF FILMS PRODUCED
Action	Ingenious Film Partners	1
Adventure	Studio Babelsberg	1
Animation	Walt Disney	3
Comedy	Paramount Pictures	1
Crime	Twentieth Century Fox	1
Documentary	Wild Bunch	1
Drama	Paramount Pictures	2
Family	Warner Bros.	1
Fantasy	Columbia	3
Foreign	S Pictures	1
History	Jerry Bruckheimer Films	1
Horror	Universal	2
Music	Touchstone Pictures	1
Mystery	Spyglass Entertainment	1
Romance	Touchstone Pictures	1
Sci-Fi	Paramount Pictures	3
TV	Universal	1
Thriller	Columbia	1
War	Village Roadshow Pictures	1
Western	Regency Enterprises	1

Averaging the profit of production companies from the top 10 movies in each movie genre shows a different picture.

Takeaways:
- The major production companies do not always have the highest grossing movie in a genre

- Production company does not appear to have a significant association with genre definition, aside from Walt Disney for animation

HOW MUCH BUDGET TO INVEST INTO WHICH GENRE?

Profit Range in the Top 10 Movies of each Genre

Budget Range in the Top 10 Movies of each Genre

Average Multiplication Increase from Movie Budget to Profit per Genre

Range of budgets of the top 10 most profitable movies in each genre, ordered by average against the range of profit of the top 10 most profitable movies in each genre.
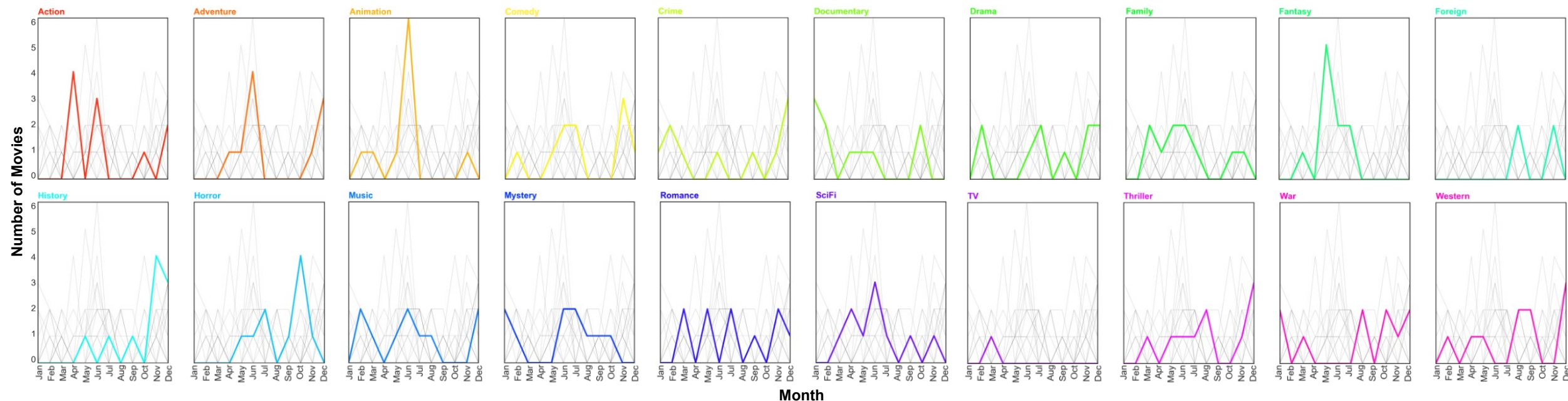
Takeaways:
- Action and Adventure genres have the highest average budgets and accrue the highest average profits

- Foreign and Documentary (TV ignored as it only has one movie entry) genres have the lowest average budgets and accrue the lowest average profits

- However, it is clear simply having a certain movie budget does not equate to a certain profit

- Furthermore, budgets for movie genres including Horror, Romance and Comedy lead, on average, to a much greater profit compared to Foreign, War and Western movie genres
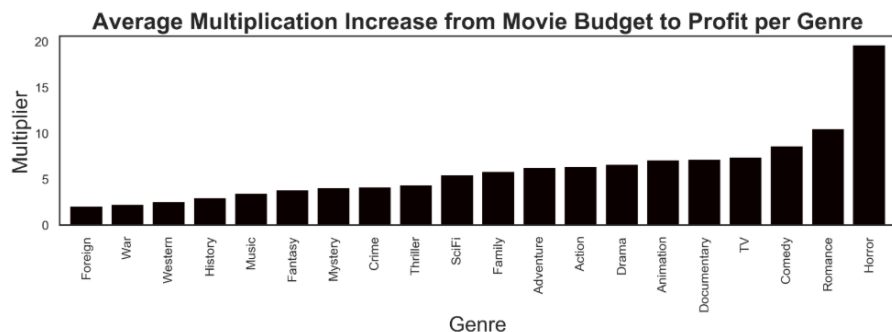
WHEN TO RELEASE?

Month Range of Release in the Top 10 Movies of each Genre


The above charts show months of the year the top 10 most profitable movies in each genre are released.

Takeaways:

- Not all genres have a preferred month or season where most movies are released
- Adventure, Animation, Fantasy and Sci-Fi genres tend to release more movies in the Spring to Summer months, perhaps targeting children out of school
- Crime, Documentary, and History genres tend to release more movies during the Winter months
- Horror has an understandable spike of movie releases in Autumn to coincide with Halloween, although Romance does not have a similar spike in February to coincide Valentine's
- March, July, August and September tend to have fewer releases for the most profitable movies, perhaps identifying an opportunity for release of future movies when competition will be lower or identifying that these months tend to be less favourable to release a profitable movie

Runtime of the Top 10 Movies of each Genre
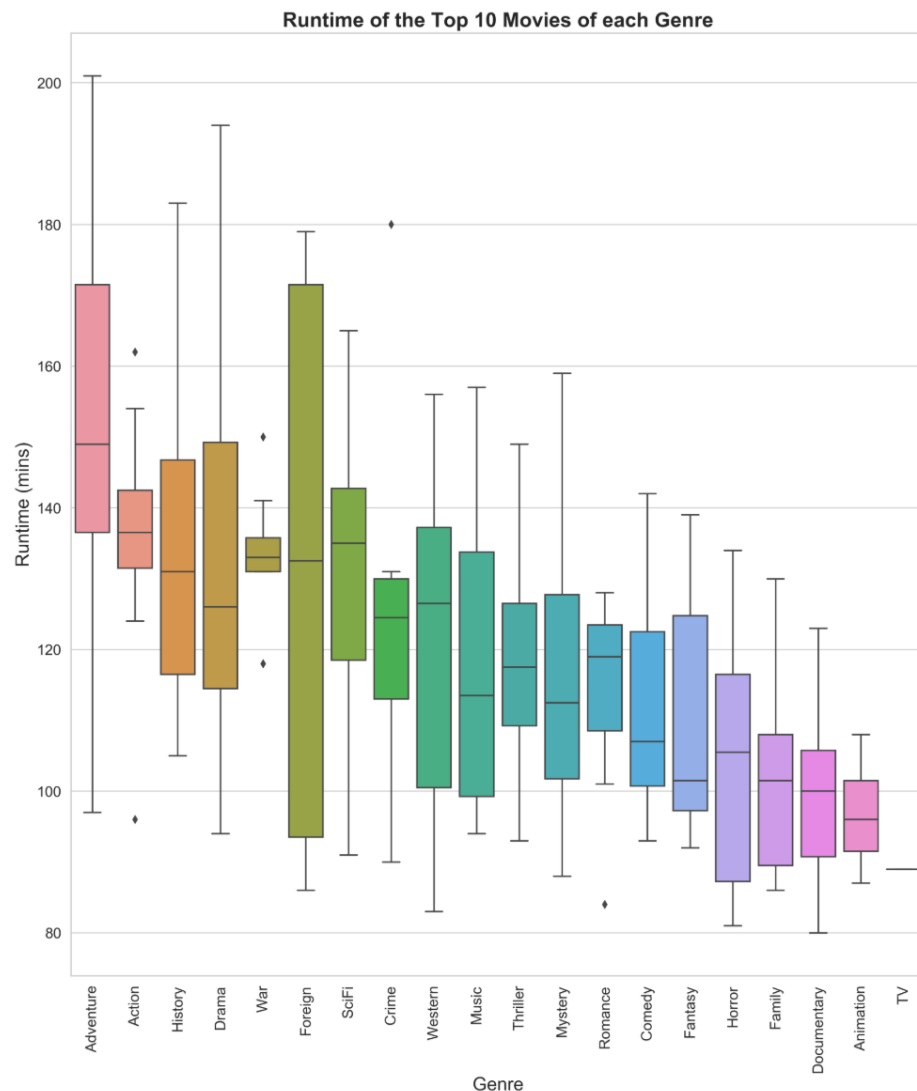
GENRE	AVERAGE RUNTIME (MINS)	STANDARD DEVIATION (MINS)
Adventure	151	30
Action	136	18
History	135	24
Drama	134	31
War	133	10
Foreign	133	48
Sci-Fi	132	21
Crime	125	23
Western	120	24
Music	119	22
Thriller	118	15
Mystery	117	22
Romance	115	14
Comedy	111	16
Fantasy	110	17
Horror	104	19
Family	103	16
Documentary	100	14
Animation	96	7
TV	89	0

The chart illustrates the range of runtimes of the top 10 movies in each genre and is ordered by average runtime per genre.

Takeaways:
- Adventure, Action and History movies have, on average, the longest runtimes

- Animation, Documentary and Family movies have, on average, the shortest runtimes perhaps reflecting the likely audience of these Animation and Family movies being children

- Concise ranges of runtime for certain genres, including Animation, War and Romance, suggest these genres have an optimum runtime for the most profitable movies

- Broad ranges of runtime for certain genres, including Foreign, Drama and Adventure, suggest these genres do not have an optimum runtime for the most profitable movies
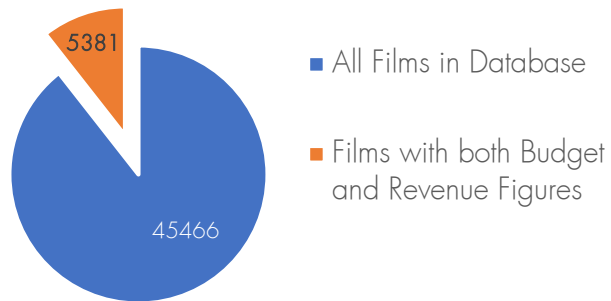
LIMITATIONS AND BIASES

A number of limitations and biases apply to the above analyses which include:

1. Not all movies have a budget or revenue listed and therefore profit cannot be calculated:

Proportion of Usable Film Data


- All Films in Database
- Films with both Budget and Revenue Figures

5381

45466

Only 12% of Movie Data is available for analysis as only 5,381 movies have both a budget and revenue from which a profit can be calculated.

This represents a significant selection bias, although it may be assumed that movies with both budget and revenue figures will be the most popular.

2. Not all movies have a single genre, a number have multiple genres:

Number of Genres per Movie

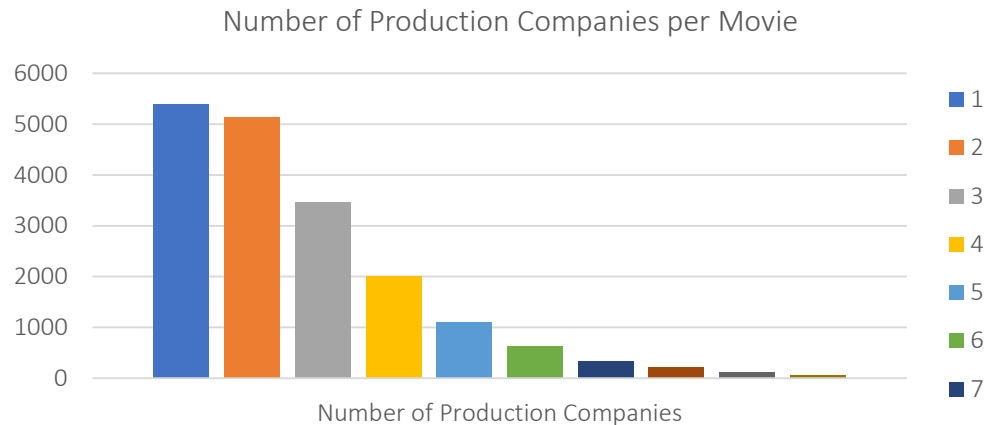

Number of Genres

Legend: 1, 2, 3, 4, 5, 6
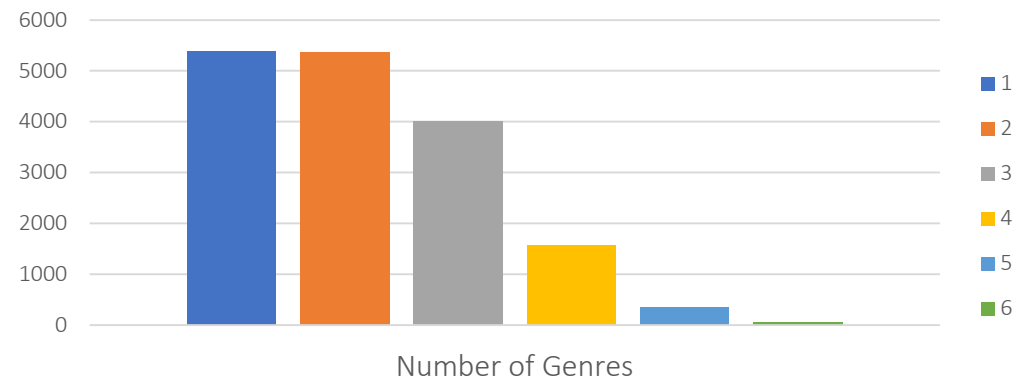
Less than 1% of movies (out of those with budget and revenue figures) have only one genre.

The analyses assumed the first genre listed was the defining genre of the movie and therefore represents a potential selection bias.

Furthermore, only 5,369 of the 5,381 movies selected had a genre listed and the records that did not were discarded.

3. Not all movies have a single production company, a number have multiple production companies:

Number of Production Companies per Movie

Only 5% of movies (out of those with budget and revenue figures) have only one production company, the vast majority of movies have multiple production companies.

The analyses assumed the first production company listed was the most important of the movie and therefore represents a potential selection bias.

Furthermore, only 5,199 of the 5,369 movies selected had a production company listed and the records that did not were discarded.

4. Not all genres analysed have 10 movies from which to analyse the most profitable:

Number of Movies per Genre
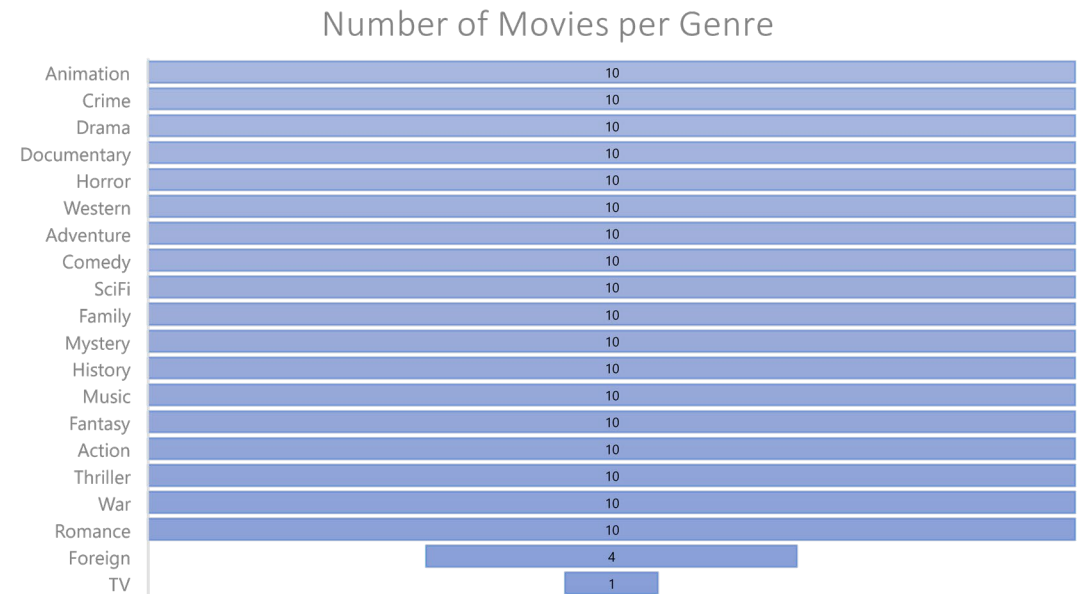
Foreign and TV are the only movies genres analysed which have less than ten movies in the dataset. The results for these genres are therefore flawed by missing variables.

LIMITATIONS AND BIASES

5. Not all movies have a run time listed:

   Only 5,193 of the 5,199 movies selected had a runtime listed and the records that did not were discarded introducing further selection bias.

6. "Most profitable movies" only applies to box office return and excludes subsequent monies made from DVD release, merchandise etc:

   The conclusions of this analyses only apply to box office return from which the budget and revenue are calculated. For many movies, whilst the theatrical release is the largest income driver for films, it is often not the most profitable part of the overall movie with subsequent DVD, video-on-demand and television, as well as merchandising, realising much greater profits.

7. The analysis of release date is only applicable to the U.S. (northern hemisphere) as movie release dates vary worldwide:

   The conclusions of this analyses regarding release date only apply to the relevant country of release. Movies are often staggered in release globally and therefore whilst certain months may be preferable to release a movie of a certain genre in the U.S., it may not be the same preferable release date globally.

8. Profit of movies, calculated from budget and revenue numbers in the dataset, may be inaccurate:

   Budget and revenue numbers can be unreliable. Studios often try to keep the information secret and will use accounting tricks to inflate or reduce announced budgets and revenue.

The Next "Big Hit" Recipe

This analysis suggests the following optimum characteristics, as well as opportunities for disruption, for the next "Big Hit" in each movie genre:

GENRE	Most Profitable Production Company for All Movies	Most Profitable Production Company for A Movie	Average Budget (Millions $)	Average Profit Growth	Common Release Season	Opportunistic Release Season	Average Runtime (mins)	Relative Flexibility in Runtime
ACTION	Universal	Ingenious Film Partners	200	639%	Spring	Summer	136	Moderate (10-20%)
ADVENTURE	WingNut Films	Studio Babelsberg	140	625%	Summer	Autumn	151	High (>20%)
ANIMATION	Walt Disney	Walt Disney	120	707%	Summer	Autumn	96	Low (<10%)
COMEDY	Universal	Paramount Pictures	60	861%	Summer	Winter	111	Moderate (10-20%)
CRIME	Woods Entertainment	Twentieth Century Fox	60	415%	Winter	Spring	125	Moderate (10-20%)
DOCUMENTARY	Wild Bunch	Wild Bunch	7	714%	Winter	Summer	100	Moderate (10-20%)
DRAMA	Warner Bros.	Paramount Pictures	100	662%	Summer	Spring	134	High (>20%)
FAMILY	Warner Bros.	Warner Bros.	120	584%	Summer	Winter	103	Moderate (10-20%)
FANTASY	Walt Disney	Columbia	130	380%	Spring	Winter	110	Moderate (10-20%)
FOREIGN	S Pictures	S Pictures	2	205%	Autumn	Spring	133	High (>20%)
HISTORY	Universal	Jerry Bruckheimer Films	40	298%	Winter	Spring	135	Moderate (10-20%)
HORROR	Universal	Universal	10	1960%	Autumn	Winter	104	Moderate (10-20%)
MUSIC	Warner Bros.	Touchstone Pictures	30	343%	Summer	Autumn	119	Moderate (10-20%)
MYSTERY	Twentieth Century Fox	Spyglass Entertainment	50	408%	Summer	Spring	117	Moderate (10-20%)
ROMANCE	Walt Disney	Touchstone Pictures	30	1051%	Spring	Winter	115	Moderate (10-20%)
SCI-FI	Warner Bros.	Paramount Pictures	130	548%	Summer	Winter	132	Moderate (10-20%)
THRILLER	Village Roadshow Pictures	Columbia	80	439%	Winter	Spring	118	Moderate (10-20%)
TV	Universal	Universal	5	740%	Unknown	Unknown	89	Unknown
WAR	Village Roadshow Pictures	Village Roadshow Pictures	40	223%	Winter	Spring	133	Low (<10%)
WESTERN	Universal	Regency Enterprises	30	255%	Winter	Summer	120	High (>20%)