

Project: Visualizing Movie Data

Step 1: Data Cleanup and Attribute Selection

- *The attributes to be explored further in this project are popularity, release year, genre, production company, budget, gross profit (calculated field), runtime and the vote average.*
- *All movies with 0 budget or revenue were removed. That leaves us with 3678 after removing also all rows with nulls. This means a large quantity of data was removed, which should usually be avoided, but the removal of this data will help the analysis as the budget and revenue numbers are the most important data we look at.*
- *When we look at relationships of attributes with budget or revenue the many 0 will skew our data so the removal is justified. (for example, Popularity vs Budget)*

Tableau Visualizations:

Q1: https://public.tableau.com/profile/aljoscha.grunwald#!/vizhome/Q1_250/Q1

Q2: https://public.tableau.com/profile/aljoscha.grunwald#!/vizhome/Q2_222/Q2

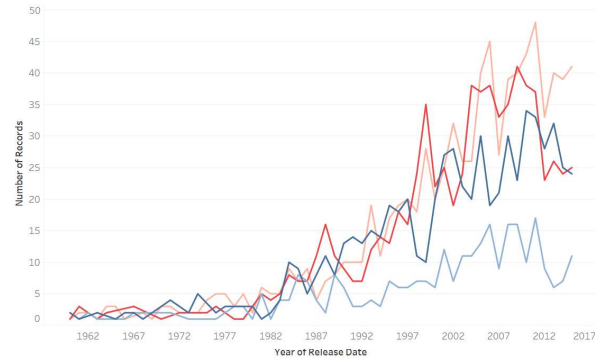
Q3: https://public.tableau.com/profile/aljoscha.grunwald#!/vizhome/Q3_210/Q3

Q4: https://public.tableau.com/profile/aljoscha.grunwald#!/vizhome/Q4-Story_5/Q4-Story

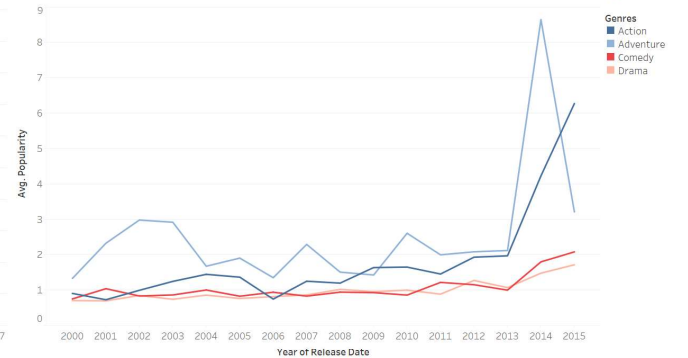
Questions 1: How have movie genres changed over time?

Q1

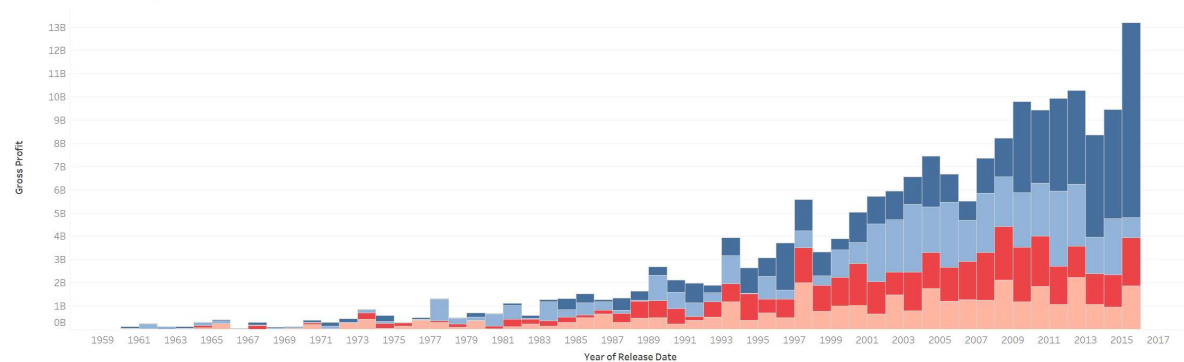
Count of Genre vs Release Year



Average Poplarity vs Release Year



Gross Profit vs Release Year



For a better overview I filtered the movies to the Top 4 Genres (Action, Adventure, Comedy, Drama). From the first chart in the left top corner we can see that the number of movies produced in all four genres grew over time. The genre of adventure movies had a far slower growth than the other three genres.

The second chart in the right top corner shows the average popularity of the genres from the year 2000 to 2015. We see a large and fast growth of popularity for action and adventure movies from 2013 onwards.

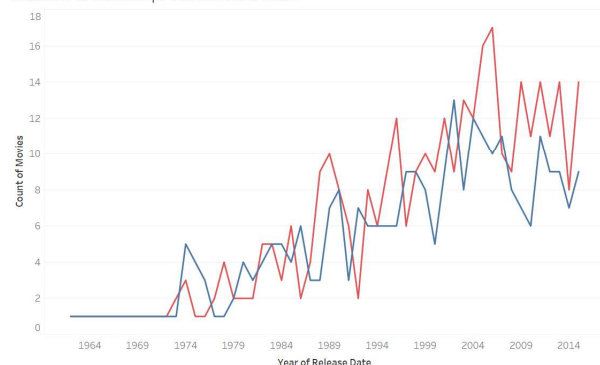
The graph on the lower half shows the gross profit over time. The colours indicate the different genres and we can see that while all genres grow in terms of gross profit over the years, action movies excel the other genres in the latest few years.

Q1: https://public.tableau.com/profile/aljoscha.grunwald#!/vizhome/Q1_250/Q1

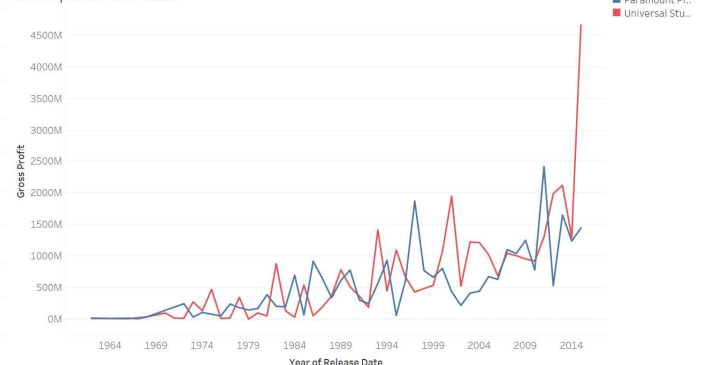
Questions 2: How do the attributes differ between Universal Pictures and Paramount Pictures?

Q2

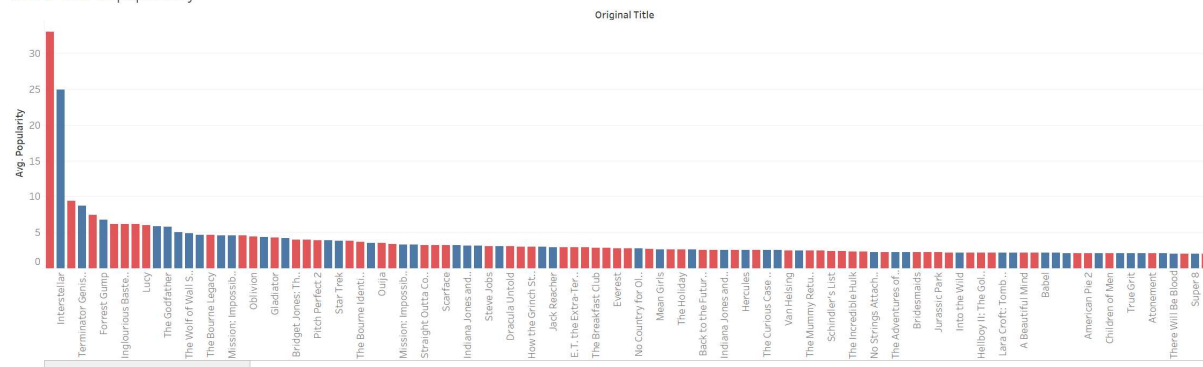
Number of movies produced over time



Gross profit over time



Movie title vs popularity



During the last few years Universal released more movies than Paramount.

Especially in the years 2013 to 2015 Universal outperformed Paramount in terms of gross profit by far. Both companies had a similar growth during the years before the mentioned timespan.

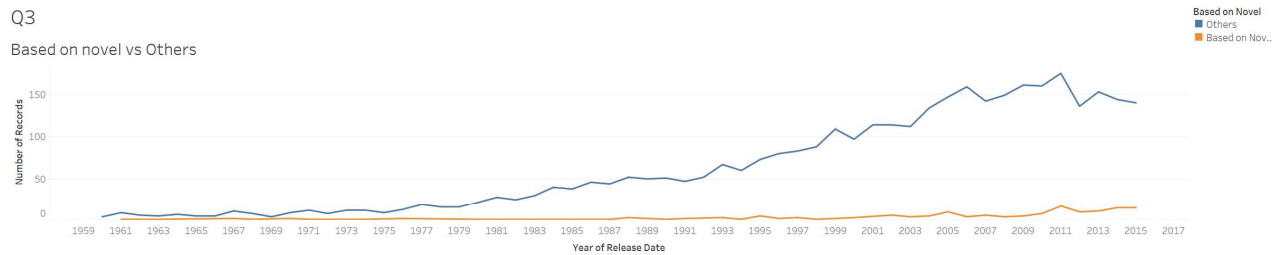
If we look at all the movies produced by the two production companies, we see that Universal released more profitable movies than Paramount. Although its unclear if the advantage is due to the higher numbers of releases or higher popularity of the movies. Universal clearly performs better than Paramount.

Q2: https://public.tableau.com/profile/aljoscha.grunwald#!/vizhome/Q2_222/Q2

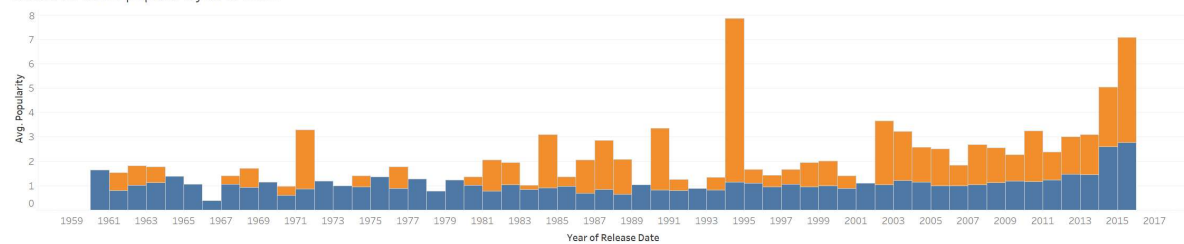
Questions 3: How have movies based on novels performed relative to movies not based on novels?

Q3

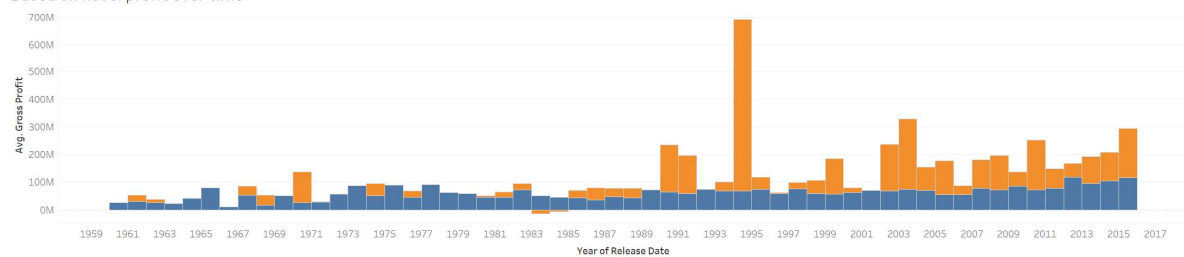
Based on novel vs Others



Based on novel popularity over time



Based on novel profit over time



The number of movies based on novels is rather small compared to all other movies. If we look at the average popularity and gross profit we see that both attributes grew since the 1980s. During the last few years movies based on novels had higher popularity and similar or higher numbers of gross profit.

Q3: https://public.tableau.com/profile/aljoscha.grunwald#!/vizhome/Q3_210/Q3

Questions 4: What attribute constitutes to a successful movie?

To be a successful production company we need to know what attributes of a movie constitutes to its success.

Q4: https://public.tableau.com/profile/aljoscha.grunwald#!/vizhome/Q4-Story_5/Q4-Story

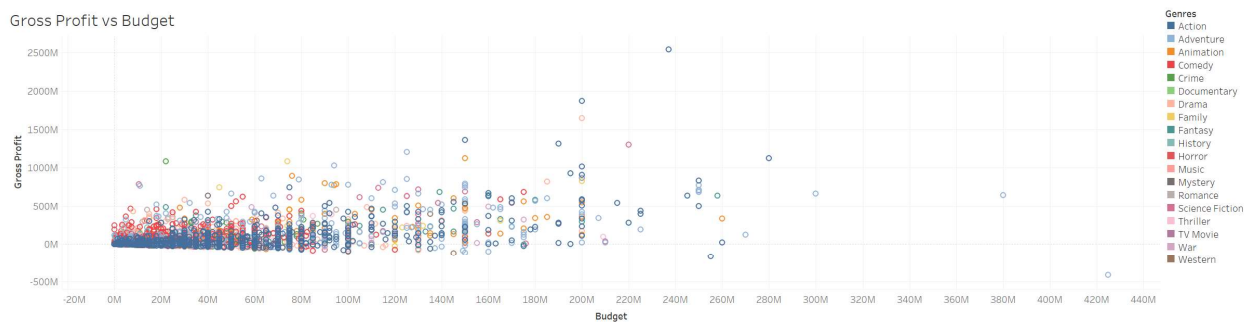
Q4 - Story - What attribute constitutes to a succesful movie?

This graph shows the profit vs the budget of each movie in the dataset colored by their genre. We see that the budget seems to have somewhat of a slight positive relationship with the Gross Profit but a lot of movies with high budgets perform rather average or bad in terms of their gross profit.

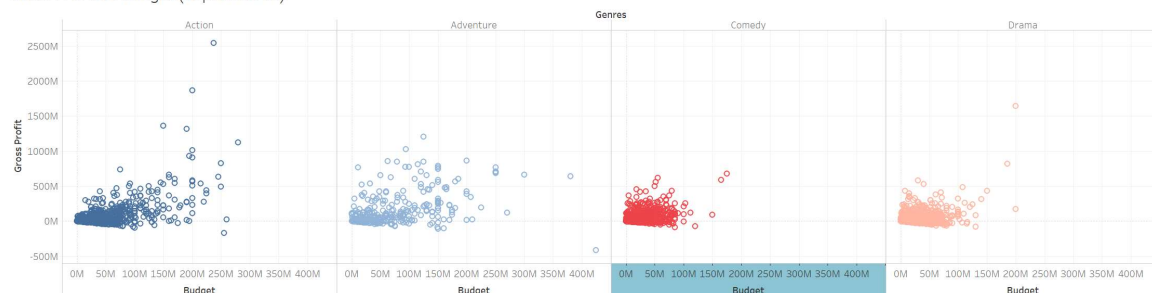
If we take a look at the development of gross profits over time from 1960 to 2015, we can see that as the time went by the budgets as well as the profits increased.

If we analyse different attributes of the movies (Top 4 Genres only) versus their Gross profit we should get some interesting insights. For example the best runtime for action movies seems to be between 120 and 150 minutes. Adventure movies on the other hand tend to generate more profit with longer runtimes. The average vote has some positive influence on the movies performance but this influence seems to be stronger with action and adventure movies.

Gross Profit vs Budget



Gross Profit vs Budget (Top 4 Genres)



The relationship between budget and gross profit of a movie shows a possible positive influence. Although there seem to be differences between the genres as shown in the graphs on the lower half.

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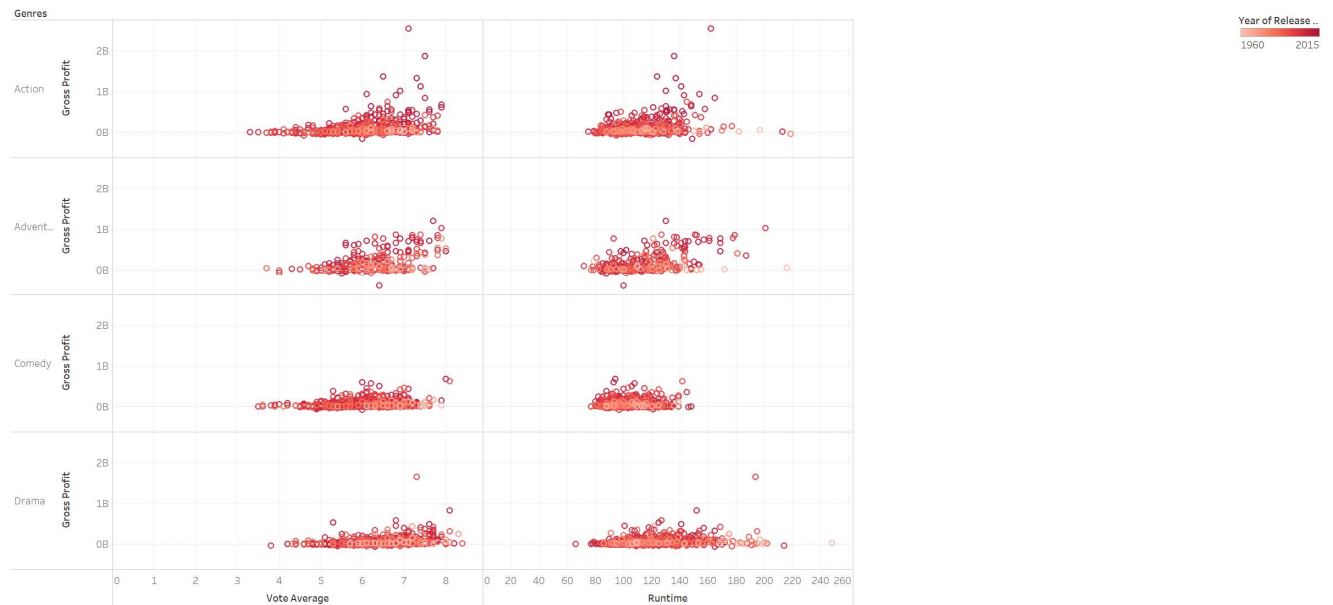
The graph shows that budget and gross profit grew over time.

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The gross profit compared to runtime and the average voting for each movie shows that, both attributes have no clear development over time. Although we can read different conclusions from the graphs, i.e. action and adventure movies profit the most from good voting's and higher runtime. The best runtime for action movies seem to be between 120 and 150 minutes while adventures can also profit from runtimes over 150 minutes.