

Project 3: Visualizing Movie Data

The Business Problem

You are a business analyst consultant and your client is a new movie production company looking to make a new movie. The client wants to make sure it's successful to help make a name for the new company. They are relying on you to help understand movie trends to help inform their decision making. They've given you guidance to look into three specific areas

Question 1: How have movie genres changed over time?

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

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

On top of that, the client asked you to explore one other question that you find interesting based on the data provided.

Step 1: Data Cleanup and Attribute Selection

For the step 1, we mainly used the Unique and text to column functions in Alteryx to clean up the database. We also used scatterplot to have an overlook of the numbers and output function to save the cleaned database.



The attributes we choose for our analysis are

- Budget adjusted for inflation, in 2010 US dollars
- Revenue adjusted for inflation, in 2010 US dollars
- Genres
- Vote average
- Popularity
- Runtime

Step 2: Tableau Visualizations

Please see following link

<https://public.tableau.com/profile/lina5384#!/vizhome/Udacity-MovieTrends/Story2?publish=yes>

Step 3: Questions

1. How have movie genres changed over time?

With a compound annual production growth of 5.5% from 1960 to 2015, more than 600 movies are produced every year nowadays. Drama, Comedy and Action movies make up more 50% of the movies produced. Recent years have also seen an increase in thriller, horror and documentary movies produced.

We have created two motions charts to observe the evolution of genres in terms of budget, revenue and popularity over decades since 1960.

- In terms of revenues over budget, adventures movies have the highest average budget per film but also generate the highest average revenue. While drama, comedy and action movies remain in the middle of the chart.
- In terms of popularity over rating, adventures, science fiction and action movies are amongst the most popular in the public though the given average votes are relatively average. On the opposite, documentary movies do not seem popular but collect high average votes and horror movies has low popularity and low rating.

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

Before comparing both production companies, we have grouped all related companies under the same names.

Universal Pictures and Paramount Pictures are the two majors companies in terms of revenues and popularity. Both productions companies compete on the same genres - namely comedy, drama, action and adventure movies which have made up more than 70% of their production. However, it is observable that Universal Pictures has grown in scale since 2009 compared to Paramount Pictures with more productions more revenues than its peer Paramount Pictures.

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

When comparing revenues over budget and average vote over popularity, it appears than movies based on novels generated more profits, are more popular and more appreciated than movies not based on novels.

4. What are the characteristics of the three main directors in terms of revenues.

The top 3 directors in term of revenues generated are in order Steven Spielberg, James Cameron and Peter Jackson. These three directors mainly produced adventures, action, science fiction and drama movies.

It is interesting to see that the movies budgets have strongly increased for these directors over years. Steven Spielberg has gained its notoriety while producing relatively low budget movies in the 70's-80's. In the opposite, Peter Jackson and especially James Cameron movies budgets are much higher.