

# *Microsoft* *goes to the* *Movies*

A look into the film industry's domestic performance.

Presented by Anna D'Angela, September 11, 2020

Flatiron School, Data Science Program

Phase 1 Project

**Microsoft is interested in starting a film studio. They are looking for data supported insight into what types of films they should produce.**

# Objective

Investigate which films perform the best at the box office.

*For this analysis, best = most profitable*

*Which studios are the domestic leaders?*

*What are their production numbers?*

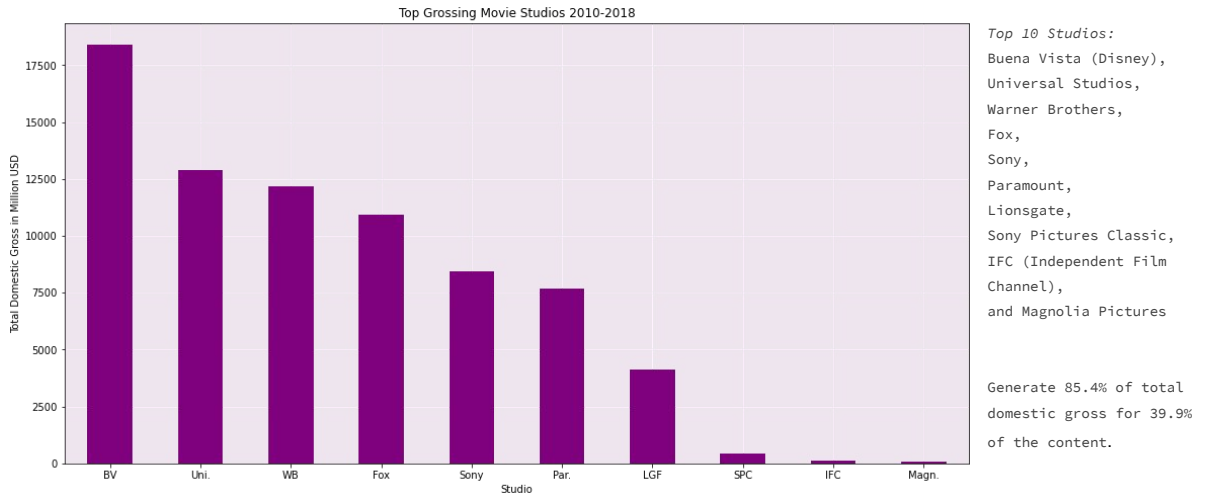
*What types of movies are they making?*

*Does release date effect box office success ?*

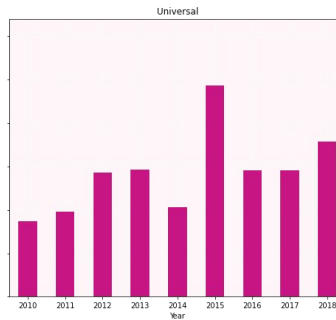
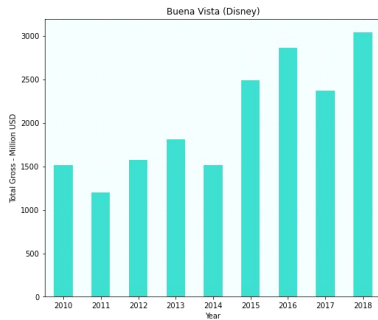


Examine domestic finances for more complete data set and look into the market Microsoft intends to enter. Examine the competition to learn what works for them. Decide if Microsoft should aim to follow their path or head into less saturated areas.

# Who are the domestic leaders?

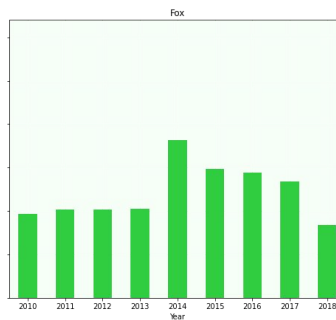
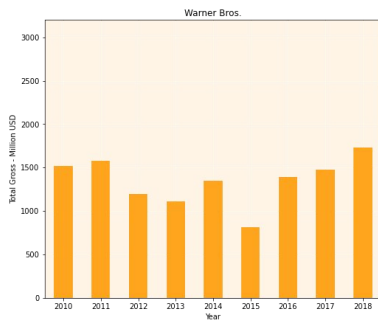


The names here are likely the ones you thought of when you heard “movie studio”. The top ten studios, or about 3% of companies, generate 85.4% of the total gross for 39.9% of the content. That is a huge slice of the market. There is a big jump down at the 8th studio (though, note the y-bar, total gross is still in the hundreds of millions). IFC produces independent movies. Recall the comparison in gross seen here for the upcoming slide on production numbers. They produced the most movies of any in the data set, but they are less marketed and have a smaller release so they gross less.



Performance over time for top four grossing studios.

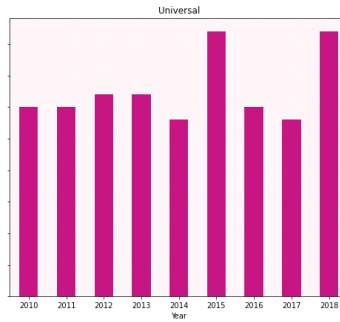
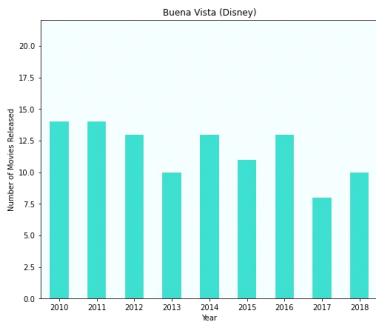
Data for 9 years.



First, yearly gross revenue in million USD.

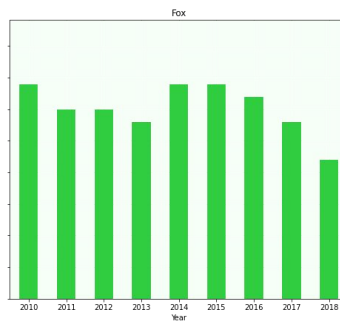
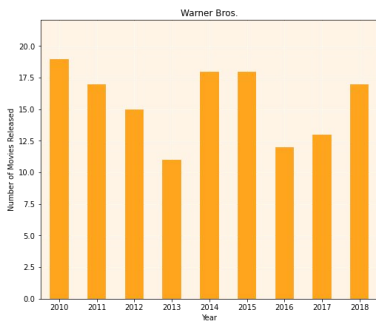
Second, the number of titles produced. Range 8 - 21 films per year.

These studios are responsible for the largest franchise movies and have the most vast (sized) networks for resources and marketing. Huge budgets (garnering all-star cast and crew) and trusted name required for this gross.



Performance over time for top four grossing studios.

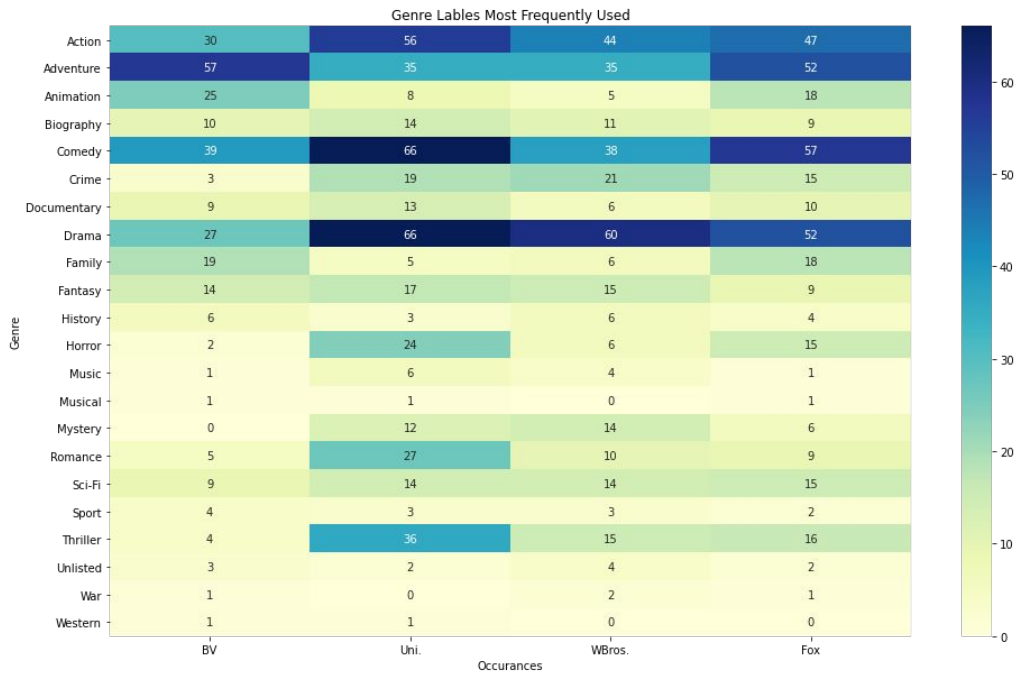
Data for 9 years.



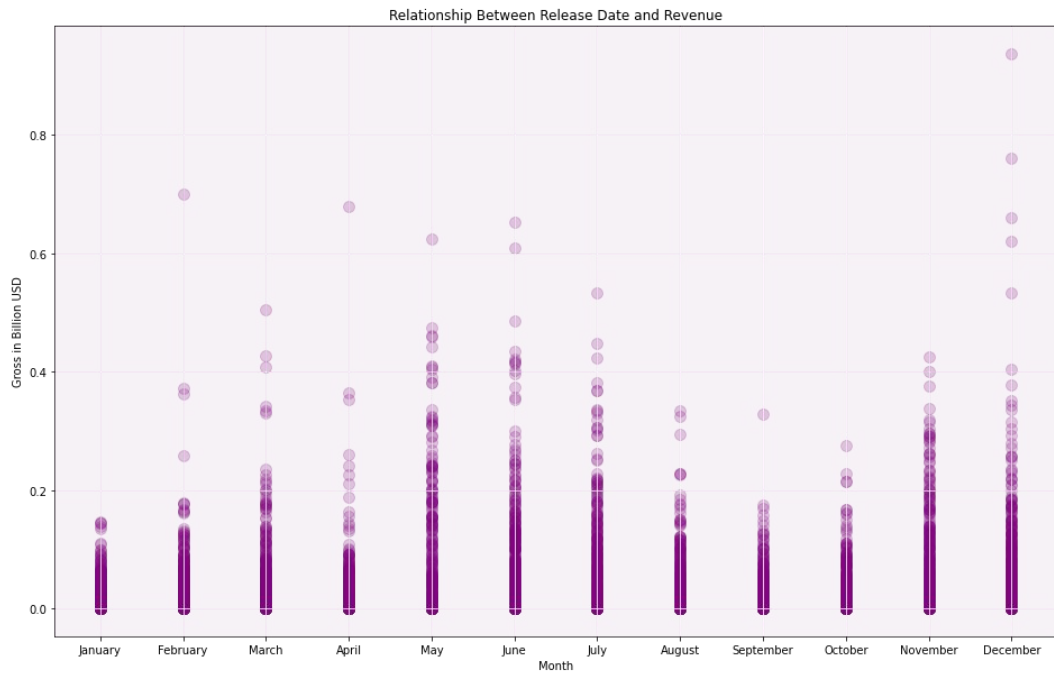
First, yearly gross revenue in million USD.

Second, the number of titles produced. Range 8 - 21 films per year.

These studios have relatively similar output in terms of release quantity per year. What types of movies are they making? Do they release in a steady stream throughout the year or is there a relationship between release date and performance (will investigate shortly)?

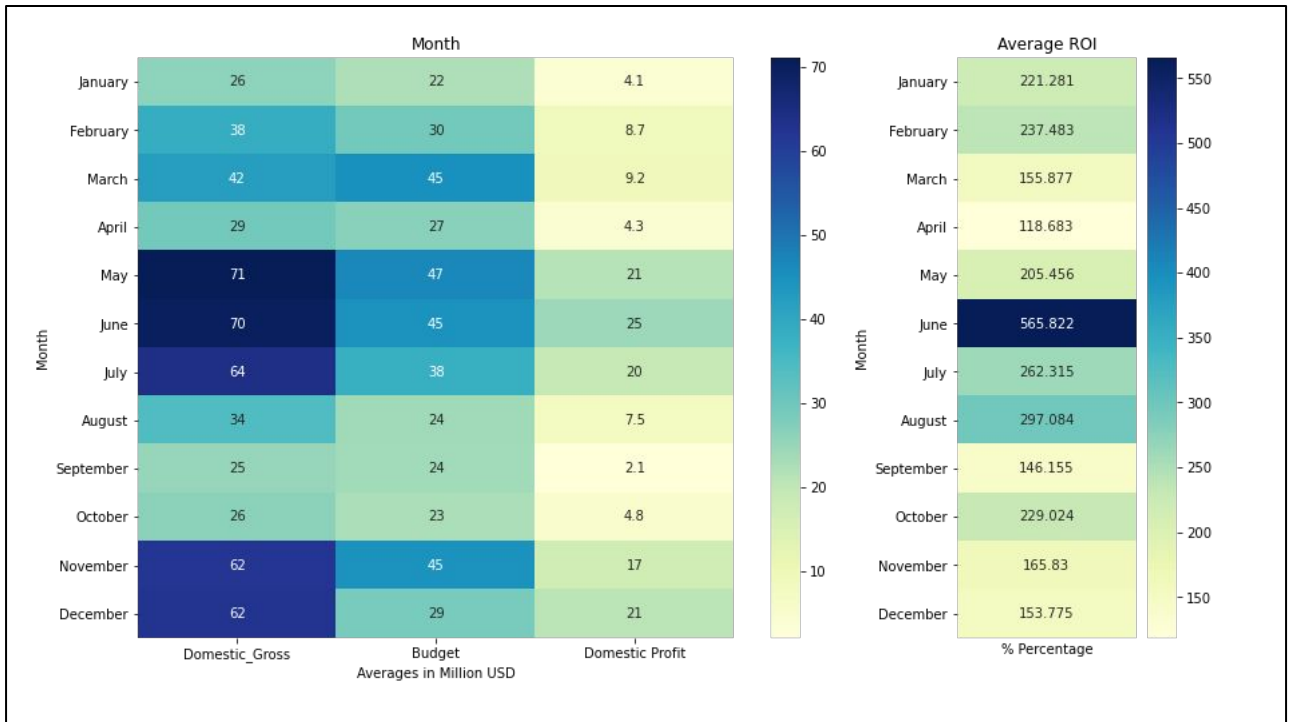


This heatmap shows how often each studio used a specific genre label to describe their titles. The darker colors show greater value and light colors show less value. The top four genres produced by all four studios are Action, Adventure, Comedy, and Drama. We see that Disney and Fox produce more Animation movies, while Warner Bros. produces the majority of Romance, Thriller and Horror (but aren't those basically the same?) for these select studios.



Now let's explore if there is a relationship between performance at the box office and release date (generalized to months). This will provide insight about when Microsoft should aim to debut content as they increase their production count. Each dot represents a movie, the overlap renders darker. We can see the major outliers as individual dots, which particularly pull up December. Following the peaks of the saturated bars, we can see a wave pattern with soft peaks in summer and winter. Let's examine more closely.

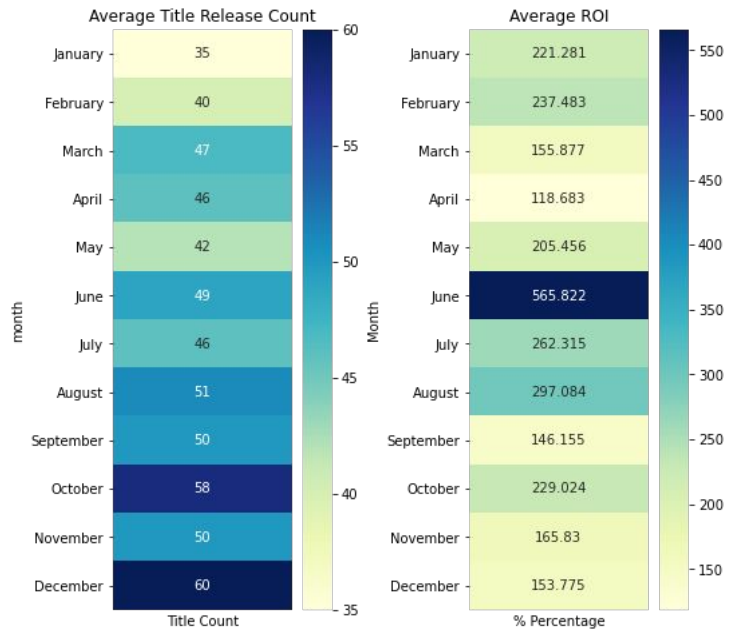




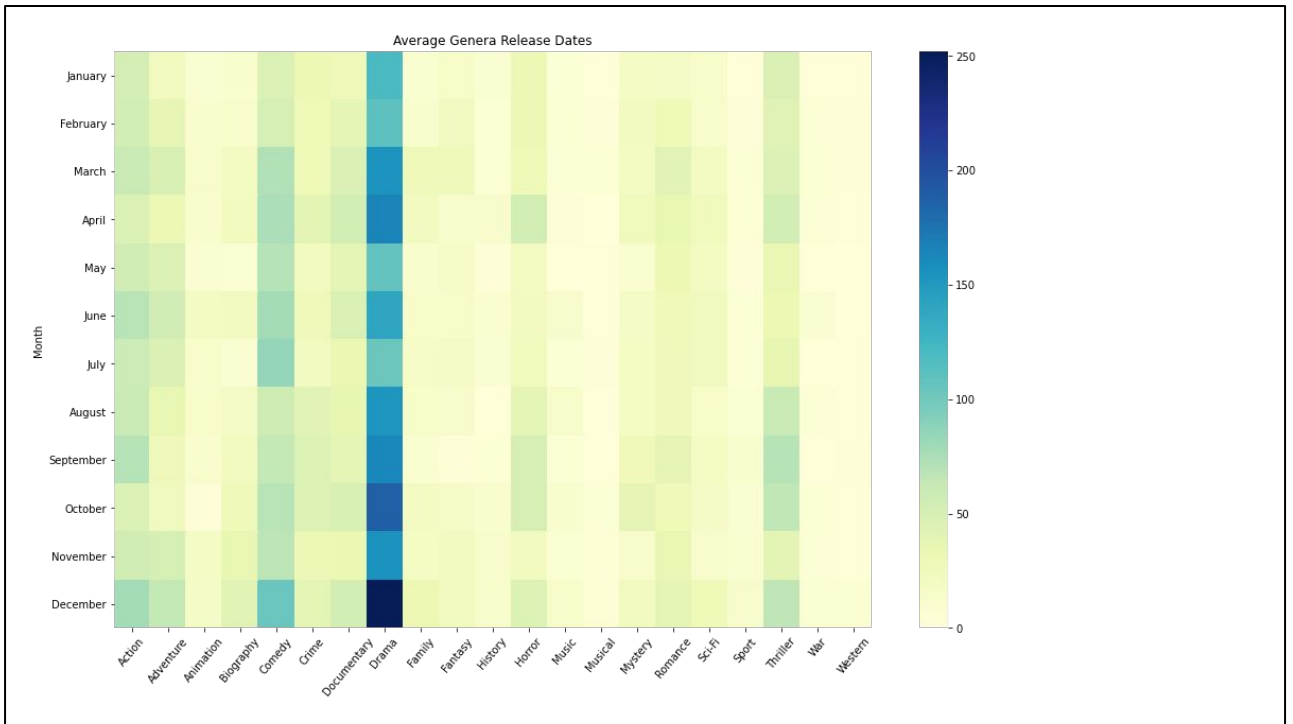
On closer inspection we see the the dark bars during the same summer and winter months. Breaking average gross out into budget, profit and then ROI. We can see a relationship between release date and performance, with summer and November having similar values for budget, but distance themselves at profit. Why do we observe such a reduction from December gross to lackluster ROI (comparatively)? See next slid...

June - August have greatest ROI.

ROI for December drops significantly due to the large quantity of movies released.



December RO is reduced due to the volume of competition at the time. Most movies are



Lastly, would like to examine if there is a relationship between genres and release date. Is action preferred in summer, and drama in winter? This heatmap suggest that action and adventure are relatively stable releases throughout the year drama does intensify in december. Thriller peaks during spooky season. Comedy seems to follow the seasonal peaks observed previously. Animation shows slight upticks when school is out (spring break, summer, and winter break)

# Conclusions

The industry is dominated by the large, well established producers creating between 8 and 21 titles per year.

Action, Adventure, Comedy, and Drama were the most utilized descriptors for the movies from these studios.

Movies released in summer (June, July, August) or for have the greatest ROI.



# Future Work

Will competing directly in the most populous areas be more likely to lead to success, or are those areas too saturated?

Beyond genre - what are the effects of these factors in driving attendance: remakes, sequels/franchises, based on books/other media, talent - cast/crew.

What is profit/ROI relationship to genre?

## Recommendation

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If you wish to follow the pattern of the industry leaders explored today: produce an Action, Adventure, Comedy, or Drama and release it during the summer.

# Thank you!

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