

## Business Problem

- Microsoft sees all the big companies creating original video content and they want to get in on the fun. They have decided to create a new movie studio, but they don't know anything about creating movies.
- You are charged with exploring what types of films are currently doing the best at the box office. You must then translate those findings into actionable insights that the head of Microsoft's new movie studio can use to help decide what type of films to create.

# Executive Summary

## Dataset

From the dataset provided, the following datasets were analyzed.

- imdb. title. crew
- imdb. title. ratings
- bom. movie\_gross

## Rationale:

An initial analysis of the movie data showed that the highest-grossing movies and the budget was influenced by average ratings and the number of votes.

## Hypothesis:

The movie market is influenced by the crew and movie genre

## Problem:

Explore what types of movies are doing well and translate that into actionable insights that will help Microsoft's new movie studio decide what type of movies to create?

## Analysis

For this analysis, audience preferences, market trends, audience ratings, box office performance and production crew were assessed using python and data was visualized using simple line plots, histograms and heat maps using seaborn (Pearson Correlation)

# Swot Analysis Initial Data Analysis- (df.describe/shape)

## STRENGTHS

- WB & BV Studios produced the highest grossing movies in the market

## WEAKNESSES

- Movies with socially conscious connotations did poorly in both markets

## SWOT

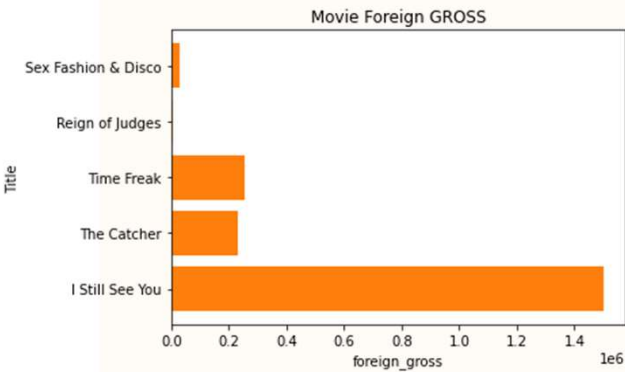
- Investing in more superhero genre movies has a clear R.O.I
- Produce more movies for the foreign market – great ROI

- Domestic movie market demonstrates a continuous decline as compared to foreign markets...need to ascertain why

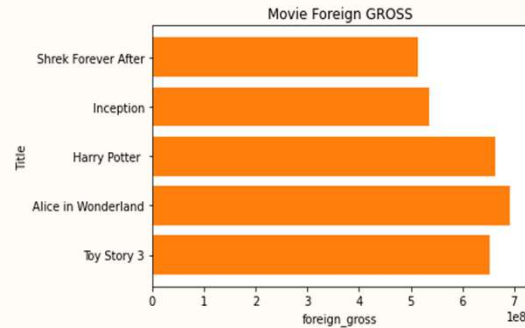
## OPPORTUNITIES

## THREATS

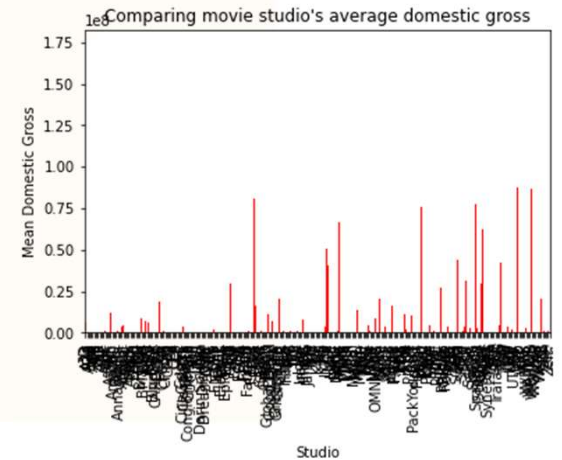
# Data Visualization



Simple bar graph (Horizontal plot) 'Socially Conscious' movies foreign gross



Simple bar graph (Horizontal plot) 'Superhero' Genre movies foreign gross



Studio V Gross

## Socially conscious Genre

The bar graph illustrates that socially conscious movies performed poorly in foreign markets

## Superhero Genre

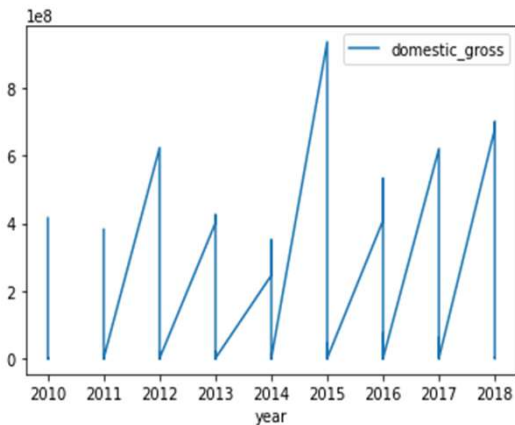
The bar graph illustrates that superhero genre movies performed best in foreign markets

## Studio vs Gross

The plot was not clear but was meant to show studio performance vs gross for all movie genres in domestic market

# Data Visualization- Line Plot/ Histograms

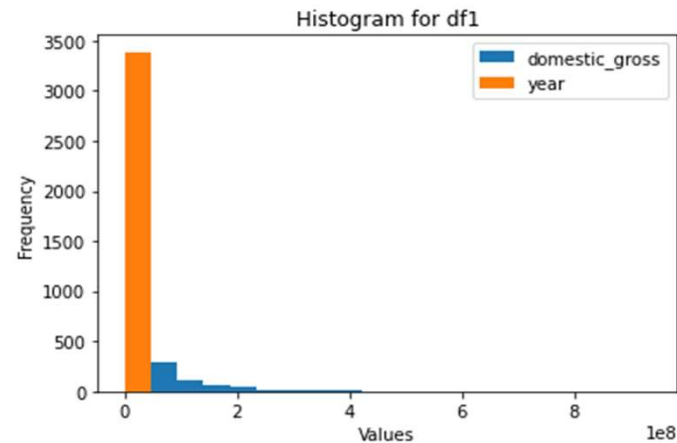
Domestic Gross Vs Year.



## Line Plot

Simple line plot showing domestic gross trends over the years. 2015 was the highest grossing year for domestic market

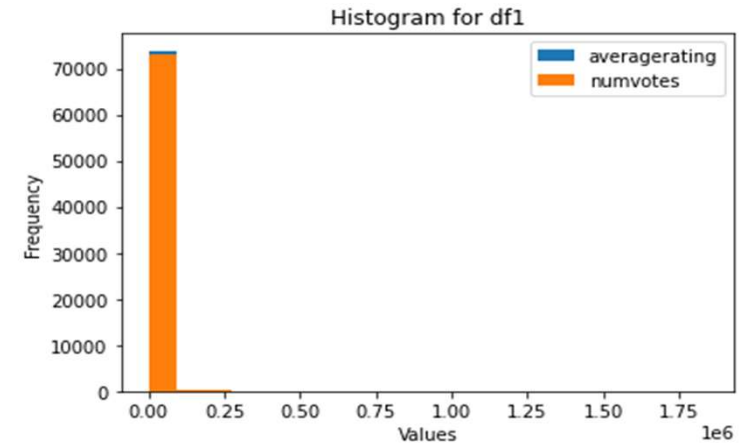
Year Vs Domestic Gross



## Histogram

As the year value increased, the domestic gross reduced.

Average rating vs Number of Votes.



## Histogram

The number of votes and average ratings correlated.

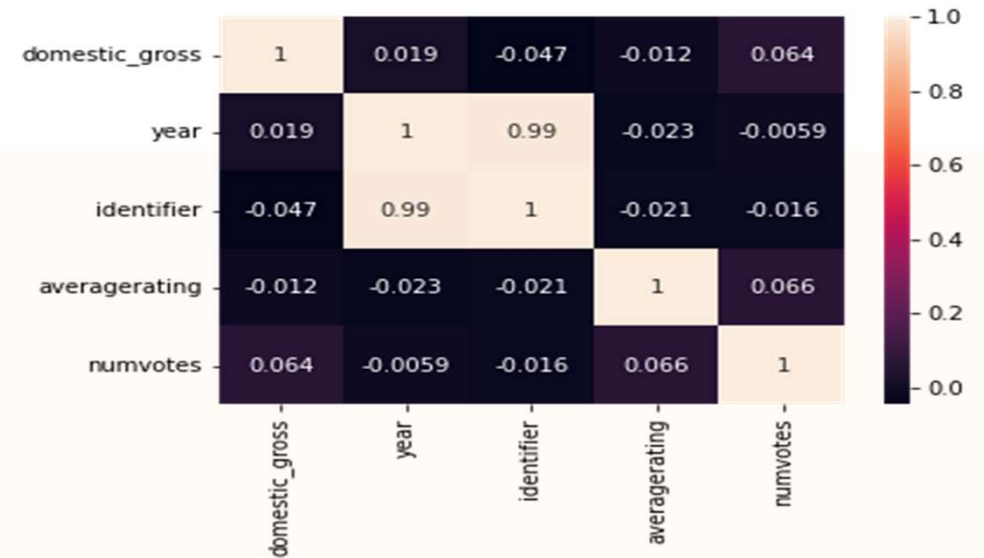
# Data Visualization



## Heat Map

Seaborn heatmap showing a correlation between gross earnings (Foreign & Domestic over the years )

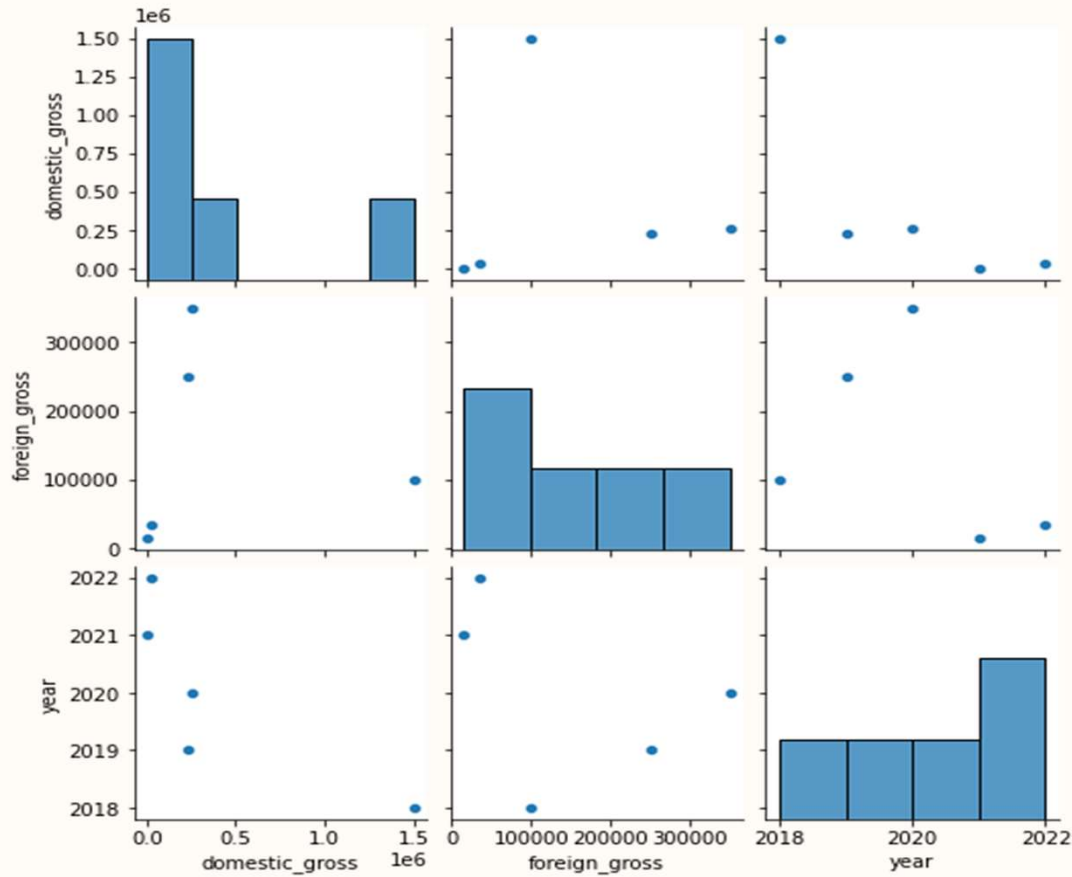
- The seaborn heat maps using Pearson correlation matrix were used to visualize data of variables in the selected datasets
- Color coding represented the magnitude of the correlation value with -1 representing a negative correlation and 1 representing a positive correlation.
- The darker the colour, the stronger the variation of the variables i.e., foreign gross and year/ foreign gross/domestic gross – colour becomes lighter indicating a negative correlation.
- This helped assess the strength and direction of the relationship between the variable's year, foreign and domestic gross
- Here, in heatmap one, there was a clear correlation of decrease in domestic gross as the years progressed (2010-2018)
- And an increase in foreign earnings as the years increased (2010-2018)



## Heat Map

Seaborn heatmap showing a correlation between average ratings, number of votes and their influence over domestic and foreign gross markets

# Data Visualization



## Scatter plot

- This data illustrates a weak correlation between the foreign and domestic gross.
- In domestic gross, the points form a downward slope over the years showing a decrease in gross revenue
- In the foreign gross, the points form an upward slope showing a positive correlation illustrating an increase in revenue over the years.

# Exploratory Data Analysis Results & Recommendations

1. Movies that performed best were "Superhero" movie in both domestic and foreign markets
2. As the domestic market gross decreased, the foreign market gross increased and was influenced by the number of votes and average ratings. The ratings were higher for superhero movies than social life movies in both markets.
3. The studios with the highest gross were BV and WB, this could have been influenced by the movie crew (Production and cast members)
4. There was a correlation between the number of votes and average ratings as shown in the heatmaps. There were no outliers, there was a positive correlation as the years increased
5. The head of Microsoft studio should invest in superhero movies and work with BV or WB studios as there is a greater return on investment compared to other movie types and studios.