Determining the Relationship Between Opening Weekend Results, Critical Reviews, and Box Office Success

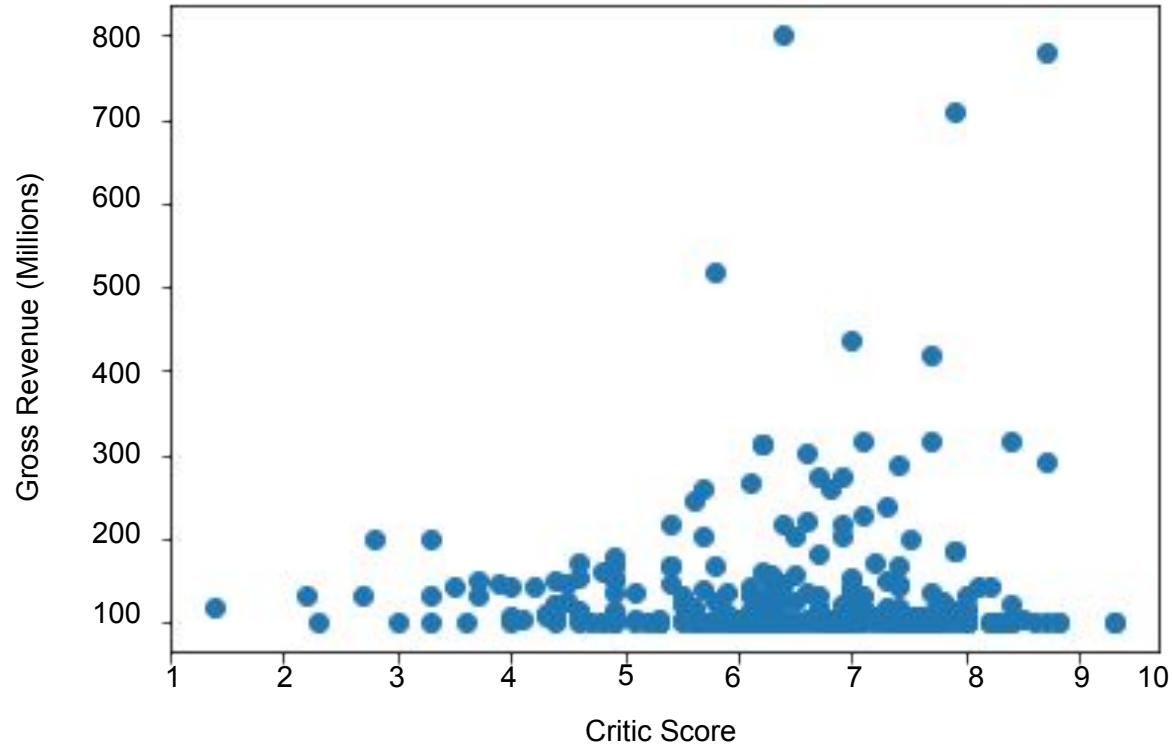Aviva Mazurek and Brittany Fowle
Flatiron Data Science 2019

Objectives

- Compare critic/user reviews to box office results
  - (2018, domestic, Metacritic, Box Office Mojo)
- Analyzed the correlation between opening weekend gross revenue to total gross revenue
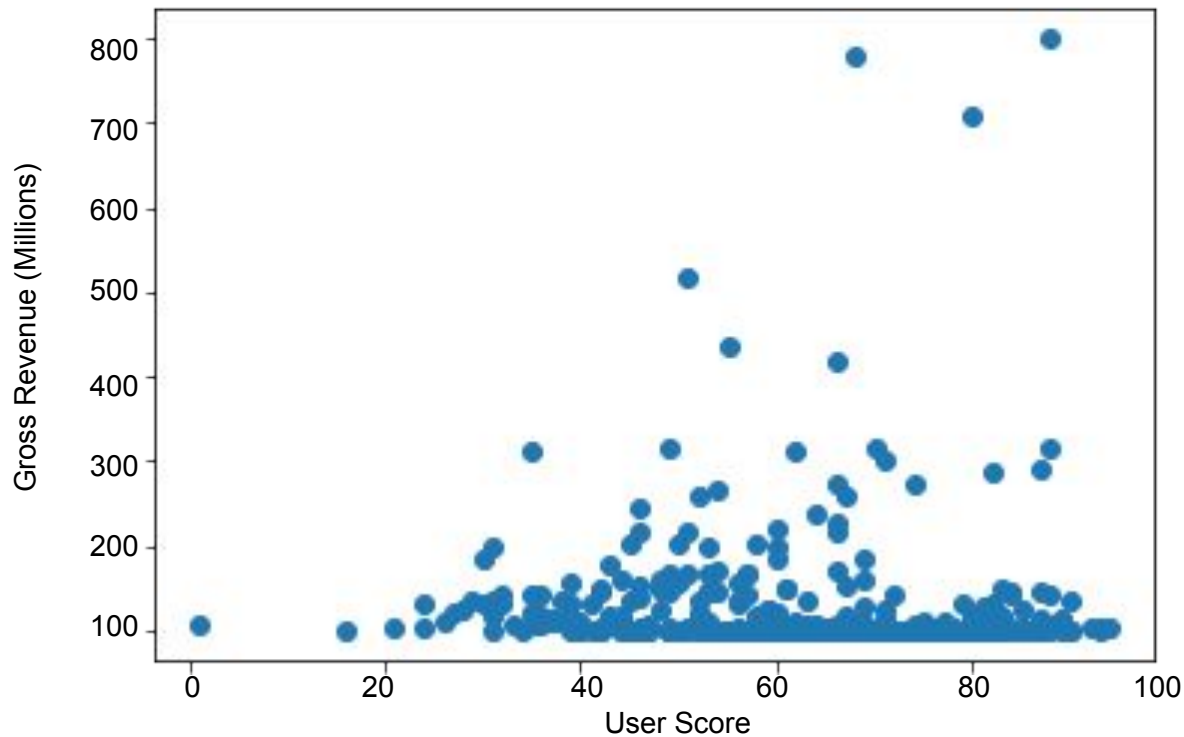 - (2013-18, Metacritic, Box Office Mojo)

Results Overview

- Critic/user reviews not strongly correlated to gross revenue
- Opening weekend gross strongly correlated to total gross
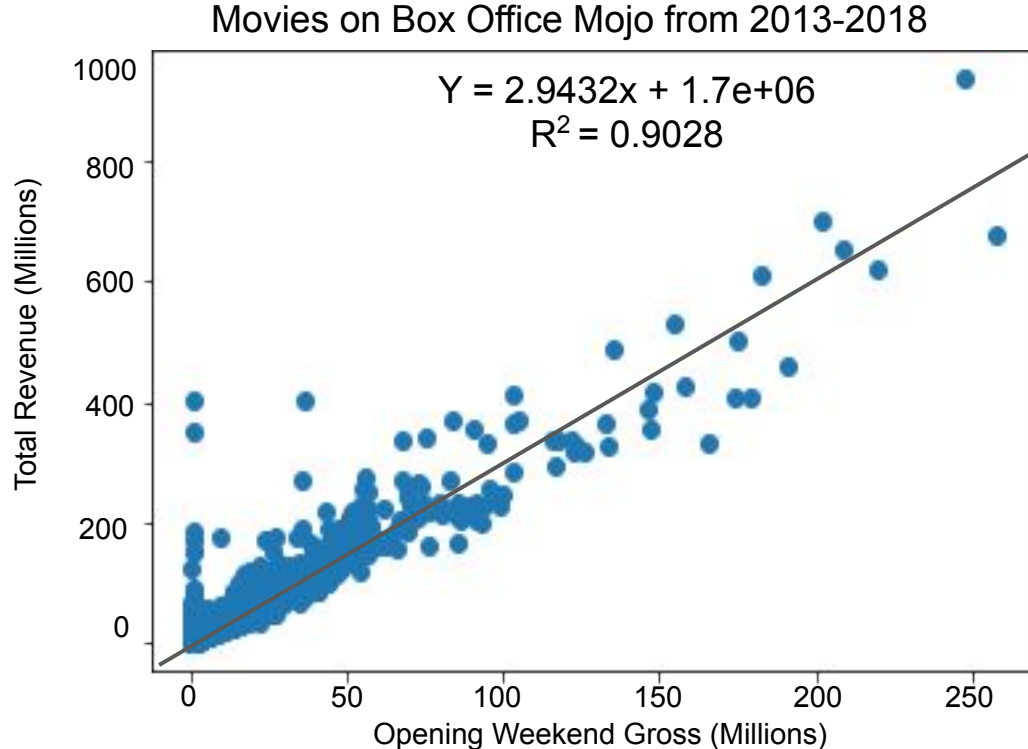 - Developed method to determine total gross from opening weekend gross
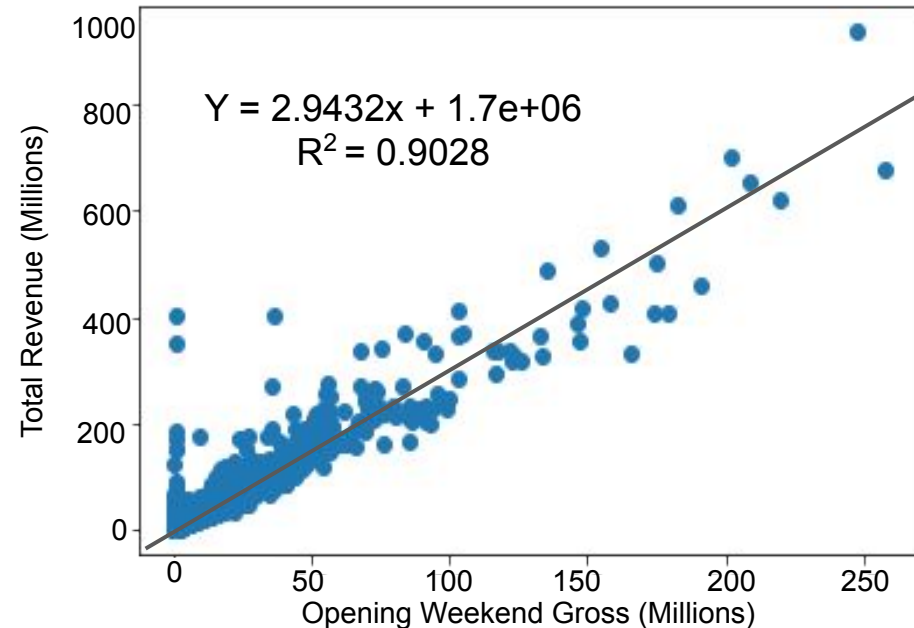
Critic Scores Not Related to Gross Revenue

Audience Scores Not Related to Gross Revenue

Linear Relationship Between Opening Weekend Gross and Total Gross (probably)

Movies on Box Office Mojo from 2013-2018

$Y = 2.9432x + 1.7e{+}06$

$R^2 = 0.9028$

Linear Relationship Allows for Prediction of Total Gross After Weekend Release

$Y = 2.9432x + 1.7e{+}06$
$R^2 = 0.9028$

Example:

If we make 150 mil opening weekend:

We can use our function to estimate how much we will make in total:

$2.9432(150e{+}06) + 1.7e{+}06 \sim$ 445 mil

Future Work

- Predict gross total before the movie is even released → possibly give scores to producers and actors based on past revenues, awards, movie numbers, social media following…. See if correlated to total gross
- Duration of movie in theaters correlation to total gross
- Social media correlations
- Budget/revenue/gross analysis
- Future, future - Determine the mechanisms of these correlations → understanding the why

Thnx >:(