

STA 199 Project

Comparing Success of Original Films vs. Their Sequels

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Introduction

- We wanted to explore something in the film world, since we're all big movie lovers
- Curious about how sequels performed vs original movies
- Our research question was:

Do sequels generate higher box office revenue and receive higher IMDb ratings than original films?

- Hypothesis: sequels will generate less revenue than original films when accounting for budget, since budgets are usually higher for sequels, but typically don't generate as much popularity with audiences. We also hypothesized that sequels will have lower ratings due to sequels not meeting high expectations the first film established.



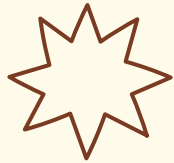
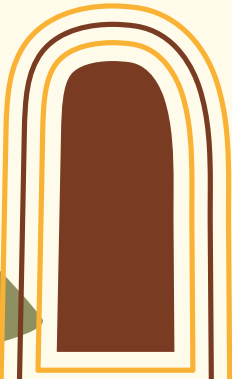
Cleaning

- Removed duplicates and standardized titles
- Converted `year` to integer
- Dropped rows with missing titles, years, or ratings

Joining

- Joined `movies_cleaned` + `movies_sequels` on `title + year`
- Joined IMDb movies + IMDb ratings on `imdb_title_id`
- Result: **all 272 movies** matched successfully

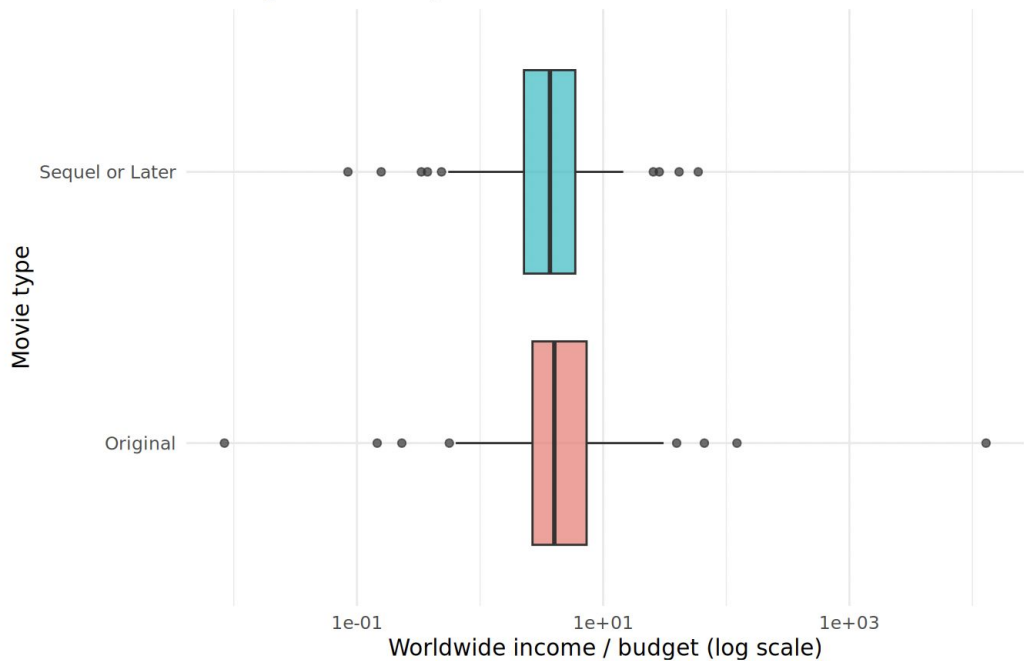
Changes to Schema

- Added column: `income_budget_ratio = worldwide gross income ÷ budget`
- 
- 



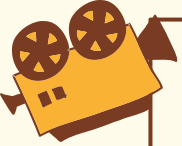
Financial Success Analysis

Relative Financial Success (income/budget):
Originals vs Sequels

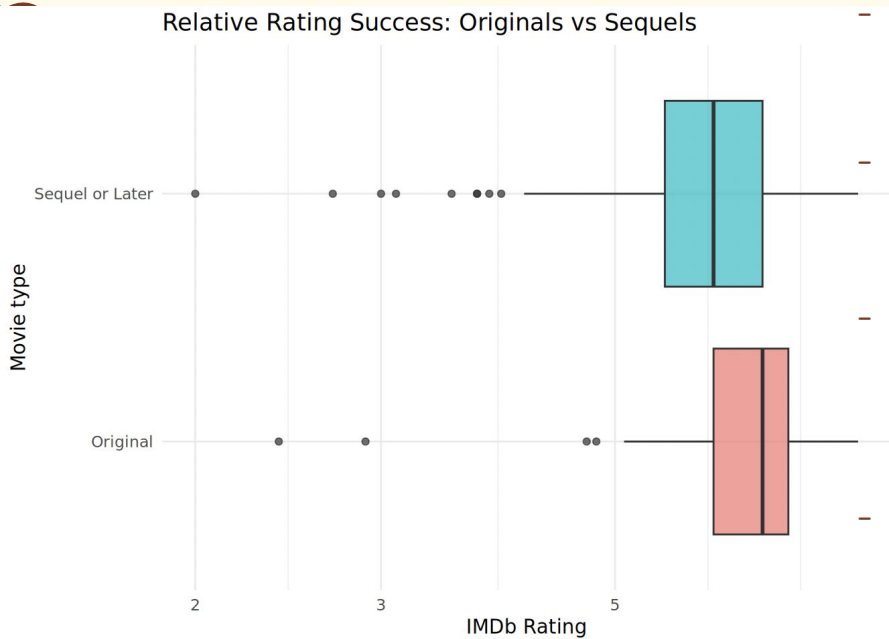


- 4.01 Original median > 3.69 Sequel median
- Original has more outliers
- IQR overlaps





Audience Success Rating Analysis



- Ratings lower for sequels than original films

- Median IMDB rating for sequels-or-later = 6.2, original films = 6.9

- The distribution for sequels or later has greater variability

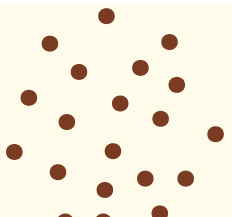
- Suggests less consistent audience reception

- Sequels-or-later distribution has 4 more outliers than original films

- Suggests sequels tend to have a harder time maintaining high audience enjoyment

- Distributions overlap so some sequels may still perform well

- While sequels may generate revenue, they may struggle to maintain audience satisfaction which could affect long term success



CONCLUSION + DISCUSSION



FINANCIAL SUCCESS

Original films tend to earn more money relative to money invested than sequel-or-later films



RATING SUCCESS

Original films have a higher median IMDb rating than sequel-or-later films

LIMITATIONS



LOST NUANCES

All films after the original in a movie series are lumped into the same category



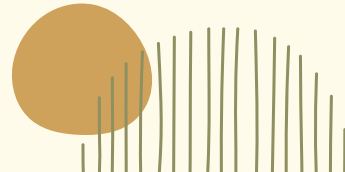
CONFOUNDING FACTORS

Factors not considered, like movie genre, may influence success



IMDb TRUST

Response bias and skewed behavior from IMDb users



A top-down view of a vintage camera lens, a film strip, and a 3D viewer on a yellow background. The lens is black with a silver ring and has markings for focal length (50mm) and aperture (f/1.8). The film strip is silver with three black frames. The 3D viewer is white with red and blue lenses. The background is yellow with various decorative elements: a white swirl in the top left, a brown starburst in the top center, a green swirl in the bottom left, and brown concentric arcs in the bottom right.

Thank you!