



Exploratory Data  
Analysis for

**NCW MOVIE  
STUDIO**



# THE GOAL

-  Understand the factors driving financial and audience success in films.
-  Equip the movie studio with actionable recommendations to guide their production strategy.

# **Business Problem**

## **WHY IT MATTERS**

**The company is entering a competitive content production landscape. Strategic decisions are needed to ensure profitability in a crowded marketplace.**

# HOW WE ANALYZED THE DATA

- Merged insights from Box Office Mojo, IMDb, and other key sources.
- Examined key metrics: ROI, revenue distribution, ratings, production budgets, and release timing.

# What the data reveals

## Monthly ROI trends

- July has the highest average ROI of 3.13 meaning movies released in this month tend to perform the best financially on average.
- October and November also show strong performance with average ROIs of 2.97 and 2.89
- mid-summer (July) and late autumn (October and November) are the most financially profitable times to release movies.

## Daily ROI trends

- Date 28th of the month has the highest average ROI of 4.01
- 1st of the month follows with an ROI of 3.97 and 15th (mid-month) comes third with an ROI of 3.62
- films released at the end or start of the month tend to achieve the best financial returns.

## Production Budget Impact

- Larger budgets correlate positively with worldwide gross (correlation = 0.78).
- No strong relationship between larger budgets and ROI (correlation = -0.05).

## Genre ROI Trends

- Genres like crime, drama, family and horror/mystery/thriller yield the highest ROI.
- Action-comedy combinations show lower profitability.



# FILM SUCCESS ANALYSIS

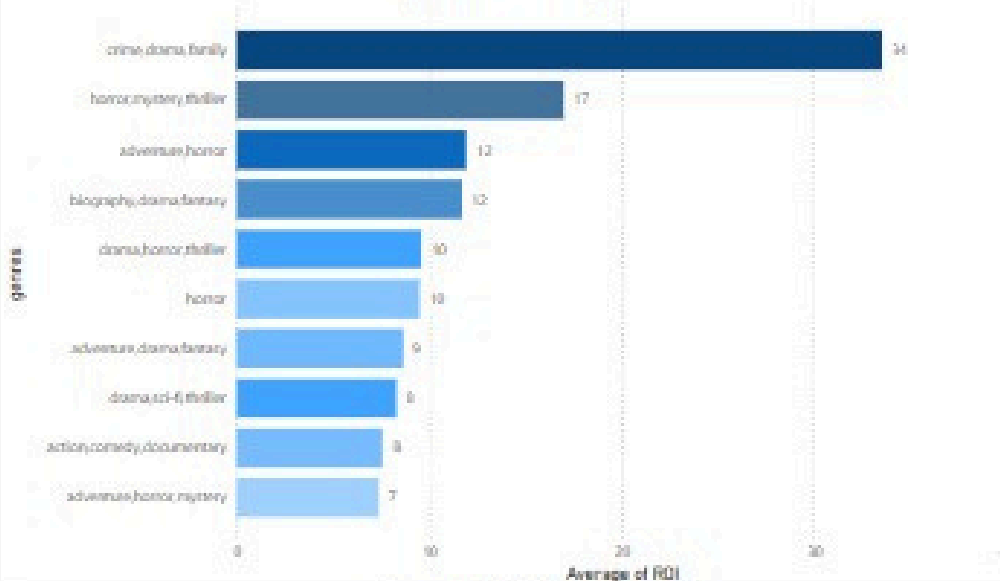
Genres

action	action.adventure	action.adventure.animation
action.adventure.biography	action.adventure.comedy	action.adventure.crime
action.adventure.drama	action.adventure.family	action.adventure.fantasy

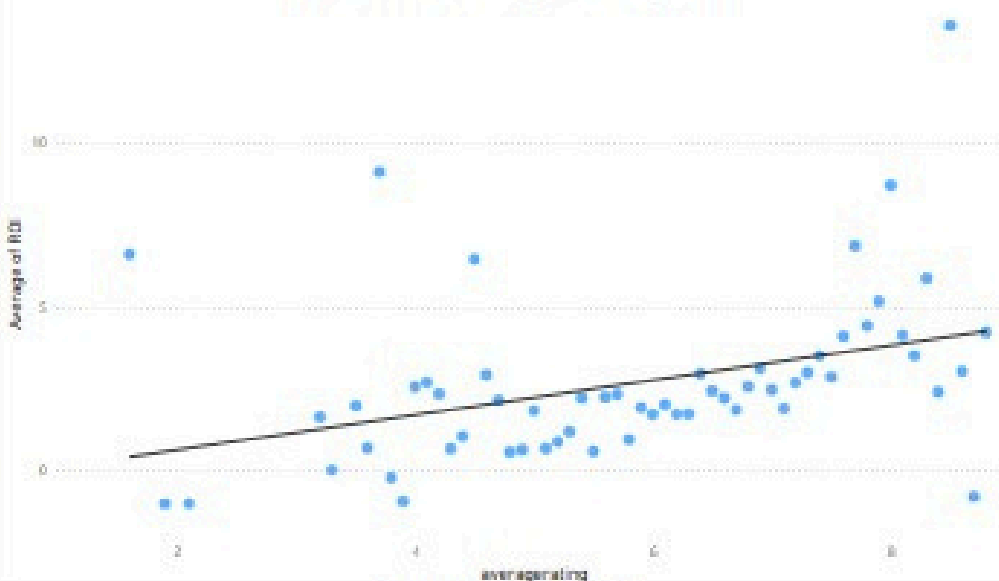
MonthName

April	August	December
February	January	July
June	March	May

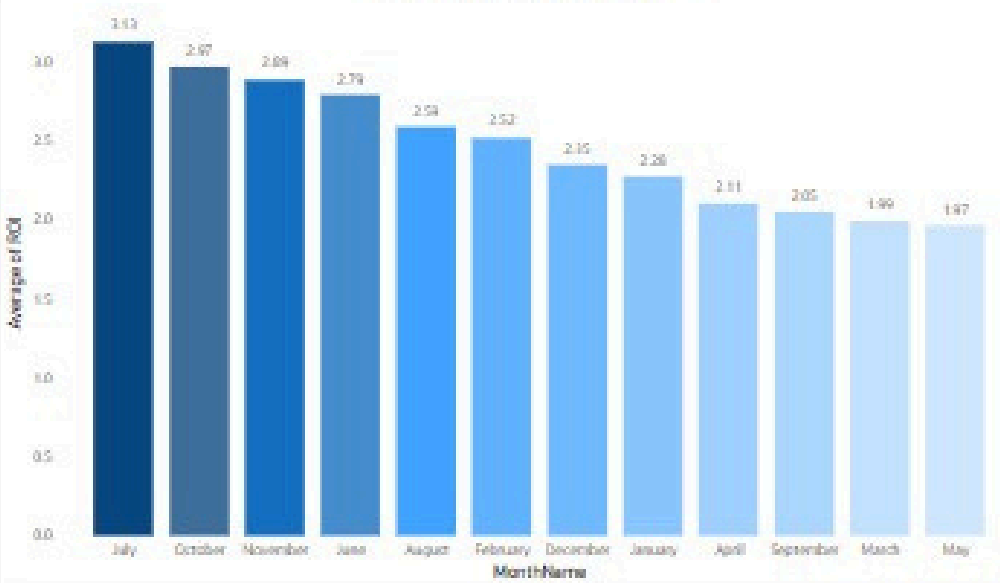
Top 10 Movie Genres by ROI



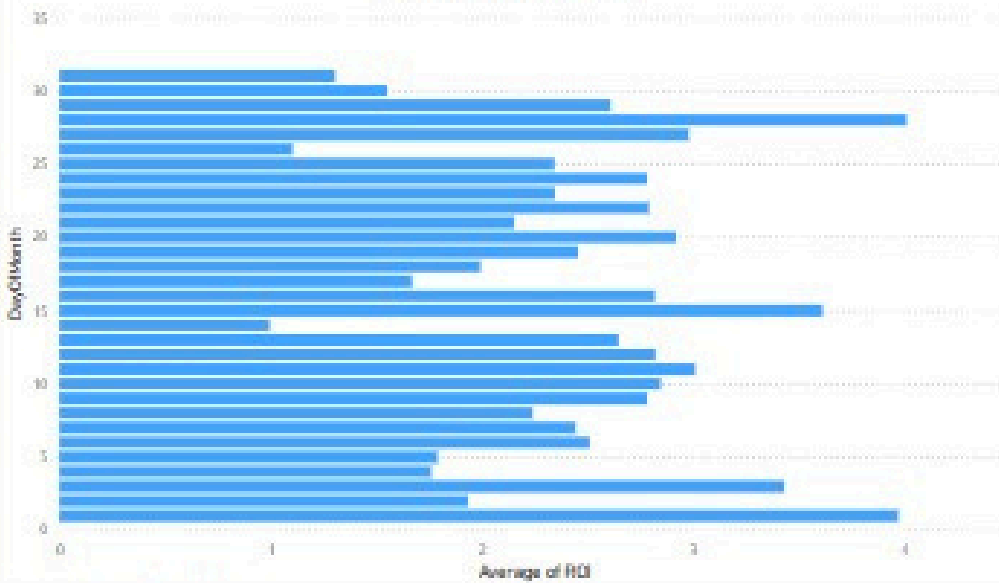
Correlation Between Average IMDb Rating and ROI



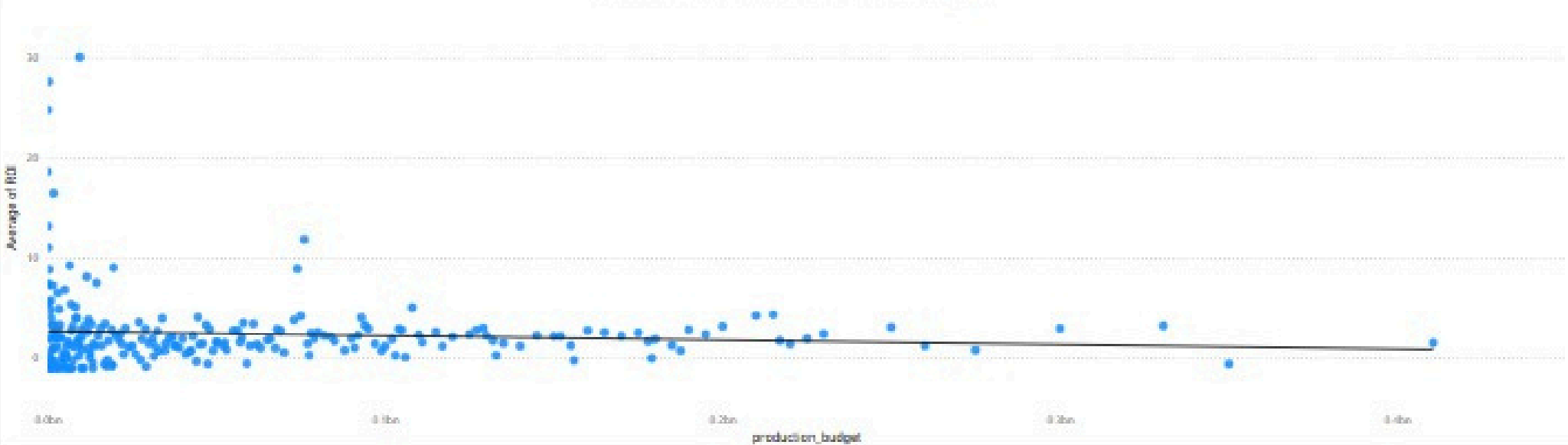
Average of ROI by MonthName



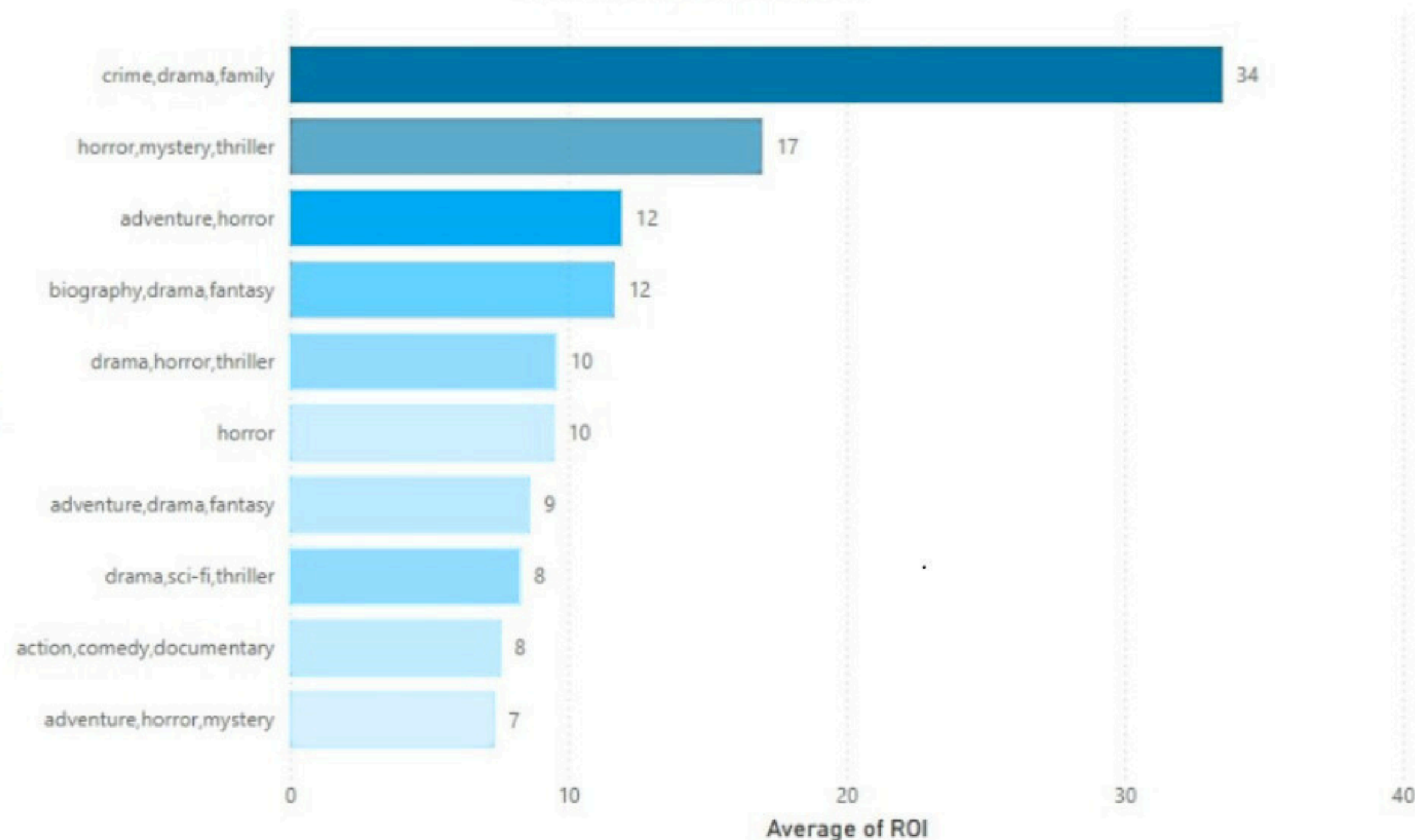
Average of ROI by DayOfMonth



Correlation between Average of ROI And Production\_budget



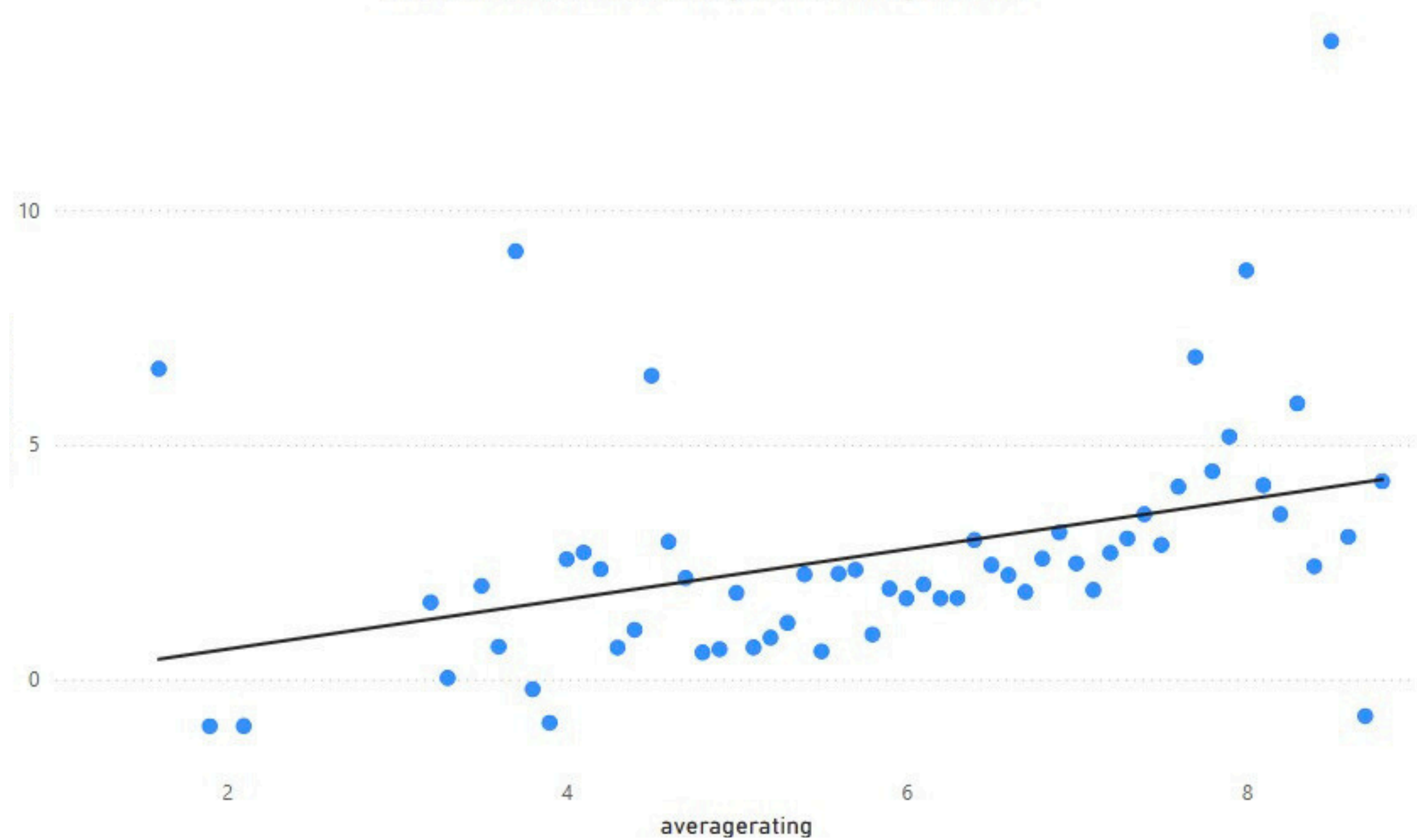
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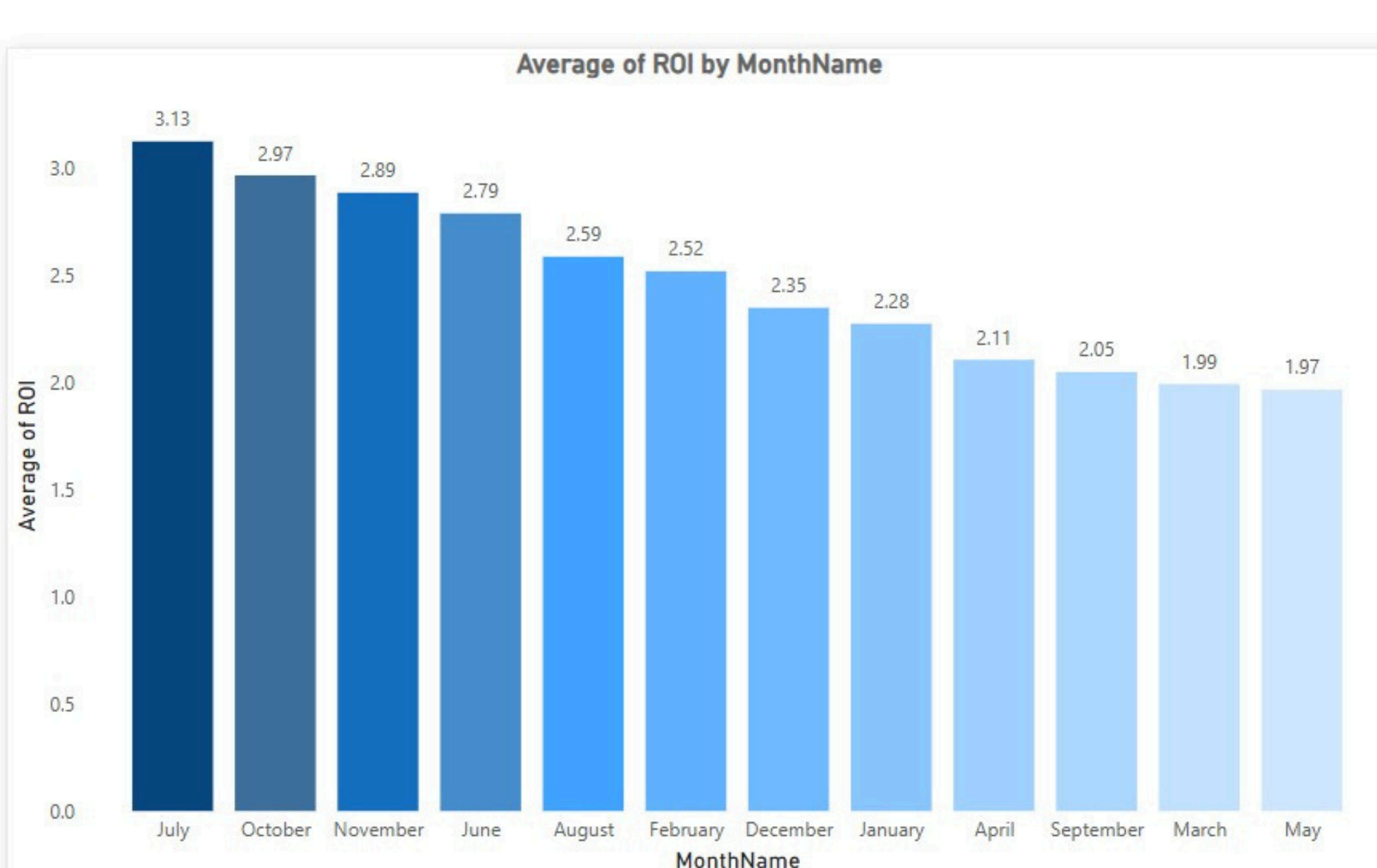


Correlation Between Average IMDb Rating and ROI

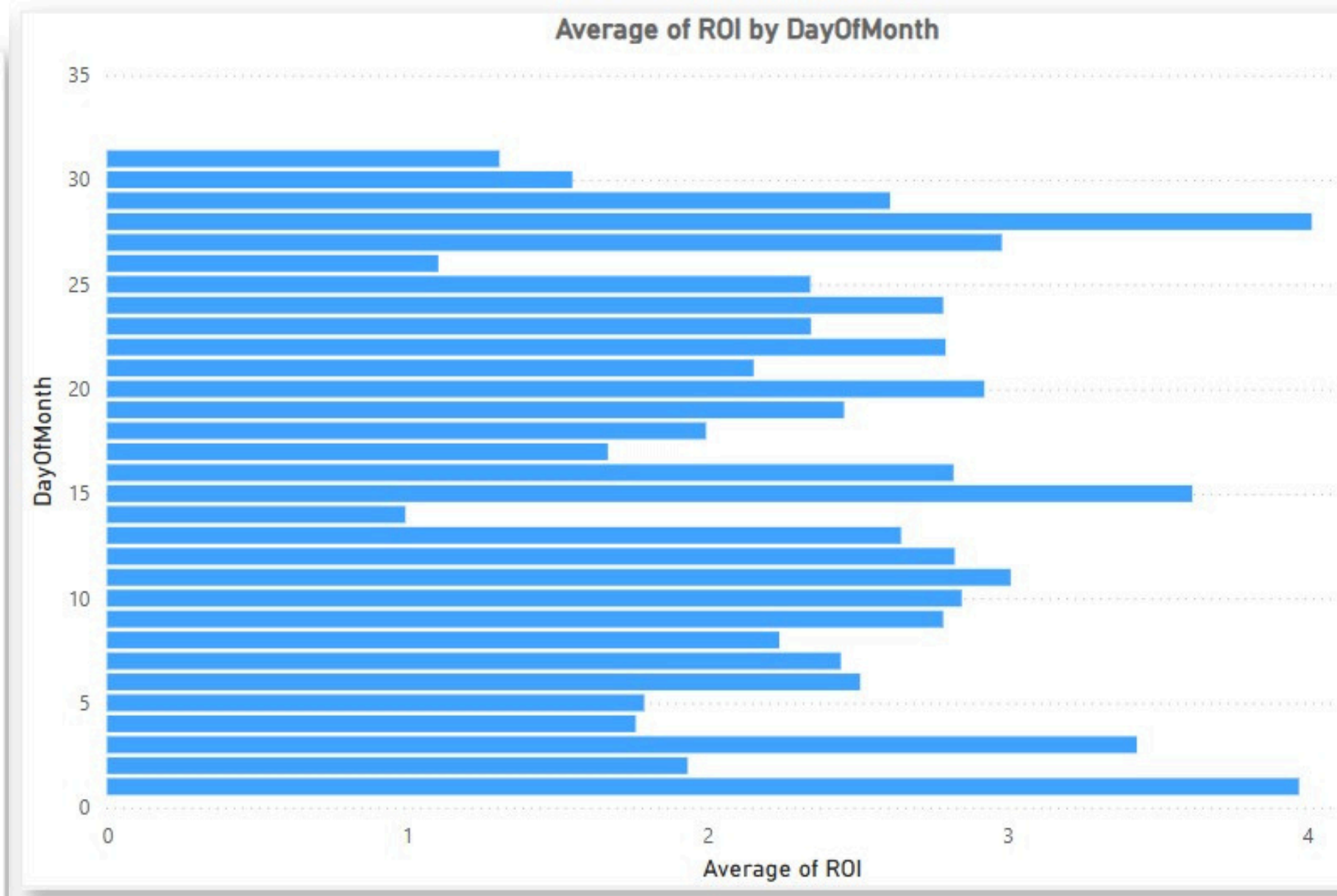


**There is some relationship between ratings and financial performance but ratings alone cannot predict ROI .**

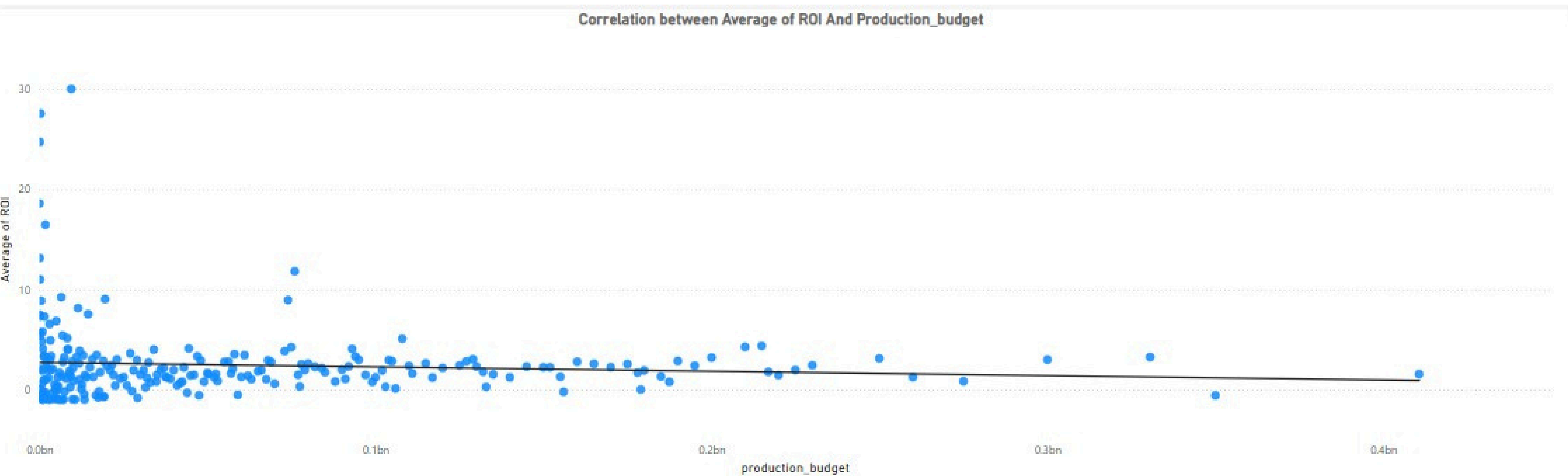




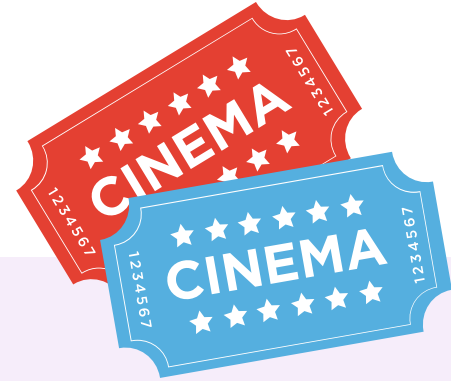
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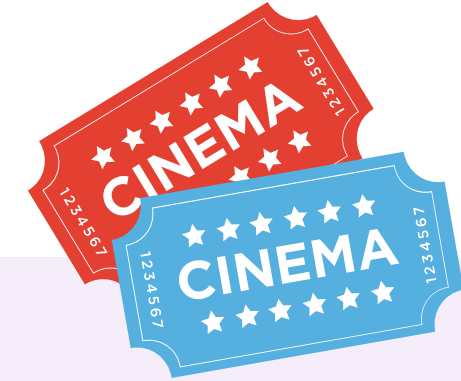
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Movies with bigger budgets tend to earn more in total worldwide gross but that doesn't always translate to higher profitability.



# Our suggestions



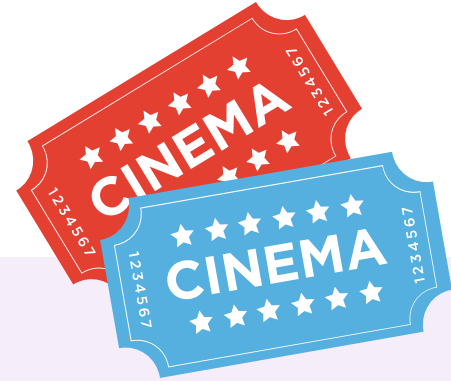
- Focus on crime, drama, family and horror/mystery/thriller genres.
- Avoid overinvestment in low-profitability action-comedy hybrids

- Prioritize cost management to maximize ROI.
- Increase efficiency without compromising quality

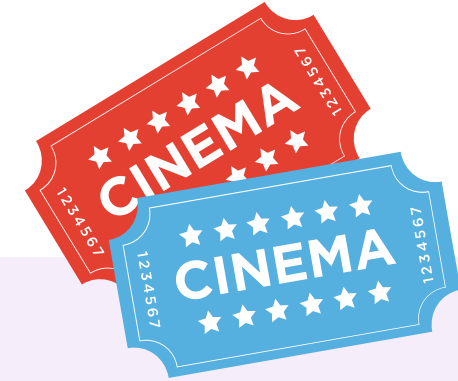
- Release movies in July for the highest ROI (3.13), or consider October and November, which also show strong performance.
- Aim for the 28th, 1st, or 15th of the month, as films released on these dates tend to achieve the best financial returns

- Schedule releases during peak seasons, such as summer or holidays.

- Time the releases carefully based on historical trends rather than defaulting to conventional blockbuster seasons.
- Consider genre-specific strategies, where horror movies align with October releases and family films with festive periods.



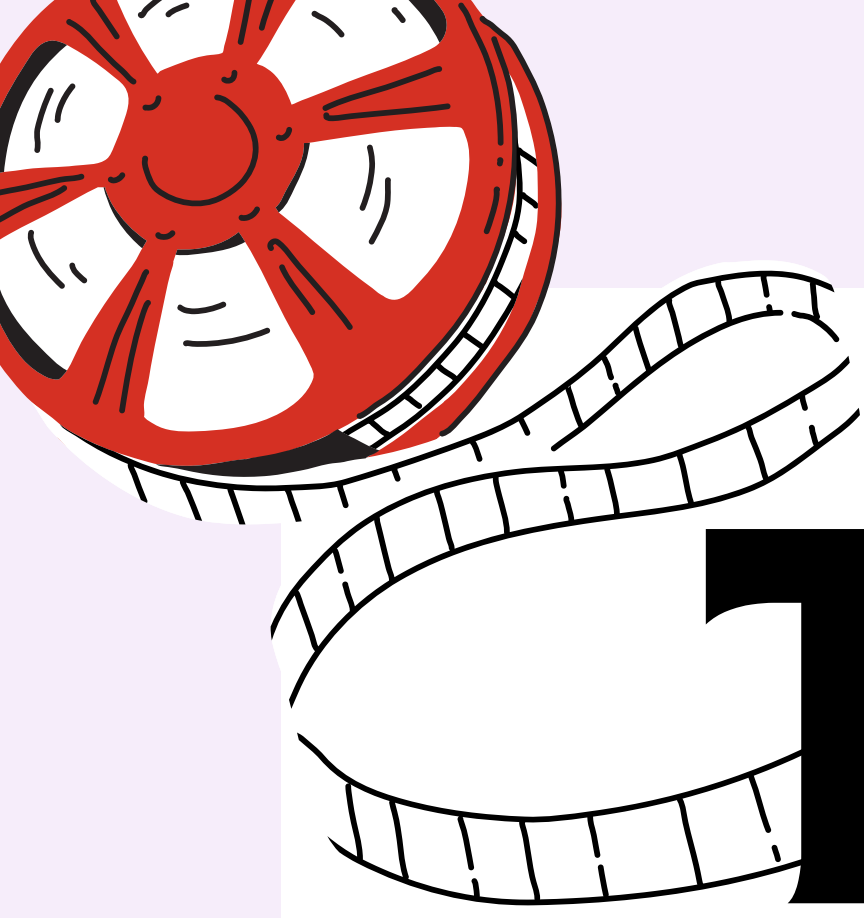
# MOVING FORWARD



Conduct deeper analyses into audience demographics for top-performing genres.

Test and refine strategies for budget efficiency and marketing effectiveness.

Present detailed findings to stakeholders and implement iterative improvements



# Thank you

**Empowering the Movie Studio with Data-Driven  
Decisions**

