

Movie Financial Performance Analysis

By Reel Metrics

Business Understanding

- The movie industry faces rising costs and changing audience preferences.
- Data helps studios make better production and marketing decisions.
- Goal: Identify what factors drive a movie's success.
- Focus areas: genre, release timing, budget, runtime, and early popularity.



Business Questions

1. What trends exist across genres, release periods, and production budgets?
2. What is the ideal runtime for a movie?
3. Can early popularity forecast long-term success?



Datasets Used

- **tmdb.movies.csv**- Movie details (id, popularity, release_date, vote_average)
- **bom.movie_gross.csv**- Box Office Mojo data (domestic_gross, year)
- **tn.movie_budgets.csv**- Budget and worldwide revenue
- **clean_movie_basics.csv**- Movie basics including genre
- **rt.movie_info.csv**- Rotten Tomatoes data (runtime, genre, rating)



Data Cleaning steps

01.

Removed missing and duplicate records

02.

Converted currency to numeric values

03.

Extracted year and month from release date

04.

Calculated profit, ROI, and profit margin

05.

Filled missing runtime and genre values and removed outliers.

Key Metrics Created

01

Profit = worldwide_gross -
production_budget

02

ROI = (profit /
production_budg
et) × 100

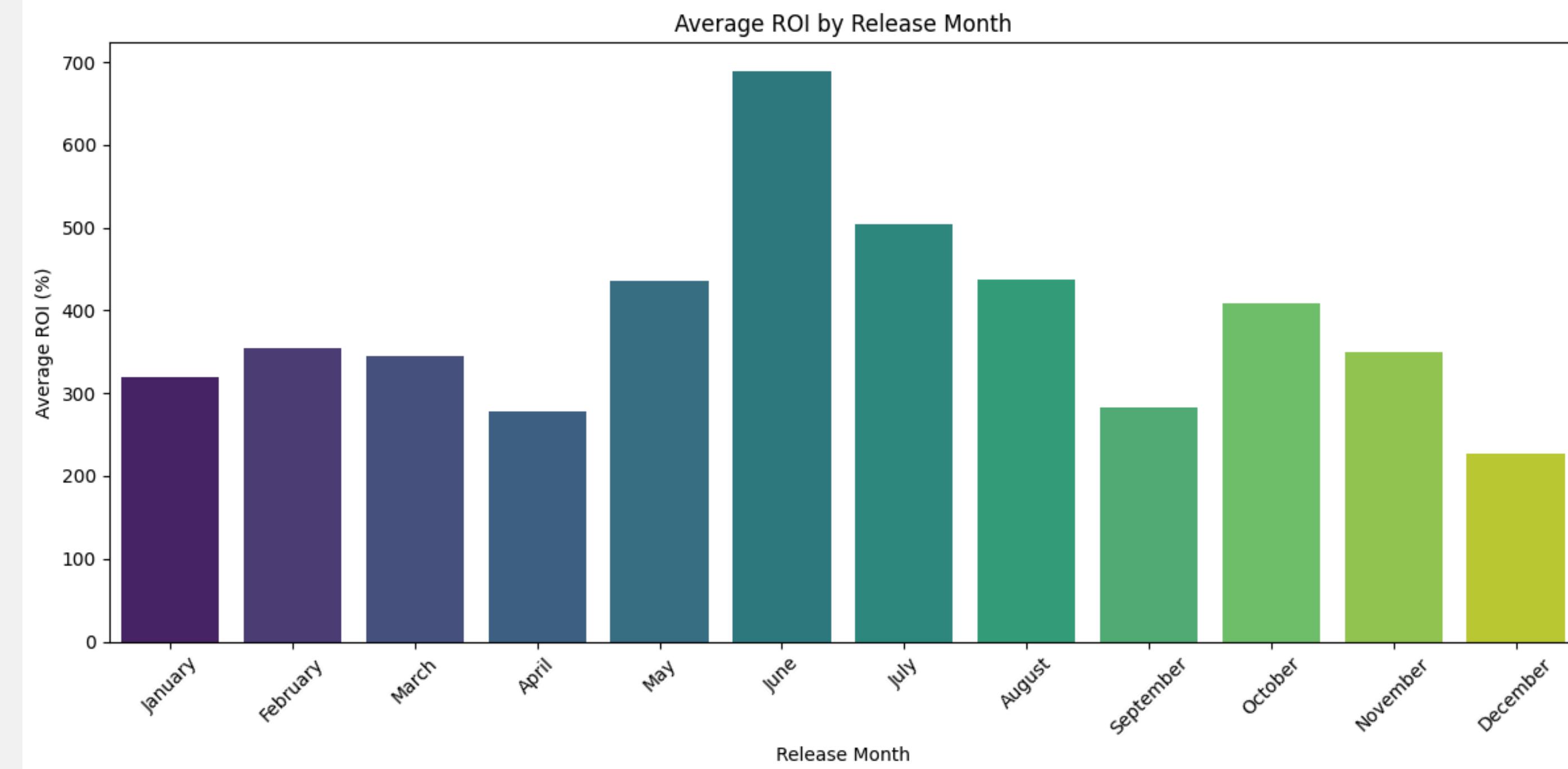
03

Profit Margin =
(profit /
worldwide_gross)
×100

04

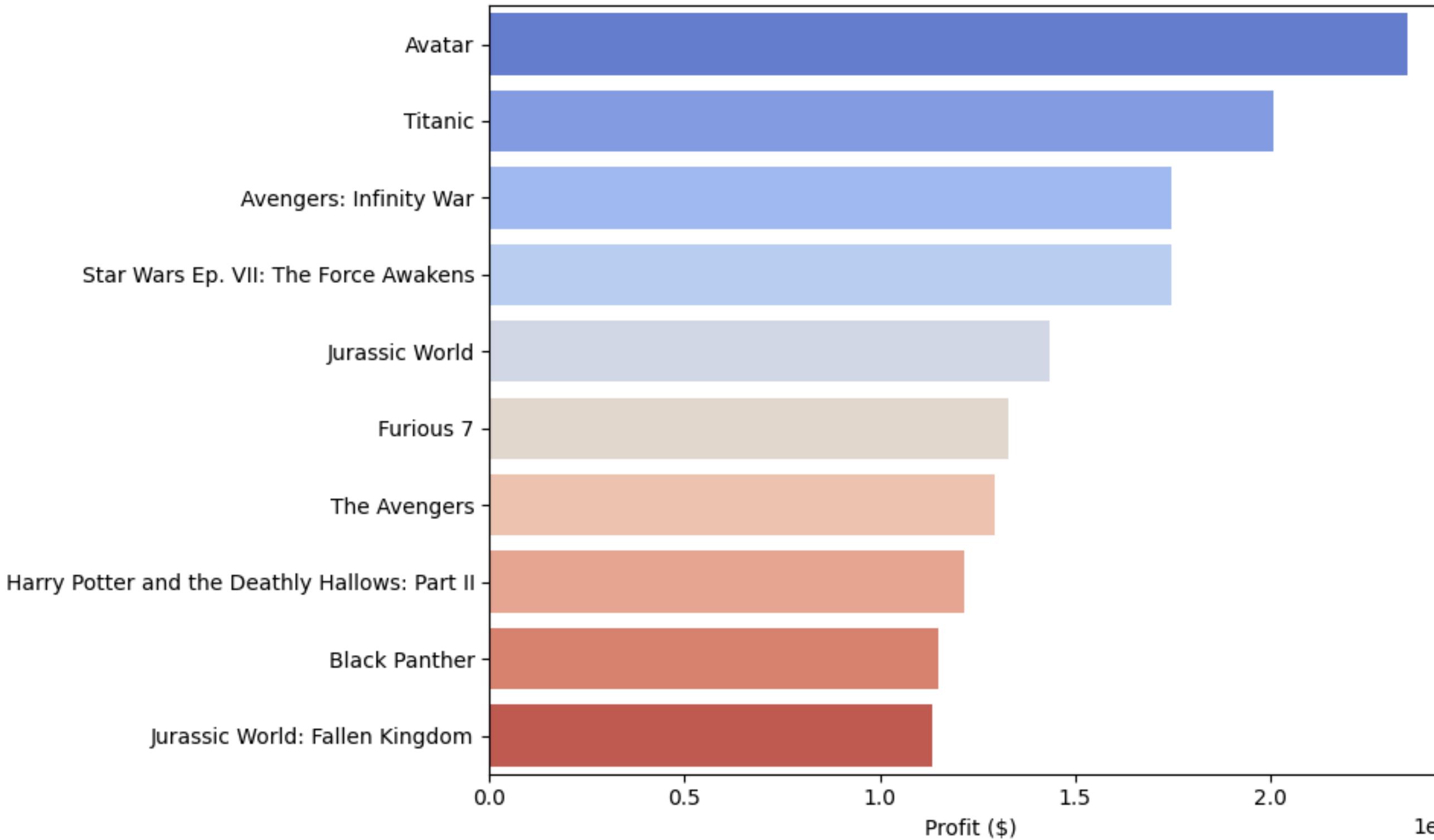
Month =
extracted from
release_date

ROI by Release Month



- Movies released in May–July and Nov–Dec have the highest ROI.
- Early-year releases (Jan–Mar) perform the weakest.
- Use timing as a secondary strategy, ensuring quality and audience targeting come first.

Top 10 Most Profitable Movies

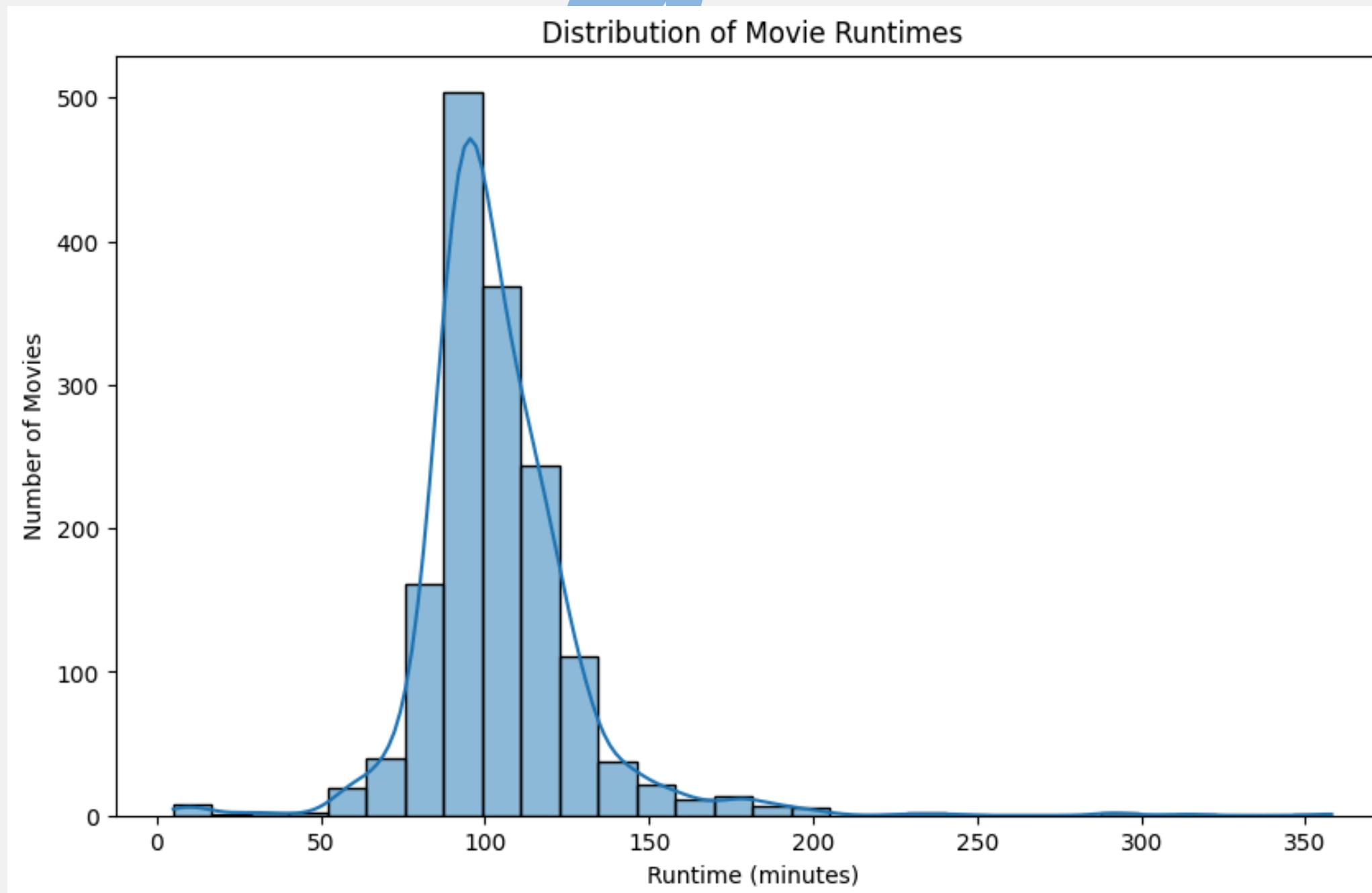


Top 10 Most Profitable Movies

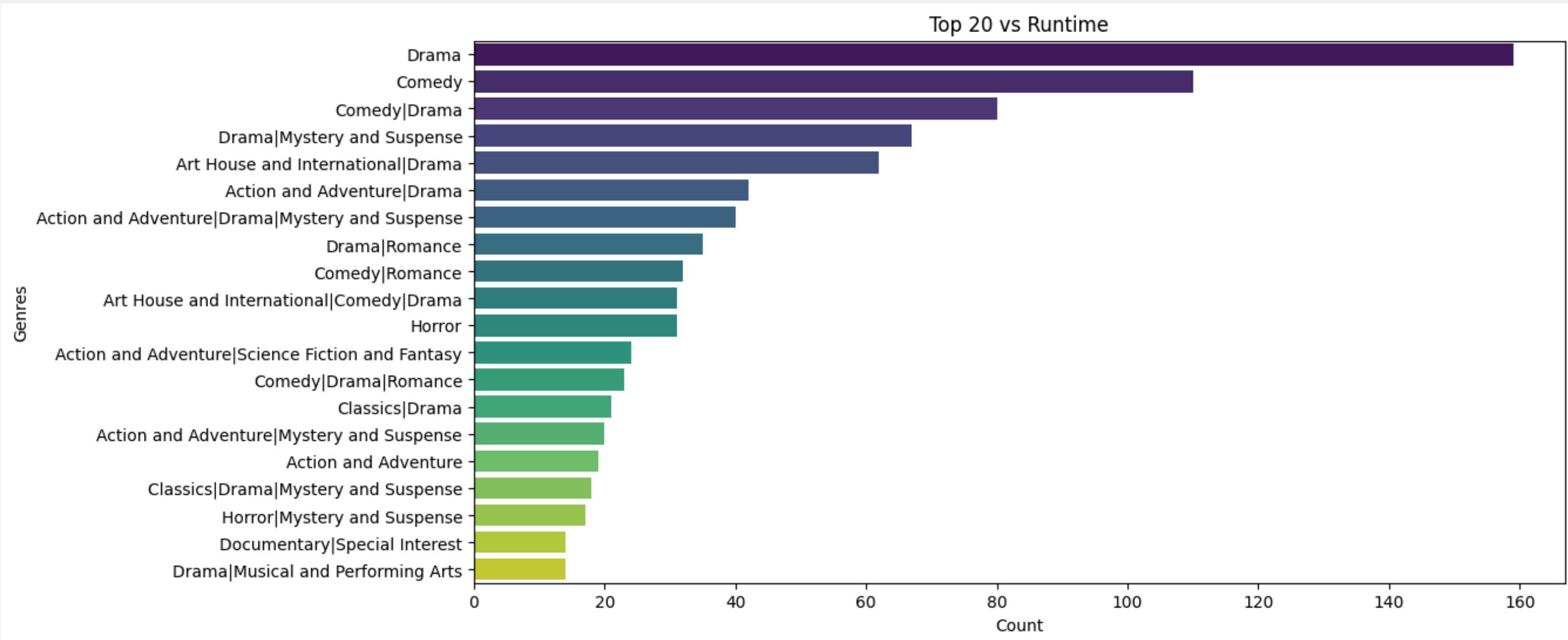
- A few blockbuster movies drive most of the industry's profits.
- High earnings do not always equal high ROI.

Runtime Distribution

- Most movies run between 90–130 minutes(median ≈ 100 min).
- Short films underperform; very long films risk audience drop-off.



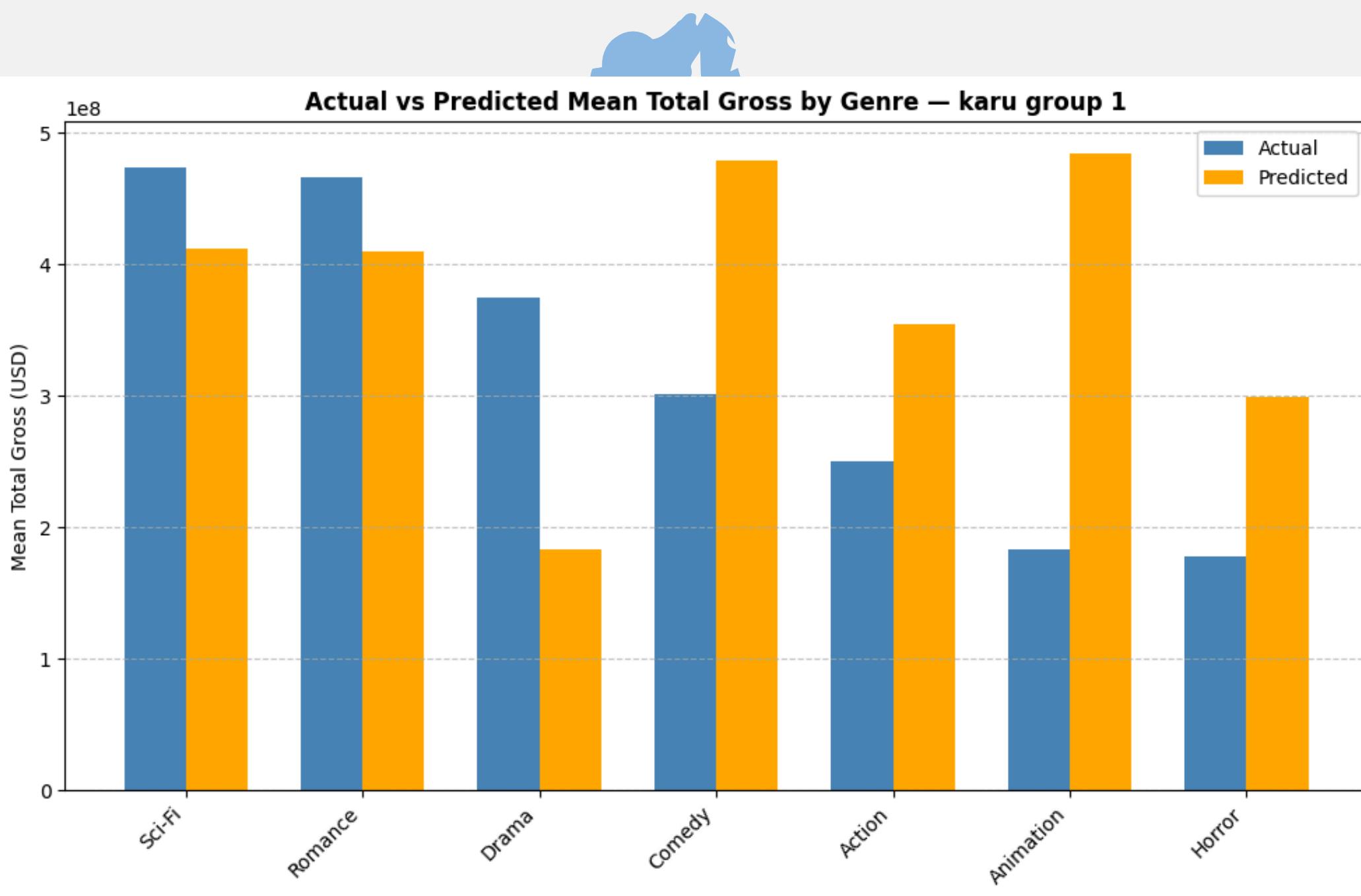
Genre vs Runtime



- Common genres: Drama, Comedy, Action.
- Dramas/comedies shorter; action/adventure longer.
- The 90–130 min range fits most genres.

Early Popularity vs Long-Term Success

- Invest Early in Marketing and Hype
- Long-term success depends on reviews ,storytelling, and global reach.



Conclusions

- Mid-budget films (\$30M–\$100M) perform best.
- Summer and holiday releases yield higher ROI.
- Ideal runtime: 90–130 minutes (~100 min).
- Early hype does help with success.



Recommendations

- Focus major releases during summer/holiday seasons.
- Invest more in mid-budget films; limit risky high budgets.
- Keep runtimes around 100 minutes.
- Invest Early in Marketing and Hype



Strategic Summary

To stay competitive:

Release strategically, not uniformly.

Spend smart, not necessarily big.

Keep runtimes engaging.

Focus on lasting audience appeal.

Thank you very much!

KARU Group 1
**Sheilla | Margaret | Benard | Bravian |
Isaac | Ibrahim**