

# **Movie Success Analysis**

**Guiding Data-Driven Decisions for Our New Studio**

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# Overview

## Goal:

- ▶ Identify key factors that drive box office success to guide our studio's production strategy.

## Approach:

- ▶ Analyze 3,000+ films (2010-2019) from **Box Office Mojo** and **IMDB**.
- ▶ Explore relationships among **genres, runtimes, audience ratings, and studio performance**.

**Outcome:** Adventure and Action films with strong audience approval and 90-130-minute runtimes consistently perform best.

# Business Understanding

- ▶ **Background:**  
The entertainment market is shifting rapidly as streaming and global distribution expand.
- ▶ Our company seeks to enter film production with a clear understanding of what makes a movie profitable.
- ▶ **Business Problem:**  
We lack insights into which types of films perform best commercially.
- ▶ **Goal:**  
Use data analysis to support smart investment and creative decisions.

# Data Understanding

## Sources:

- ▶ **Box Office Mojo:** revenue (domestic + international).
- ▶ **IMDB:** movie genres, runtimes, ratings, votes, and release years.

## Key Variables:

- ▶ domestic\_gross, foreign\_gross → movie earnings
- ▶ averagerating, numvotes → audience response
- ▶ runtime\_minutes, genres, studio → production traits

## Why These Data:

They connect what audiences see and rate with how films perform financially.

# Data Analysis Approach

- ▶ While analysis was done using **Python (pandas, matplotlib, seaborn, SQLite)**, the focus is on *interpreting insights*, not the code.  
We explored:
- ▶ **Genre performance** — which categories earn the most.
- ▶ **Ratings impact** — does audience approval predict earnings?
- ▶ **Runtime correlation** — is there an optimal length?

# Hypothesis Testing: Genre vs. Box Office Success

**Objective:** Test whether movie genre is significantly related to box office performance.

**Method:** Chi-Square Test of Independence

- ▶  $H_0$ : No relationship between movie genre and box office success.
- ▶  $H_1$ : A relationship exists.

**Results:**

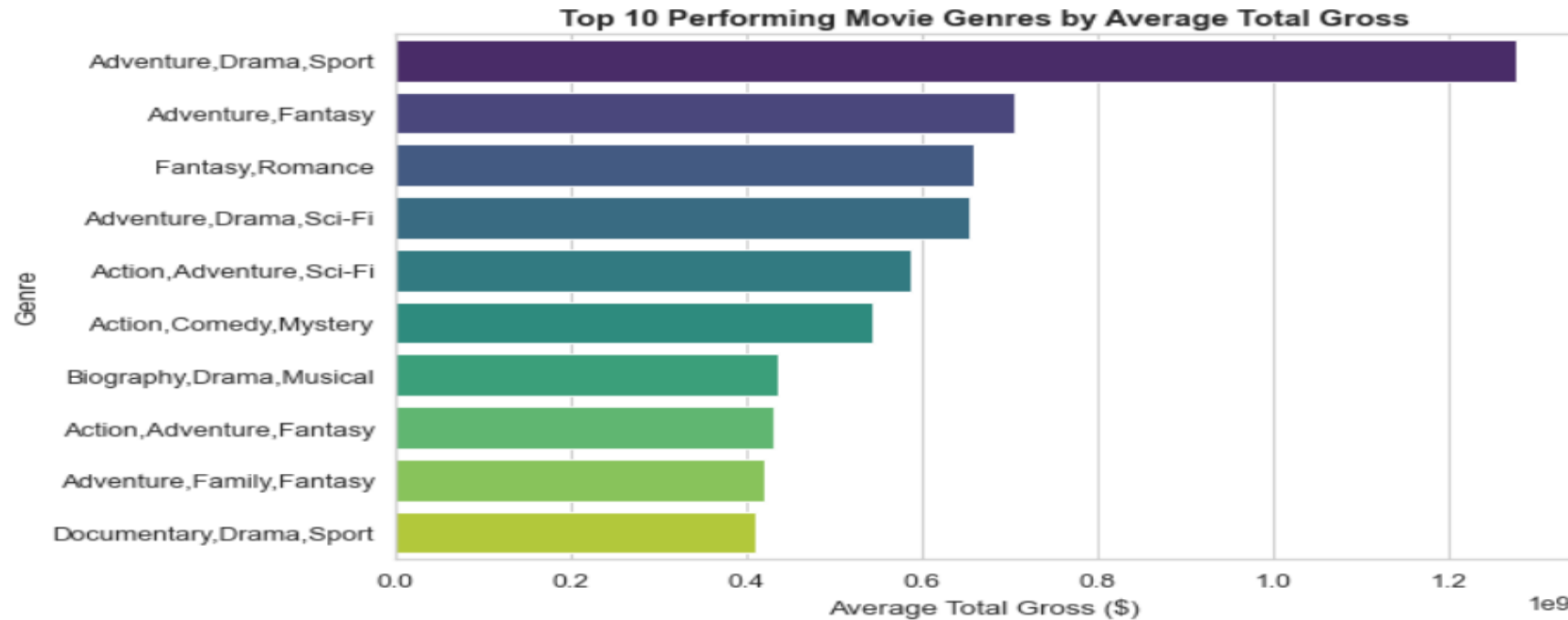
- ▶  $\chi^2 = 736.65$
- ▶  $p\text{-value} = 1.06 \times 10^{-34}$
- ▶  $df = 321$

**Interpretation:**

Since the  $p\text{-value} < 0.05$ , we **reject  $H_0$** .

✓ **Conclusion:** Movie genre has a statistically significant relationship with box office success.

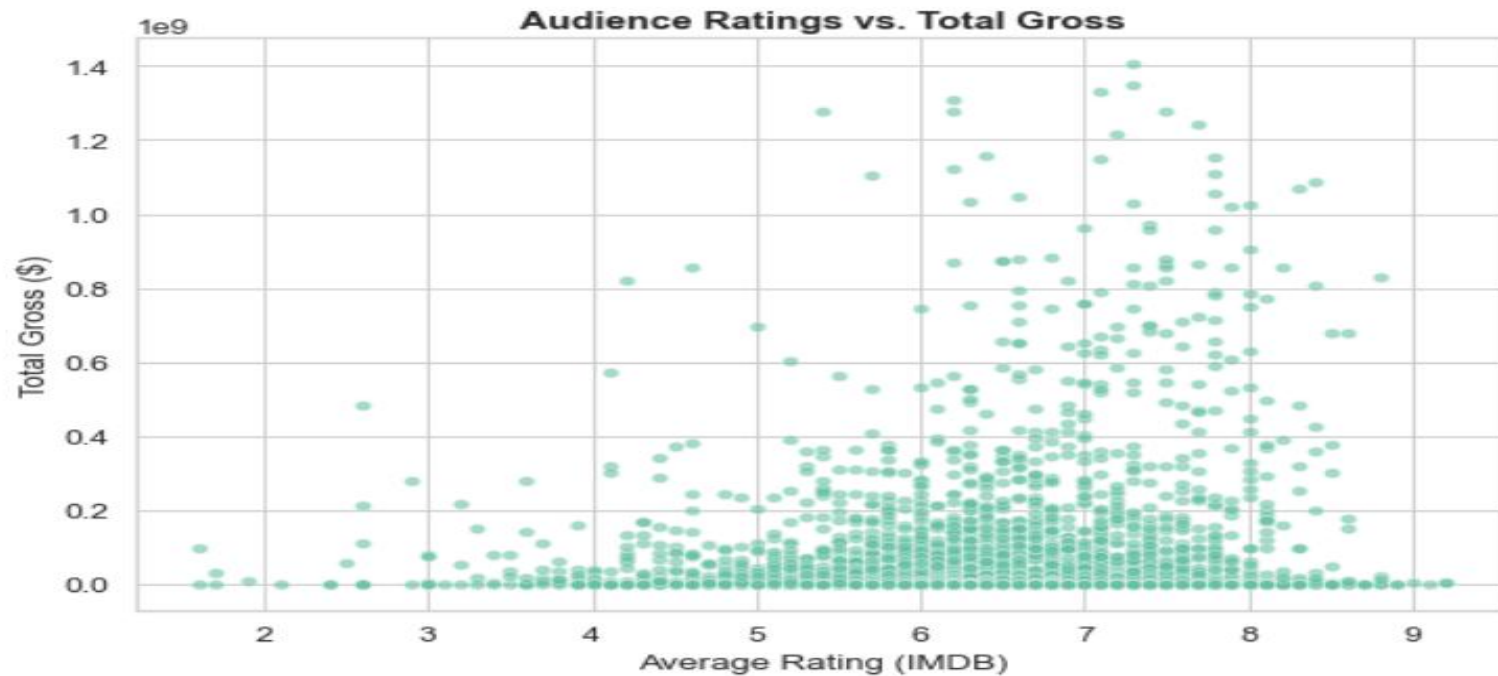
# Top Performing Genres



**Insight:** Adventure and Action-based genres dominate global box-office revenue, especially when combined with Drama or Fantasy.

**Business Implication:** Invest in visually engaging, emotionally rich Adventure-Action hybrids.

# Ratings vs. Box Office

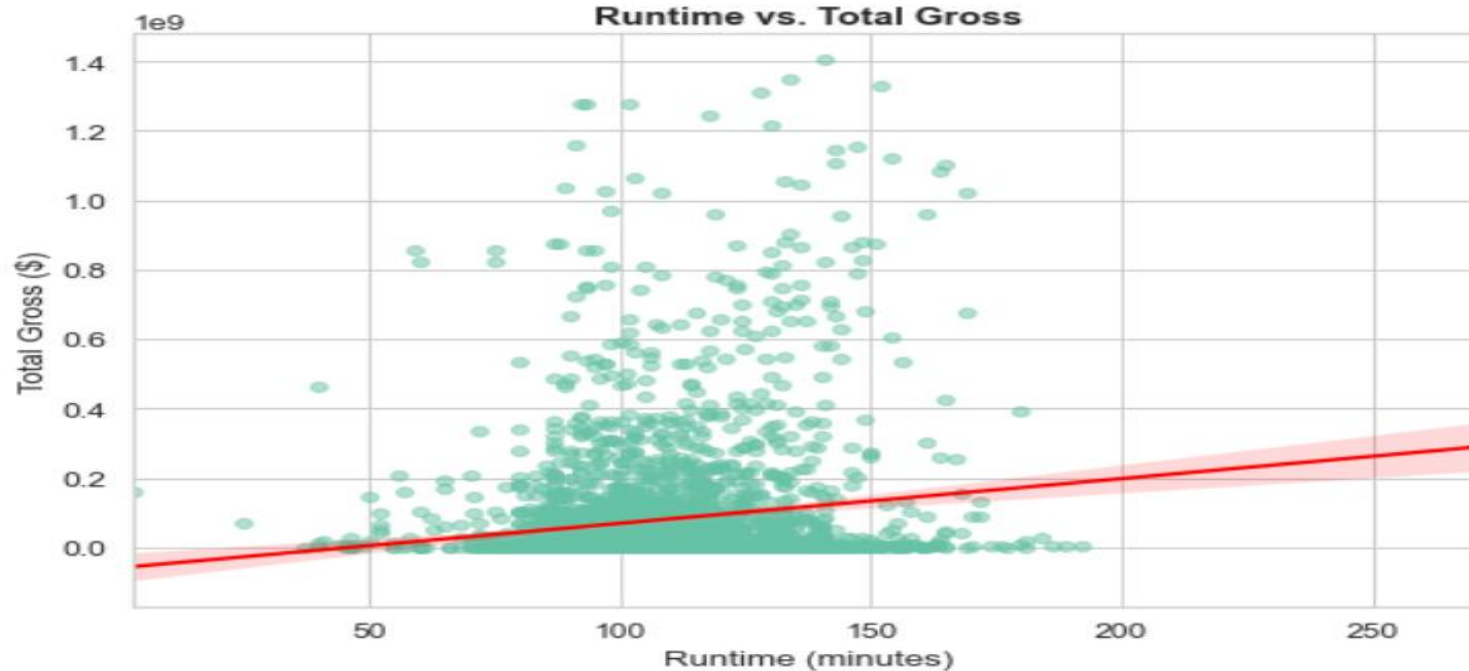


**Insight:** Movies with IMDB ratings above 6.0 consistently earn higher revenues.

**Business Implication:** Focus on story quality and audience satisfaction through strong scripts and editing.



# Runtime vs. Box Office



**Insight:** Films between 90-130 minutes perform best, balancing storytelling depth and audience attention.

**Business Implication:** Maintain optimal runtime; avoid overly short or excessively long productions.

# Recommendations

- ▶ Prioritize Profitable Genres: Focus on Adventure, Action, and Fantasy with emotional storytelling.
- ▶ Emphasize Quality: Target IMDb-equivalent ratings  $\geq 6.0$  through strong writing and production value.
- ▶ Optimize Runtime: Keep films between 90-130 minutes for maximum engagement.
- ▶ Leverage Experience: Collaborate with or hire from top studios (BV, P/DW, WB) to replicate proven success models.

# Next Steps

- ▶ Deepen analysis with release timing and budget data.
- ▶ Conduct market testing and audience surveys.
- ▶ Develop predictive models for revenue estimation.
- ▶ Apply insights to select first production slate (3-5 Adventure/Action titles).

# Thank You

💬 Questions?

📌 Contact Information Names

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