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# Movie Insights

## A Data Science Study of High-Performing Movies at the Box Office

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# Outline

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# Overview

## Description

- This project examines global movie performance with a focus on **genres**, **studios**, and **financial outcomes**.
- It highlights key drivers of **box office success**, including revenue composition and seasonal release patterns, to support strategic decision-making.



# Overview

## Goals

- Identify top-performing **genres** and **studios**.
- Examine **financial trends** (budget, revenue, profit).
- Detect **seasonality in movie releases**.
- Provide **data-driven recommendations** for strategic decision-making.

# Business Understanding

## Business Problem :

A new movie studio is entering the movie industry.

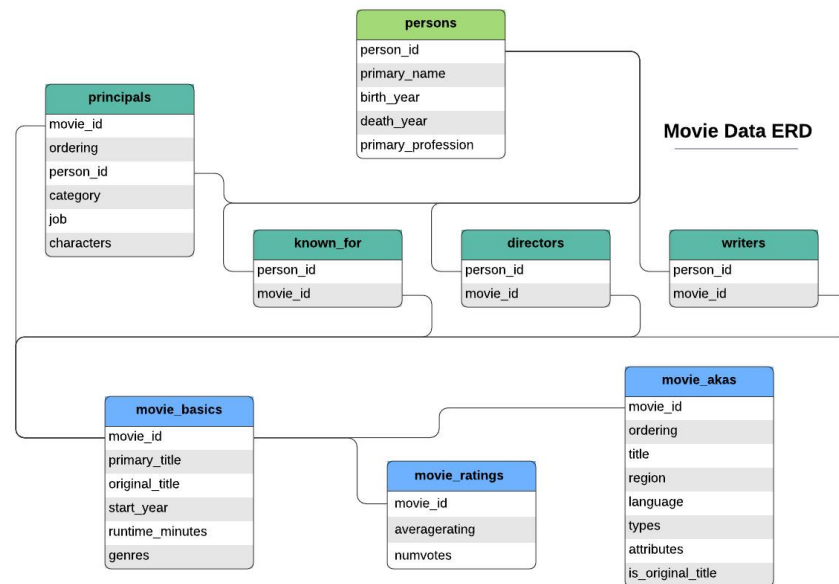
1. What types of films should be produced to maximize profitability?
2. How can the studio attract large audiences and build market presence?



# Data Understanding

## Data Sources:

- Box Office Mojo (BOM)
- IMDB
- Rotten Tomatoes
- The MovieDB
- The Numbers



# Data Understanding

## Methods

- **Exploratory Data Analysis (EDA):** Identify Top genres, studios and financial trends and seasonal patterns.
- **Diagnostics Analysis:** Apply correlation tests and statistical checks to validate insights
- **Recommendations:** Translate findings into actionable strategies for new studios.

# Data Understanding

## Key Variables:

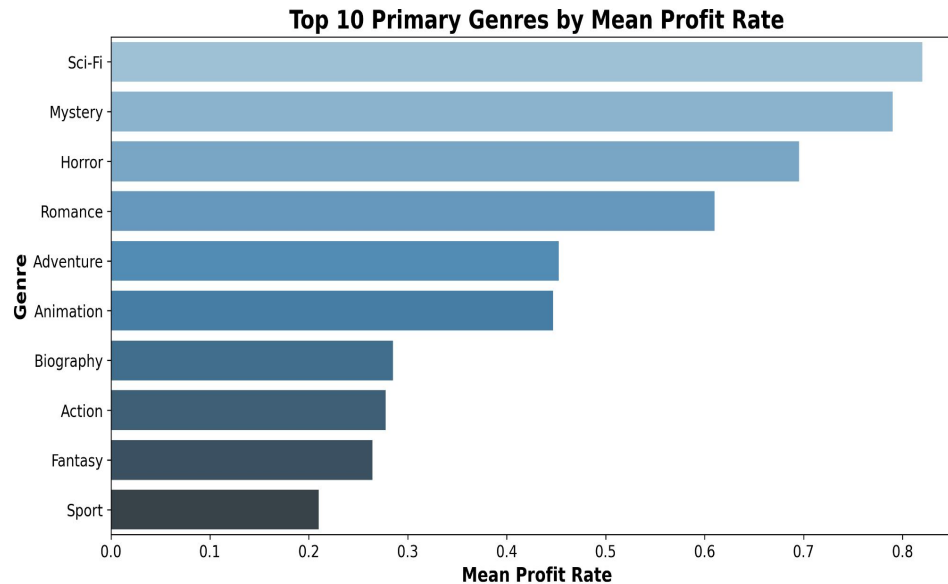
- **Movie Attributes:** Genre, Studio, Release Year
- **Financial Metrics:** Revenue, Profit, Production Budget
- **Audience Metrics:** Number of Votes, Ratings



# Data Analysis

## Financial Analyst

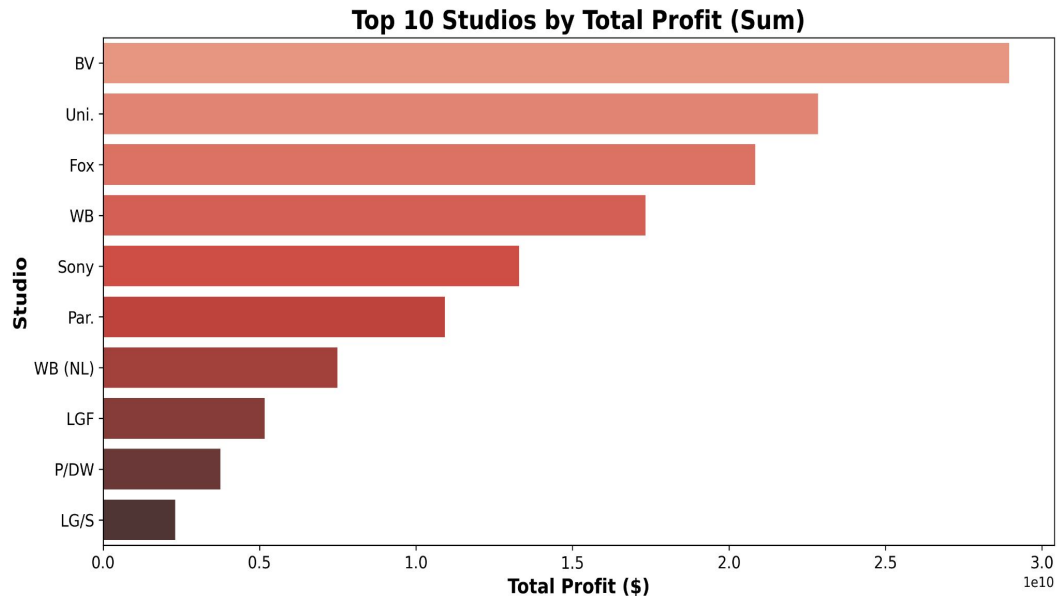
- **SCI-FI, Mystery, and Horror** are the most profitable genres.
- Genres like **Action** and **Drama** generate lower average profits



# Data Analysis

## Financial Analyst

- Studios like BV, Uni., and Fox, consistently deliver the highest profitability

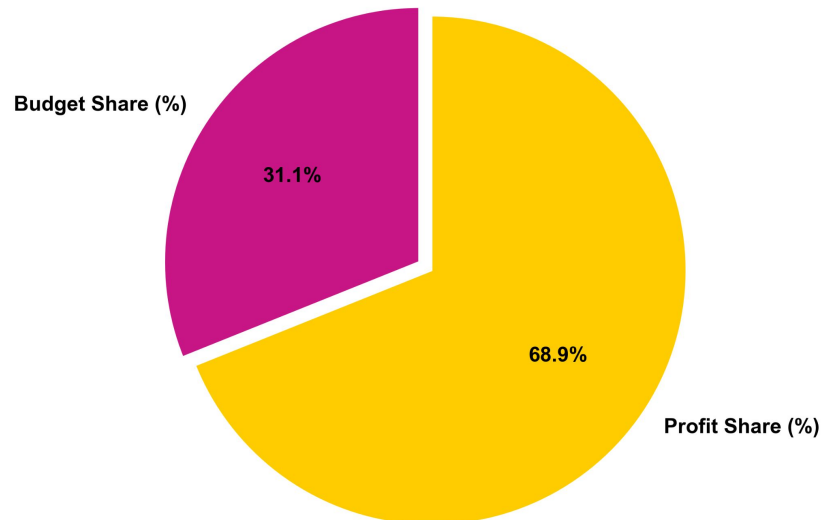


# Data Analysis

## Financial Analyst

- On average, across all studios, movies generate more than double their production costs
- That shows strong profitability potential industry-wide

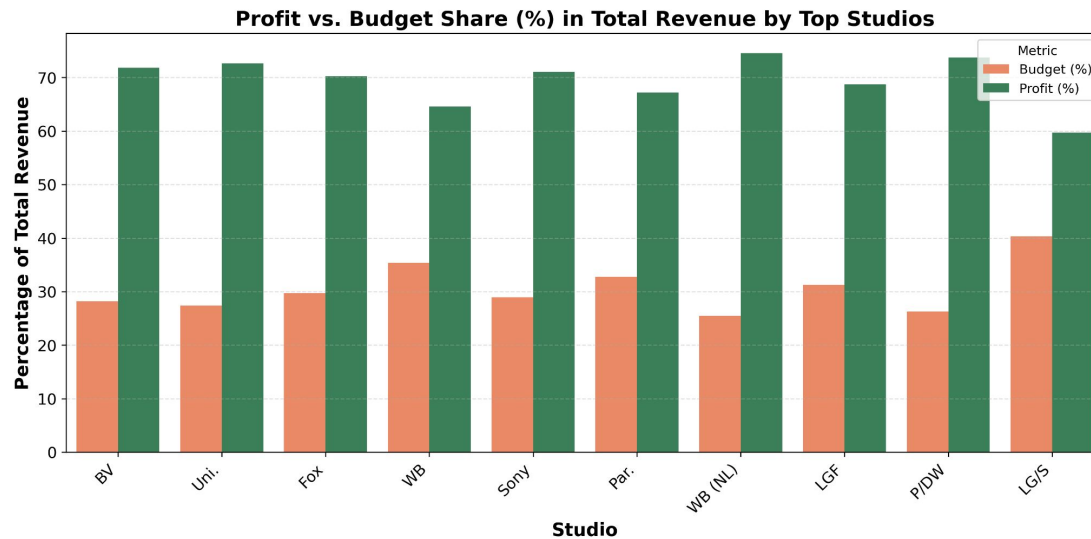
Average Profit vs Budget Share in Average Total Revenue (All Studios)



# Data Analysis

## Financial Analyst

- Top studios like BV, Uni. and Fox capture nearly 70% of total profits, showing market dominance.

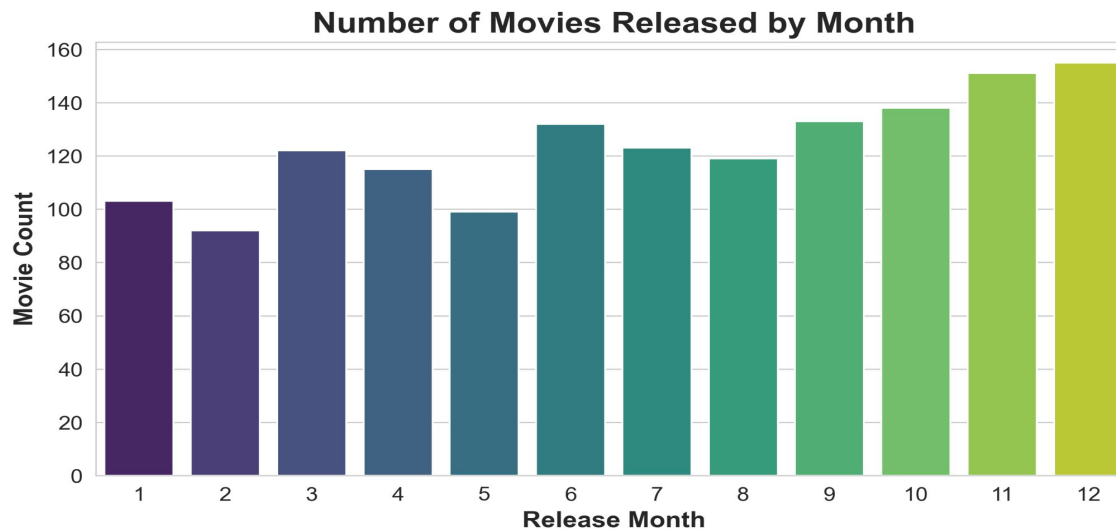


# Data Analysis

## Financial Analyst

Movie releases peak during certain months, such as

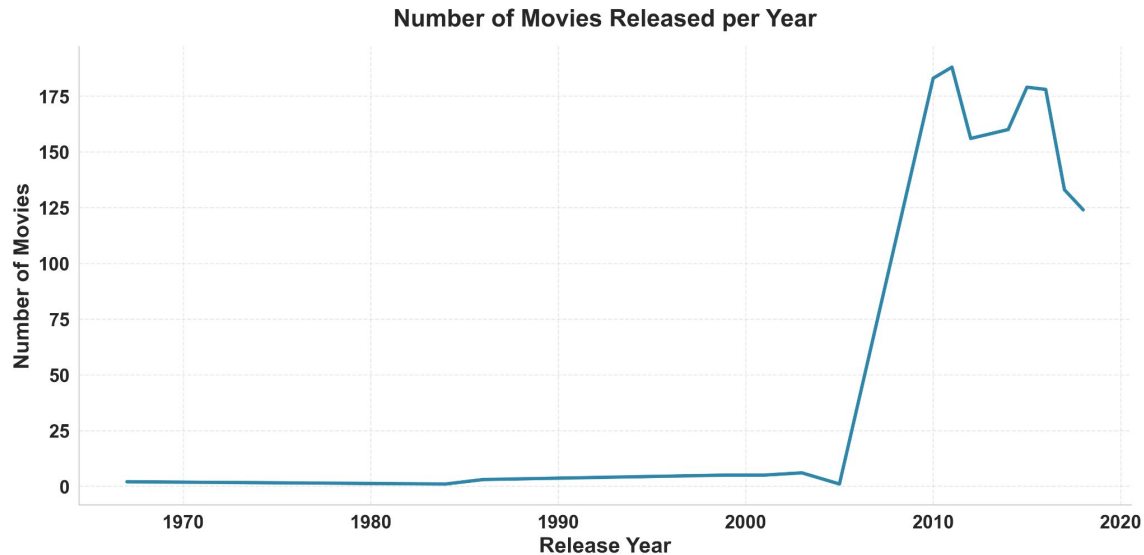
- Year-end holidays (~140–155 releases) and
- Summer (~120–130 releases),
- That highlights key periods for maximizing audience engagement



# Data Analysis

## Seasonality & Financial Trends

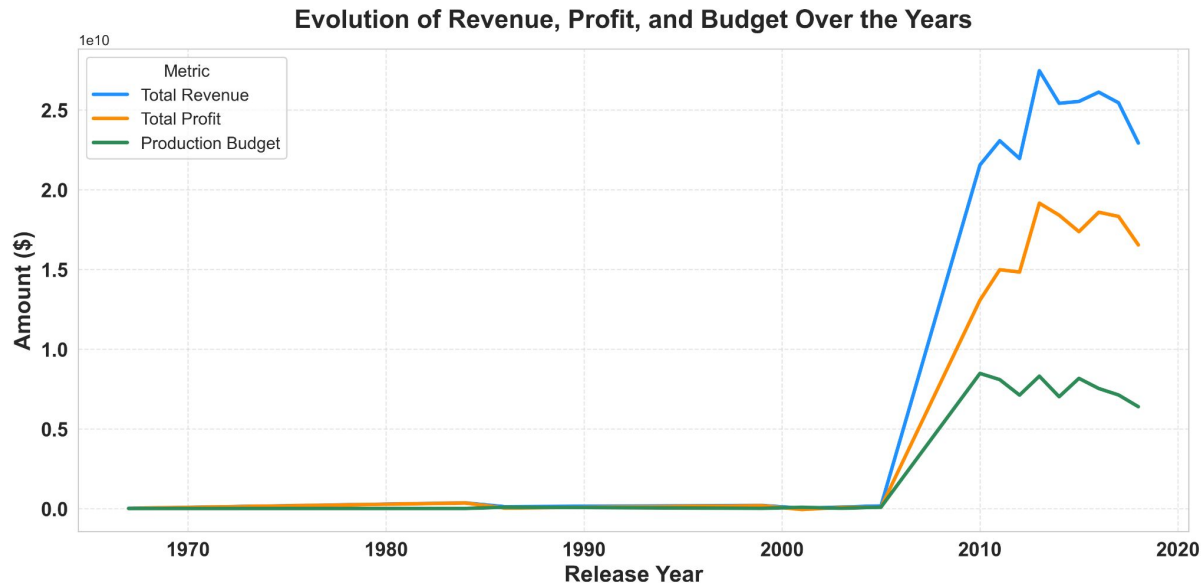
- Movie releases peak in certain years (2010-2018)
- strategic timing can enhance audience reach.



# Data Analysis

## Seasonality & Financial Trends

- Years like 2008–2018 show spikes in revenue and profit relative to production budget,
- That highlights periods of exceptional returns and industry growth over time



# Data Analysis

## Diagnostic Insights

- Higher production budgets are generally associated with greater revenue and moderate profit.
- Movies with strong audience engagement, measured by votes, also tend to perform better financially
- **Revenue Differences by Genre:** Revenue varies significantly across genres, with top genres consistently outperforming others at the box office.



# Data Analysis

## Diagnostic Insights

- Profitability differs markedly between studios, with leading studios achieving higher returns.
- Both genre selection and studio identity are key factors driving financial performance.

# Results

## 1. Performance Ranking

- Top Studios : BV, Uni., and Fox are the studios generating the highest total profits among all studios.
- Production Volume : Uni. produced the highest number of movies (156 films), followed by Fox (130 films).
- SCI-FI, MYSTERY and HORROR have the highest mean profit rates, around 80%,
- ACTION , despite being the most frequent genre, achieves only about 30% mean profit rate.
- Most Common Genres : Action and Drama dominate in number of movies, with 409 and 302 films, respectively.

# Results

## 2. Revenue Composition Analysis

- On average, 31.1% of total revenue is allocated to production budgets, while 68.9% constitutes profit.
- This indicates high profitability margins, with movies generating more than twice their budget in revenue on average.
- Top studios such as BV, Uni., and Fox achieve even higher margins, with profits representing about 70% of their revenue.

# Results

## 3. Diagnostic Findings:

- Higher production budgets are associated with greater total revenue and moderately higher profits.
- Revenue Differences by Genre : An ANOVA test across the top 10 movie genres shows a highly significant difference in total revenue
- Profit Differences by Studio: An ANOVA test across the top 10 studios shows a significant difference in total profit.
- This indicates that Some studios consistently achieve higher profits.

# Recommendations

## 1. **Prioritize High-Performing Genres**

Focus on SCI-FI, Mystery, and Horror to maximize box office revenue.

## 2. **Learn from Top Studios**

Study strategies of leading studios (BV, Uni., Fox) to understand what drives higher profits.

## 3. **Pursue Strategic Partnerships**

Collaborate with top-performing studios to leverage expertise and reduce market risks.

## 4. **Optimize production budgets to maximize profits**

Invest adequately in production to enhance revenue and profit, while considering audience engagement metrics.

# Next Steps

- **Monitor Performance:**  
Track revenue, profit, and audience engagement continuously.
- **Forecast Future Hits:**  
Use budget, genre, studio, and seasonal trends to predict outcomes.
- **Leverage Partnerships:**  
Collaborate with top studios to reduce risk and gain expertise.
- **Optimize Release Timing:**  
Align releases with peak months and targeted marketing.
- **Diversify Genres:**  
Prioritize high-profit genres, but test others with controlled budgets.

# END !

- Questions?



# END !

***Thank you for your attention!***

**Feel free to reach out!**

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