New-Movie-Studio

Movie Analysis

Overview.

The movie analysis analyzes financial data**(production_budget, worldwide_gross, domestic_gross and foreign_gross)** and audience preference from the film industry to understand what leads to success of each movie or genre.

Bivariate analysis was used to find the **Return on Investment**, in the analysis genres with high ROI and low production budget tend to be the most financially viable.These genres, in our case Horror, offer the best opportunity for maximizing profit with minimal investment.

Directors with good audience relation or experience tend to lead to a higher worldwide_gross.

Business Understanding.

The goal of the analysis is to determine whether production budgets influences worldwide gross which helps studios make more informed investment decisions.

Stake holders include;

- Studio Executives or Investors - Wants to maximize ROI from the films.
- Producers and Production managers - Need to understand budget thresholds that lead to profitable outcome.
- Marketing Team - Interested in knowing which genres, budgets or directors tend to generate more revenue.
- Audience(external stake-holder)- determines part of the revenue the films generate.

Data Understanding.

The dataset includes information on movie **titles**, **genres**, **production budgets**, **worldwide gross**, and **release years**.

Additional fields like **director names**, **vote counts**, and **ratings** were included in the analysis.

Budget and revenue figures were cleaned and converted to numeric format to enable financial calculations.
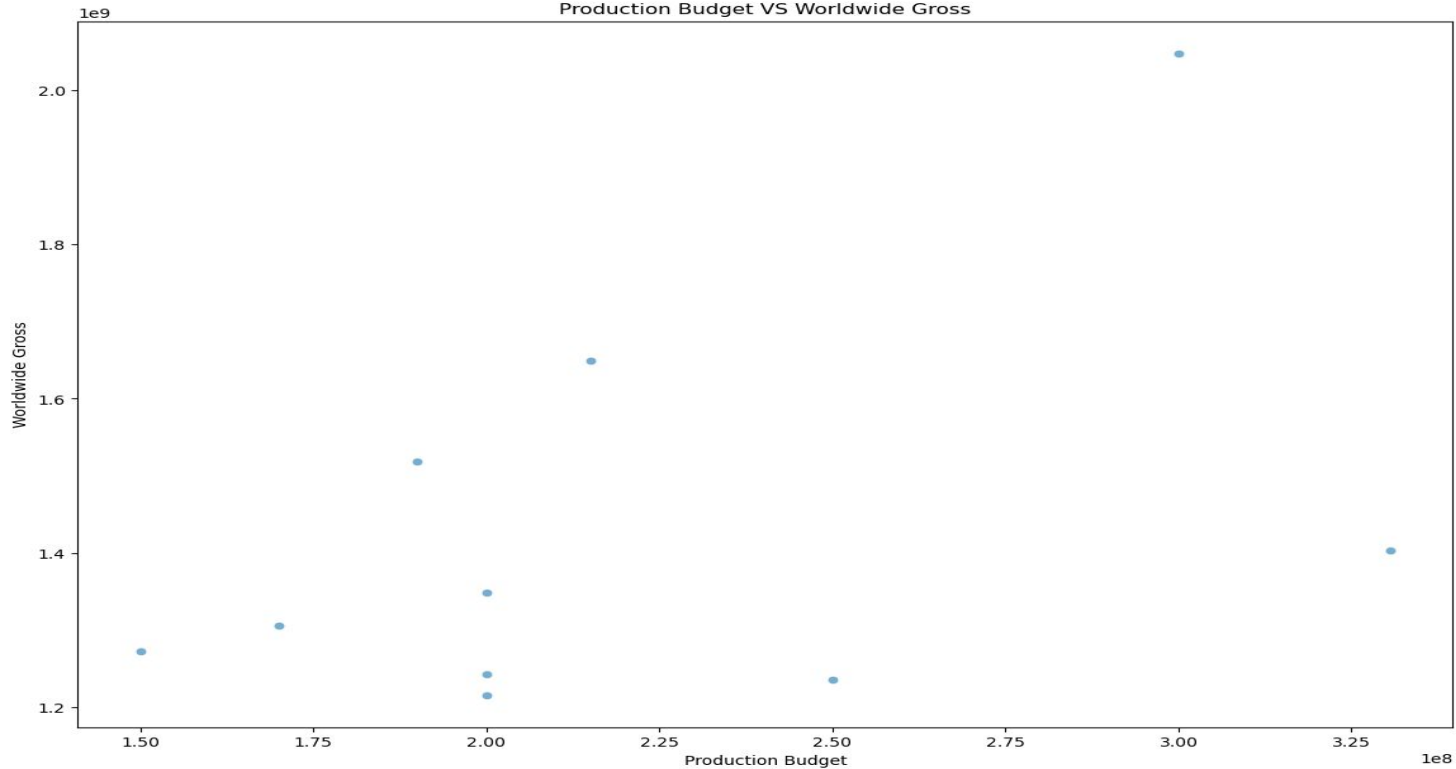
Release date was changed to date-time format.

A new column was made , **Return on Investment (ROI)(worldwide_gross - production budget)/ productoin_budget.**

Data Analysis; Correlation of production budget against Worldwide Gross.

Correlation analysis was performed to explore correlation the between **production budget** and worldwide gross variables across different genres.A **correlation coefficient of 0.78** indicates a strong positive linear relationship between the two variables. In our analysis it is shown that, as **production budget increases**, the **worldwide gross revenue** also tends to **increase s**ignificantly. This is shown in the plot below;

Correlation of production budget against worldwide gross.
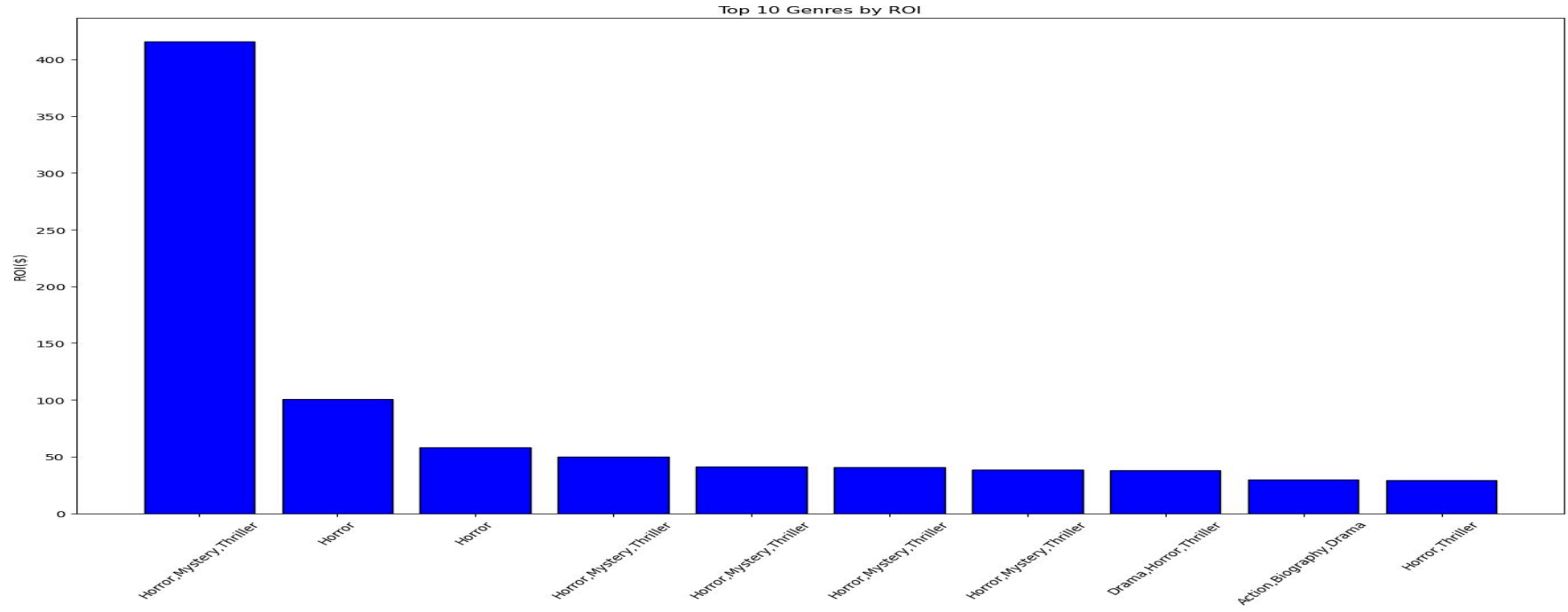

Production Budget VS Worldwide Gross

Data Analysis; Return On Investment.

Genres were compared to identify patterns of **high ROI with low production cost**,some genres consistently show **higher ROI**, even with **lower production budgets**, making them more viable for investment. Genres like **Horror, Mystery, Thriller** had **high ROI** with relatively **low production costs**.

Big-budget genres like **Action, Adventure, Sci-Fi** often had **lower ROI** despite high gross revenues, due to their large investments.

ROI is used to show potential investors which genres generally generates **profit.** This is shown in the plot below;

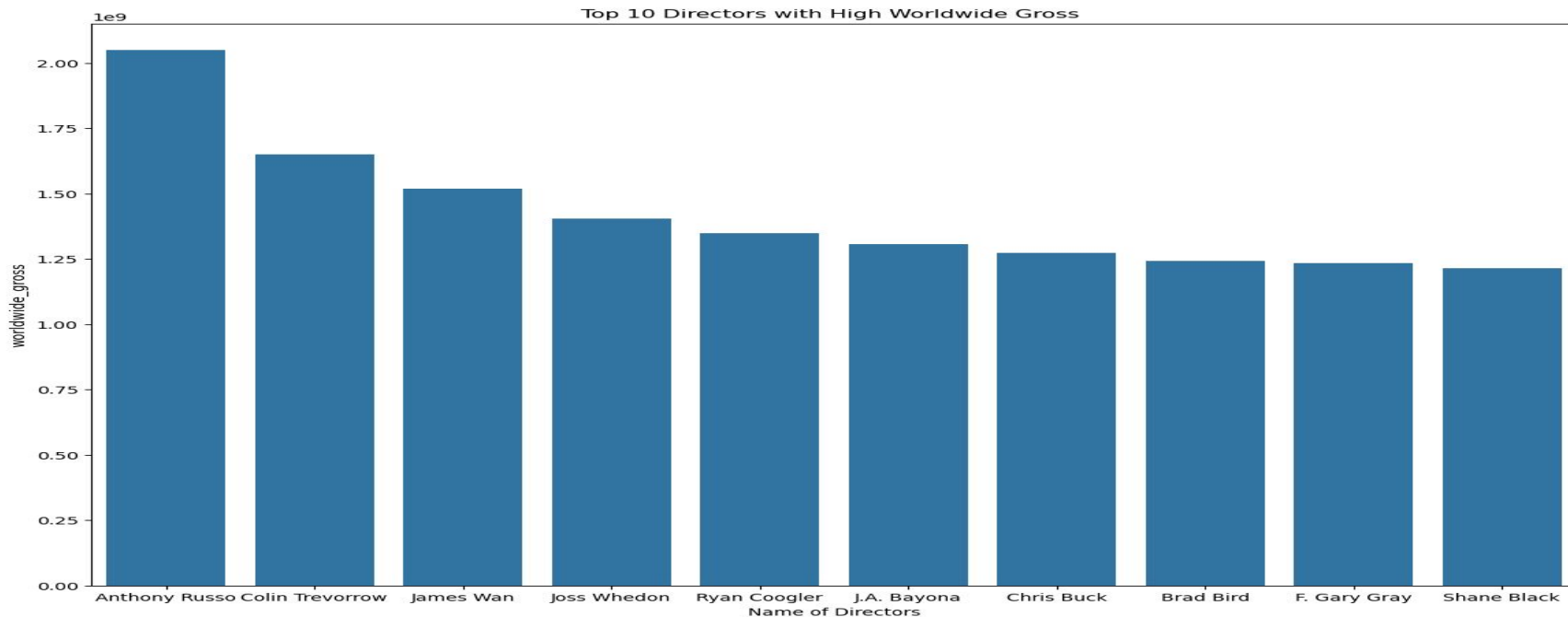# Return On Investment.

Top 10 Genres by ROI

Data Analysis; Director and Worldwide Gross.

Certain directors tend to focus on genres with **high worldwide_gross**, suggesting a strategic alignment for profit.

For example Antony Russo frequently directs in the **Action, Adventure, Sci-Fi** genre, which had a low ROI performance, this shows that movies having a hgh worldwide gross does not necessarily mean a high ROI. Number of votes from the audience does not also necessarily mean that certain directors categories are not doing well.

This insight can help identify **director–genre pairings** that are both consistent and financially successful. This is shown in the plot below;

Director and worldwide Gross.

Top 10 Directors with High Worldwide Gross

Recommendations.

- Invest in genres with **high ROI and low production budgets** (Horror, Mystery, Thriller).
- Prioritize collaborations with directors experienced in the shown profitable genres from the analysis.
- Use data insights to have a clear forecasting in what films or genres should be invested in.

Next Steps.

- Deepen the analysis by incorporating marketing cost and more audience demographics.
- Monitor genre trends over time for long-term investment planning.
- Explore additional features like cast popularity and distribution channels.
- Expand analysis to include streaming performance and include the detailed audience engagement.

Thank You!

Any Questions? I'd be happy to answer.

✉️ **Valerie Wamwitha.**

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