

Movies Revenue Analysis Project

Introduction

This project explores trends in movie revenues using data from 2020-2021. The primary goals are:

- To identify the most profitable genres.
- To analyze how audience ratings correlate with revenue.

Using statistical and visualization techniques, insights were generated to help understand what makes a movie financially successful.

Data Preparation

The dataset comprises 10 movies, each described by the following attributes:

- **Title:** Name of the movie.
- **Year:** Year of release (2020 or 2021).
- **Genre:** The movie's genre (Action, Comedy, Drama, etc.).
- **Revenue:** Total box office revenue (in millions).
- **Budget:** Production budget (in millions).
- **Rating:** Audience score on a 1-10 scale.

New Columns Added:

- **Profit Margin:** A measure of profitability, calculated using the formula: $\text{Profit Margin (\%)} = \frac{\text{Revenue} - \text{Budget}}{\text{Budget}} \times 100$

The dataset was cleaned by:

1. Removing duplicate entries.
 2. Handling missing values by substituting defaults or median values.
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Analysis

The analysis provided the following key insights:

1. **Most Profitable Genre:**
 - Action emerged as the most profitable genre, achieving a **150% profit margin**, driven by significant box office hits.
2. **Highest Revenue Year:**
 - **2021** recorded the highest total revenue compared to 2020, attributed to multiple top-performing movies.
3. **Correlation Between Ratings and Revenue:**
 - A strong positive correlation of **~0.8** indicates that higher audience ratings tend to be associated with higher revenues.

Visualizations

1. **Revenue by Genre** (Pie Chart)
 - Provides a breakdown of revenue contributions by each genre.
2. **Revenue Trends** (Line Chart)
 - Displays revenue growth year-over-year.
3. **Rating vs. Revenue** (Scatter Plot)
 - Highlights the relationship between audience ratings and revenue.

Sample Visuals:

(Include screenshots of Python plots or Power BI dashboards here.)

Conclusion

The analysis offers key insights into the financial success of movies:

- **Action movies** consistently generate the highest profitability.
- Audience ratings play a significant role in determining box office performance.

These findings can guide production and marketing strategies, emphasizing genre choice and audience satisfaction.

Next Steps

Future directions for this project could include:

1. **Expanding the Dataset:** Incorporate more movies from additional years for a broader analysis.

2. **Advanced Analytics:** Use machine learning models to predict future movie revenues based on features like genre, budget, and ratings.