Microsoft Films

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Outline

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Analysis

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Thank You & Questions

Analysis Goals

1. Discover which types of films are currently performing "the best" at the box office.

2. Define **"the best"** as the **most profitable.**

   a. Thus made my deductions based on metrics of:

      i. **Net profit**

      ii. **Return on investment (ROI)**

3. Using these metrics, find correlations to movie **genres**, **actors**, **directors**, and **writers.**

4. Create actionable recommendations to guide the development of successful films.

Net Profit vs ROI

- Both are good ways of representing profitability.
- **Net profit** does not take cost into account.
- **Return on Investment (ROI)** does take cost into account.
- Both were used as a new streaming service may need big feature films, and other smaller "filler" films with lower budgets.
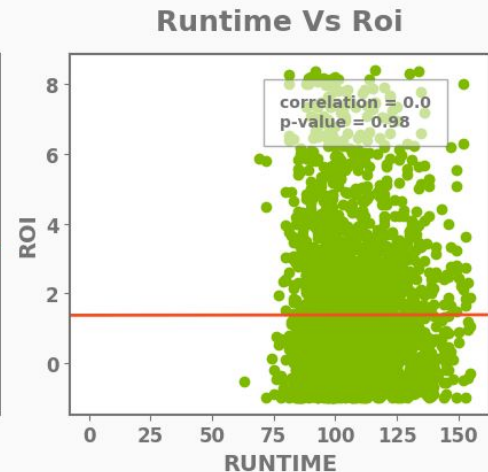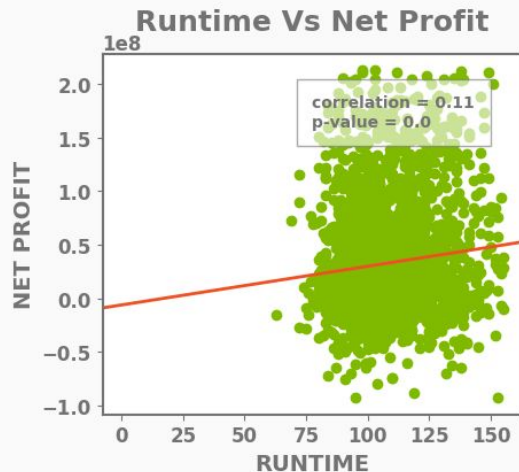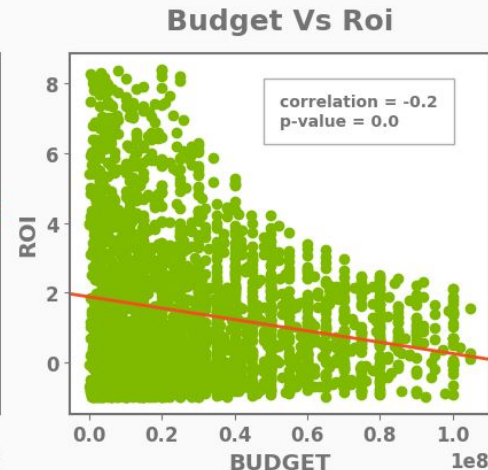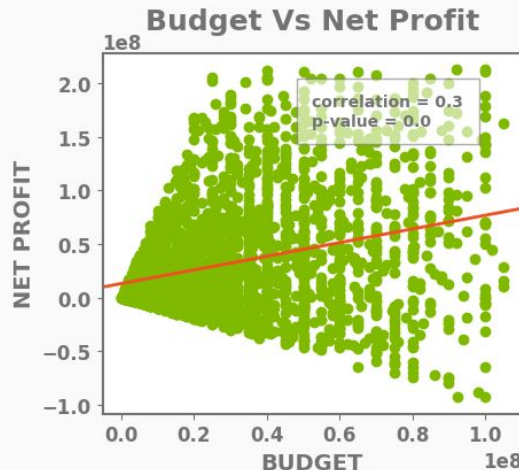
Data

- **TMDB 5000 Movie Dataset**
  - Contains information about movie:
    - Title
    - Profit
    - Budget
    - Genre
    - Cast
    - Crew
    - Runtime
- Outliers were removed based on Net profit and ROI.

Analyses

Budget and Runtime Analysis

- Increase in budget leads to higher net profit.
  - Spend more to make more
  - Weak correlation
- Increase in budget leads to a smaller return on investment.
  - Weak correlation
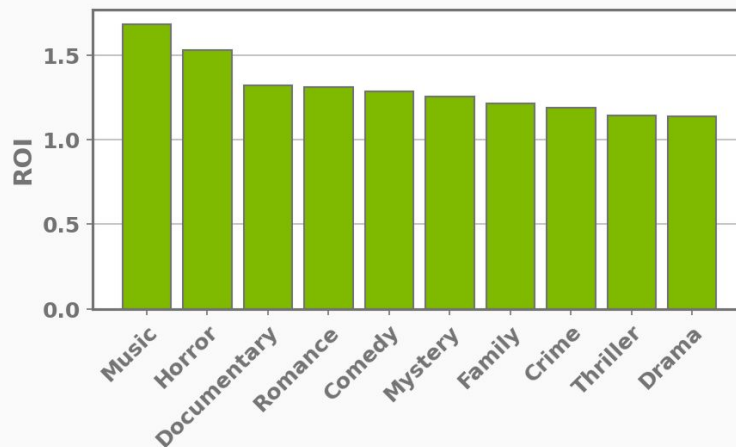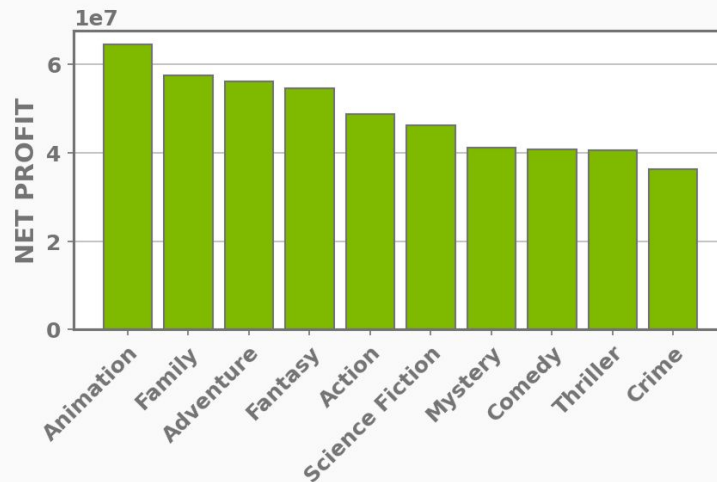- No correlation between the length of a film and either net profit or ROI.

Linear Regression Correlations

Budget Vs Net Profit

correlation = 0.3
p-value = 0.0

Budget Vs Roi

correlation = -0.2
p-value = 0.0

Runtime Vs Net Profit

correlation = 0.11
p-value = 0.0

Runtime Vs Roi

correlation = 0.0
p-value = 0.98

Genre Analysis

- High net profit genres have larger budgets
  - Eg. Animation or Fantasy
- High ROI genres have smaller budgets
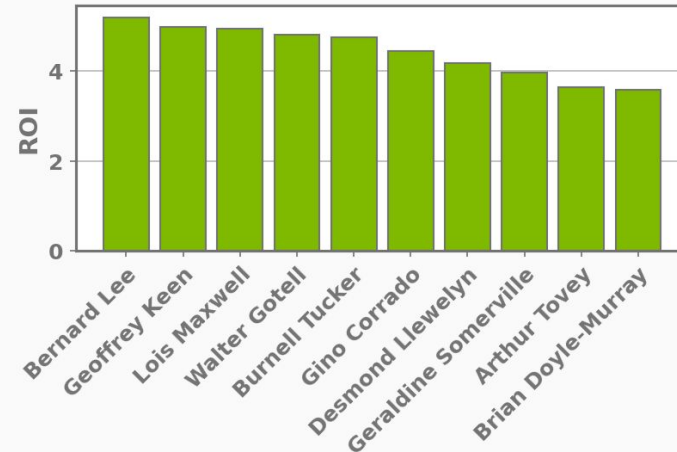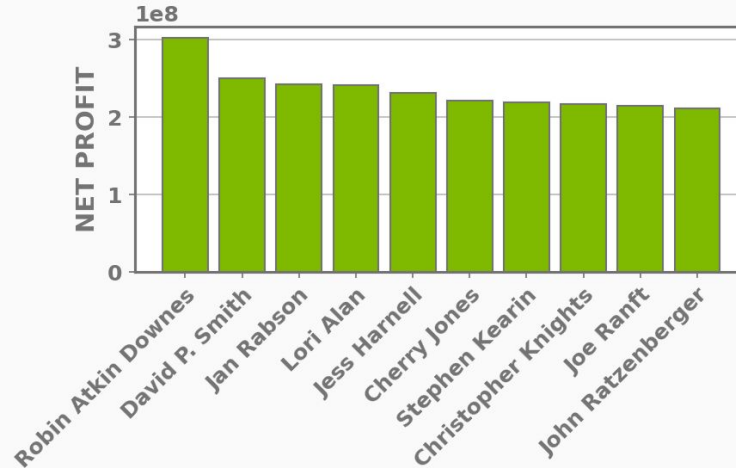 - Eg. Horror or Documentary

Most Profitable Genres

Cast / Actor Analysis

- Only actors that have been in **more than 5 films** were analyzed.
  - More likely to reflect their effect on the film than vice versa.
  - Reduced the number of small characters in successful films skewing the results.
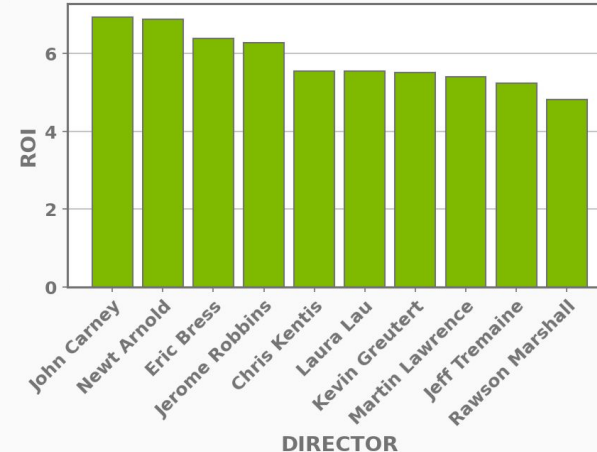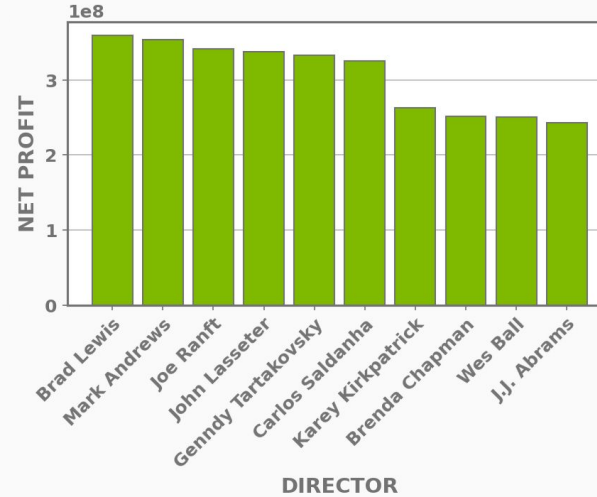- The actors do not seem to have a large effect on the film's success with outliers excluded.

Highest Valued Actors

Director Analysis

- Only directors that have directed **more than 3 films** were analyzed.
  - More likely to reflect their effect on the film than vice versa.
- Top directors by net profit include more big names than by ROI.
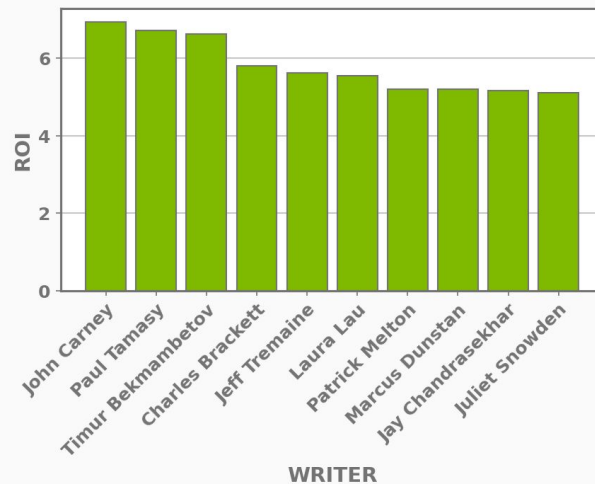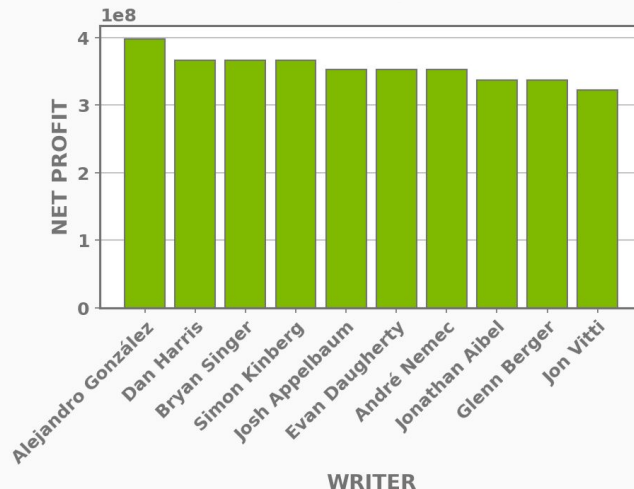- Will show more in the recommendations.

Highest Valued Directors

Writer Analysis

- Only directors that have directed **more than 3 films** were analyzed.
  - More likely to reflect their effect on the film than vice versa.
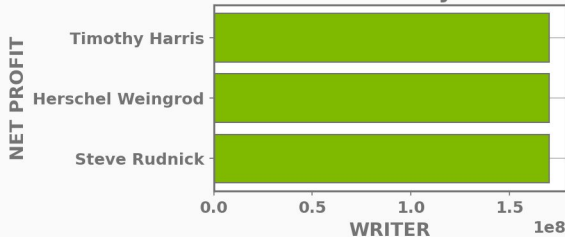

Highest Valued Writers

Recommendations
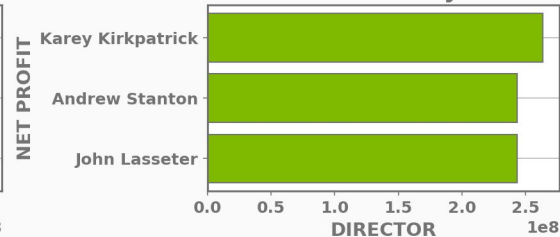
Putting it all together

Two Films to Maximize Net Profit

- The top two genres by net profit are **Animation** and **Family**.
- Grouping the top Writers and Directors by these genres, two potential movies are:
1. An **Animated film** written by **Timothy Harris** and directed by **Karey Kirkpatrick.**
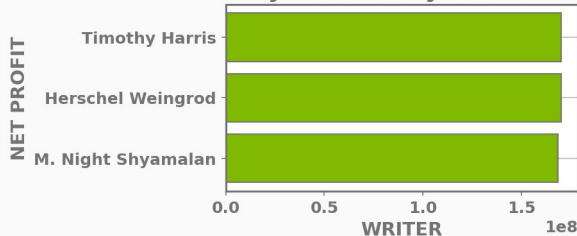2. A **Family film** written by **Herschel Weingrod** and directed by **Michael Apted.**
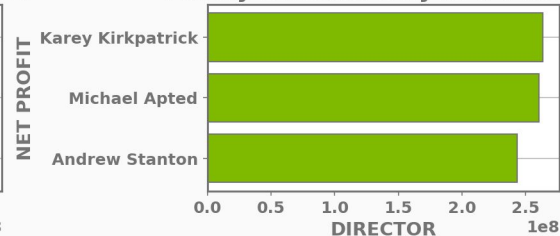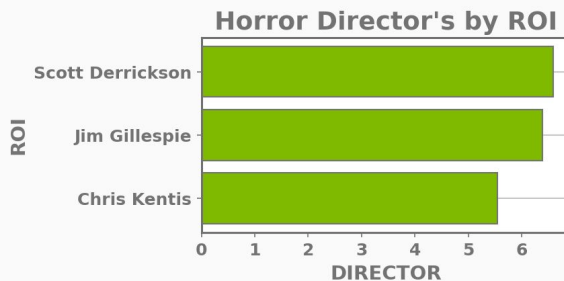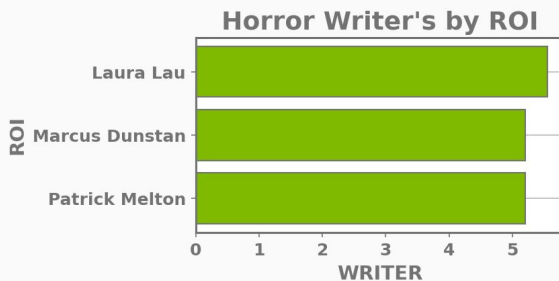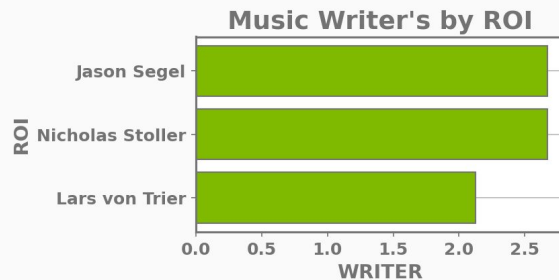
Two Films to Maximize Return on Investment

- The top two genres by ROI are **Music** and **Horror**.
- Grouping the top Writers and Directors by these genres, two potential movies are:
1. A **Musical film** written by **Jason Segel** and directed by **Robert Wise.**
2. A **Horror film** written by **Laura Lau** and directed by **Scott Derrickson.**

Limitations

1. Size of the Database used.
2. No information on the MPA ratings of films
   a. IE: PG vs R rated
3. Does not take into account external variables.
   a. IE: Marketing and Production Studio

Questions?

Thanks!

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