Movies revenue

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Ironhack - Data Analytics Bootcamp

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Dataset

TMDB API

Numericals

Column	Description
Popularity	Ranking of popularity
Runtime	Lenght of film
Vote average	Average movie rating
Vote count	Total movie ratings
Revenue	Total revenue of film

Non-numericals

Column	Description
ID	Movie ID
Title	Name of the movie
Budget	Sum of film production cost
Overview	Description of the movie
Cast	Actors involved in the movie
Month	Movie release month
Genres	Movie genre
Production companies	Companies involved in the movie
Director	Movie director
Original language	Initial language of movie
Language	Languages of movie
Keywords	Attributes relationed to the movie

Dataset

KAGGLE Dataset

Column	Description
ID	Movie ID
Title	Name of the movie
Year	Movie release year
Age	Minimum age recomended watching
Netflix	Movie present in Neftlix (0/1)
Hulu	Movie present in Hulu (0/1)
Prime Video	Movie present in Prime Video (0/1)
Disney+	Movie present in Disney+ (0/1)
Directors	Movie director
Genres	Movie genre
Country	Movie production country
Language	Languages of movie
Runtime	Length of movie
IMDB	Movie average rating

1. Which variables affect film revenue?

2. Build a regression model on revenue

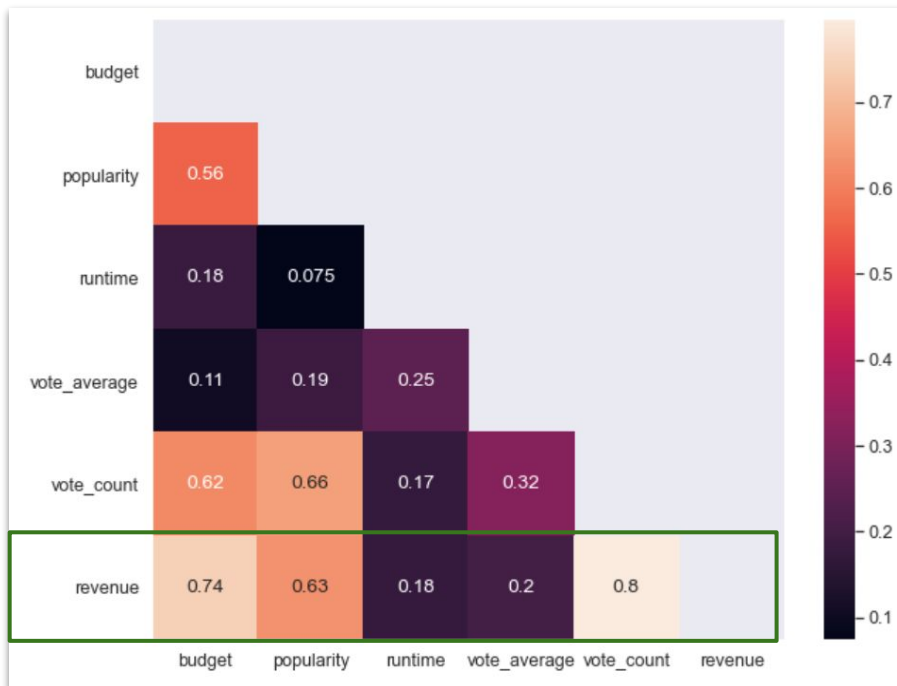3. Check key trends of streaming content to apply to box office films

Revenue Box Office:

Variables analysis

Budget | Popularity | Runtime | Votes

Budget, popularity and vote count had the highest correlations with revenue, however, this doesn't necessarily mean a high average vote on the film
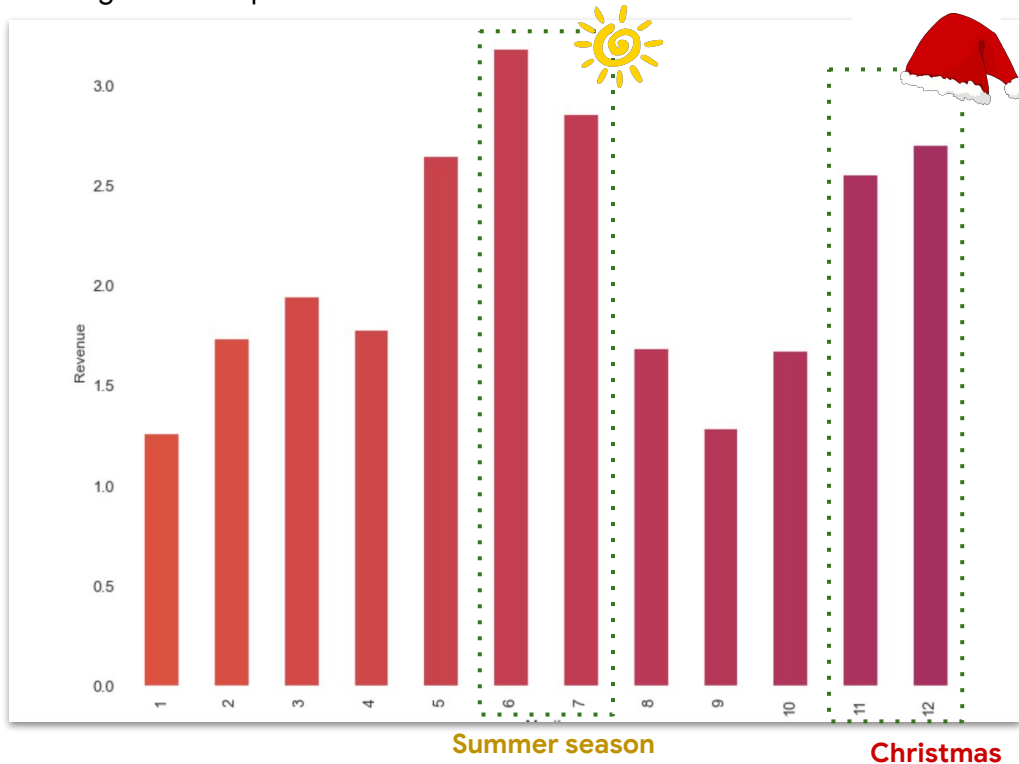
Revenue correlations

- 💰 **Budget** and 🏆 **popularity** with highest correlations.

- **Vote count** high correlation (0.8) but **vote average** (0.2) not as we could expect
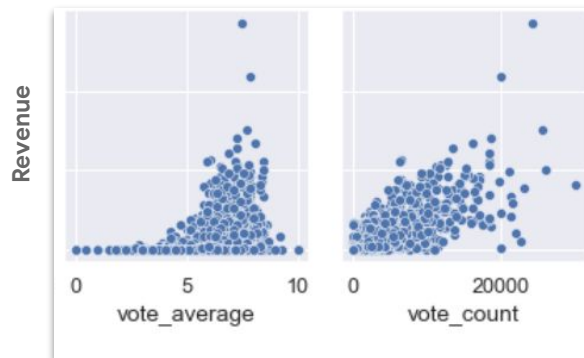
Average revenue per movie month released

Summer season

Christmas

Top revenue films

Summer season (Jun-Jul)

Transformers: Age of Extinction (**$1.123M**)

Toy Story 3 (**$1.066M**)

Pirates of the Caribbean: Dead Man Chest (**$1.065M**)

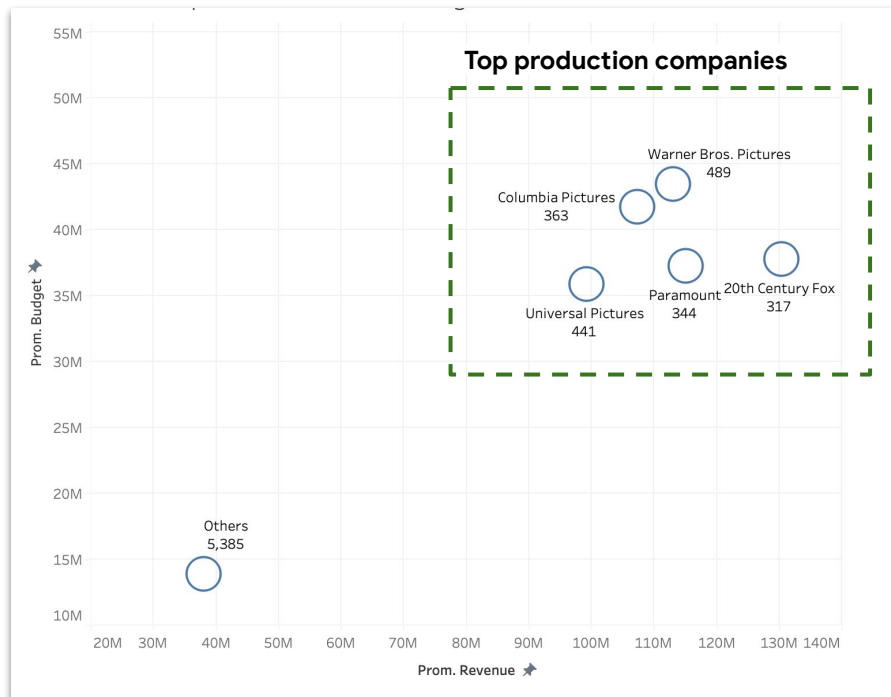## Christmas season (Nov-Dec)

Avatar (**$2.847M**)

Frozen (**$1.274M**)

The Lord of The Rings: Return of the Kings (**$1.118M**)

Top production companies drove the highest revenue, with a historic total of 21% revenue share

Average revenue & budget per top production companies

Top production companies

Warner Bros. Pictures
489

Columbia Pictures
363

Universal Pictures
441

Paramount
344

20th Century Fox
317

Others
5,385

Prom. Budget

Prom. Revenue

1 of every 5$
won by top 5 production companies

Animation and Adventure highest revenue and at the top of favorite genres. Music as potential opportunity with more budgets
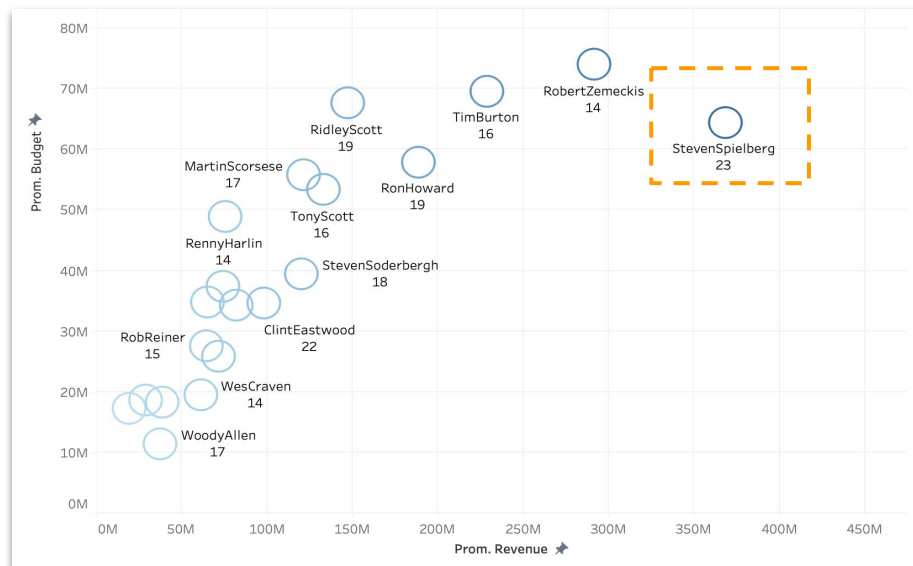
Average revenue & budget per film genre
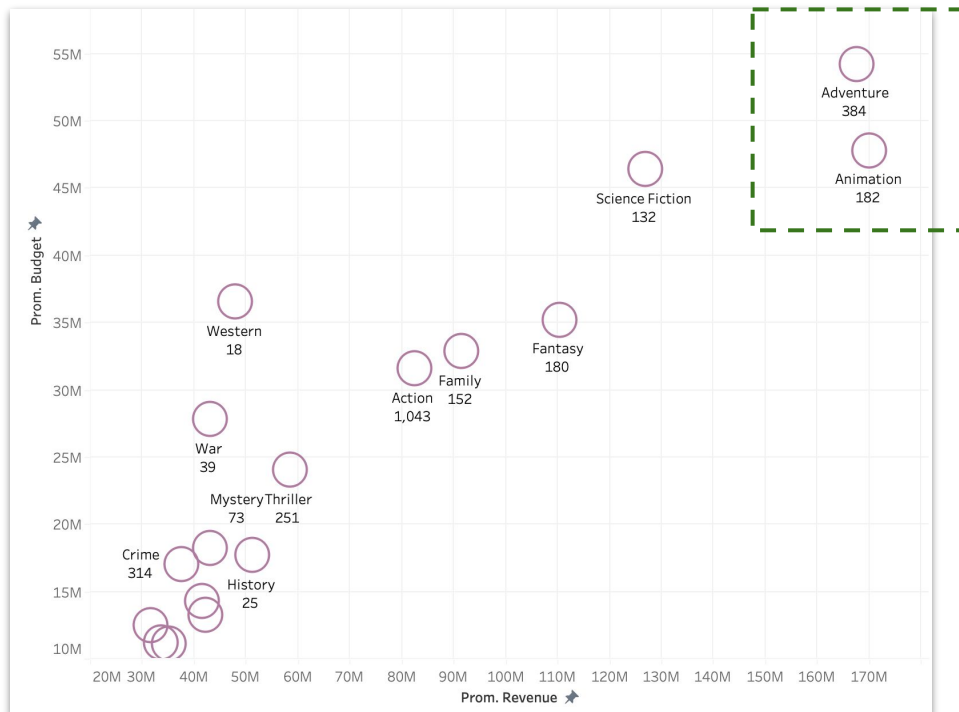
Average vote of genres

Genres	Average vote
Music	7.1
Animation	6.7
Crime	6.5
Adventure	6.2
Drama	6.0
History	6.0
Thriller	6.0
Family	5.9
Documentary	5.9
Action	5.8
Science Fiction	5.8
Horror	5.7
Mystery	5.7
Fantasy	5.5
Comedy	5.4
Romance	5.4

Average revenue & budget per film director

Steven Spielberg

Total profit:
$7.013M

#1 revenue film:
Jurassic Park (1993) $920M

Crew count in movies
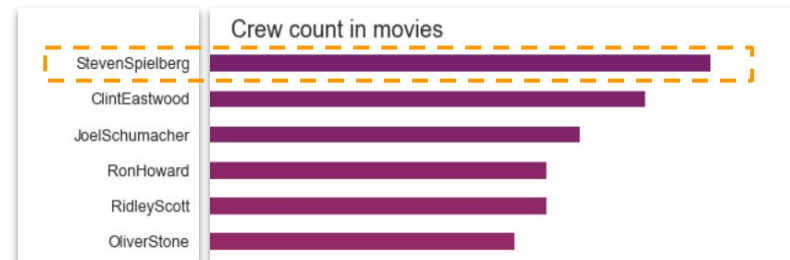
Revenue Box Office:

Regression model

Revenue: Regression Model

Target: Film Revenue

Features

Non-numericals
1) Months (**OHE**)
2) Genres (**OHE**)
3) Production Companies (**OHE**)
4) Directors (**OHE**)
5) Original Language (**OHE**)
6) Keywords (**OHE**)

Numericals
1) Budget
2) Popularity
3) Runtime
4) Vote_average
5) Vote_count

Model / Score

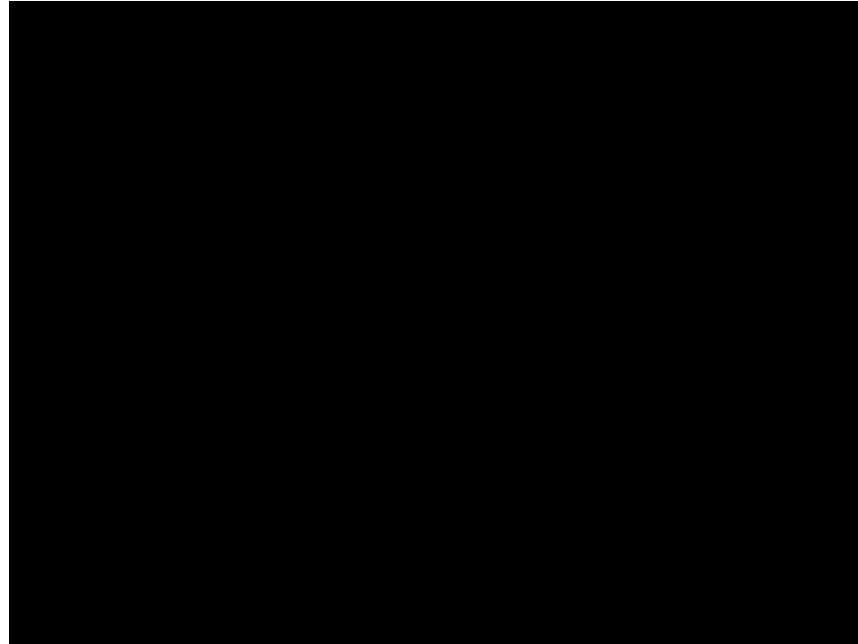| LR = 0.8050 | KNR = 0.7178 | RANDOM FOREST = 0.8133 |

Streaming content:

Trending Genres and Countries

Streaming genres trend

Great drama offering in recent years. It is recommended to add more documentary genre films for the box office as it has been top valued genre

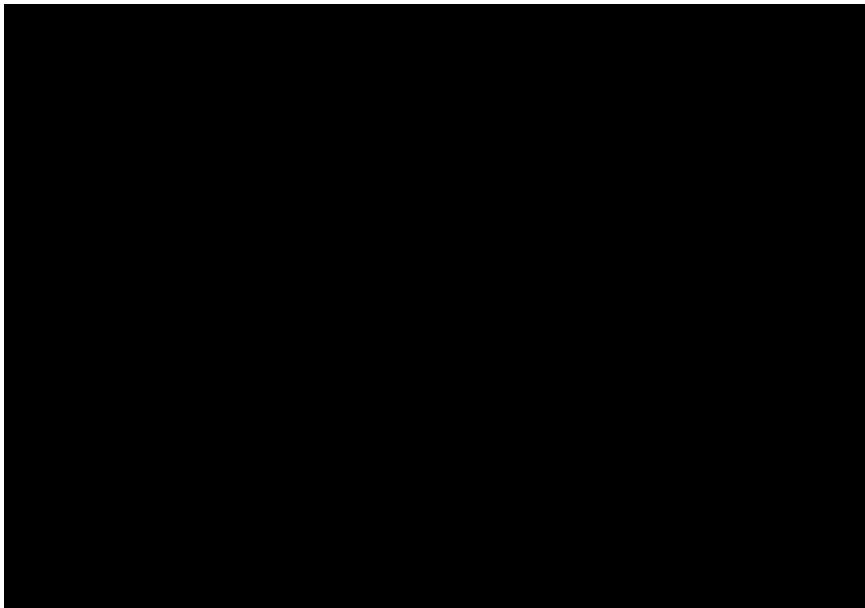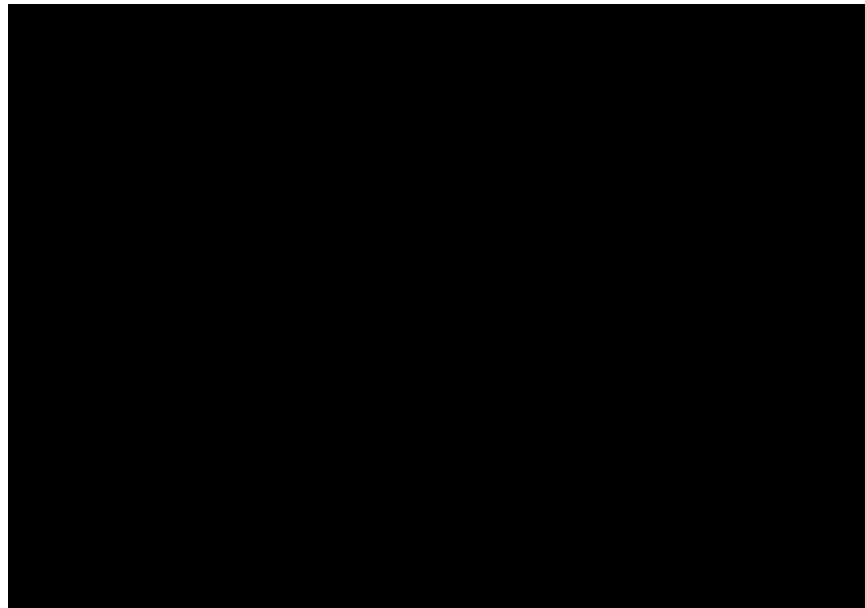Genres distribution and avg rating per year

India positioning #2 in production country while #1 average voted during last 3 years. Could be an opportunity for box office revenue

Production countries streaming market share

Production countries films average vote

Conclusions

Conclusions: Considerations to Select Next 2022 Films Portfolio

1. Revenue strong correlation with film **budgets** and **vote count**, whil less relationship with film vote average

2. **Summer** (June-July) and **Christmas** (November-December) best months to release a movie

3. **Warner Bros, Paramount, Universal Pictures, 20th Century Fox, Columbia Pictures**: drive x2 average revenue film than the rest

4. **Animation** and **Adventure genres demonstrated** to be the most profitable and loved in the market. **Music** as possible potential genre if it had more budget

5. **Documentary** as possible opportunity to further revenue growth. **Drama** streaming trend focus over last years.

6. **India** boosting in the streaming content landscape and becoming most valued film country to focus on

Thank you!