Giving Microsoft a Solid Start in the Movie Industry

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Summary

Microsoft is setting out to create its own Movie Studio. To ensure this is a successful endeavor, we must:

- Analyze movie data to discover insights to which movies are most successful
- Explore budget data to properly understand how much it may cost to create a movie
- Explore what genres in movies perform well in the box office

Outline

- Business Problem
- Data
- Methods
- Results
- Conclusions
- Recommendations
- Next Steps

Business Problem

- Unknown pathway to creating successful movies
- Need to match or exceed industry standard of success for movies we produce
- Ensure we can make more movies in the future

Data & Methods

- Data sourced from:
  - IMDB
  - Box Office Mojo
  - The Numbers

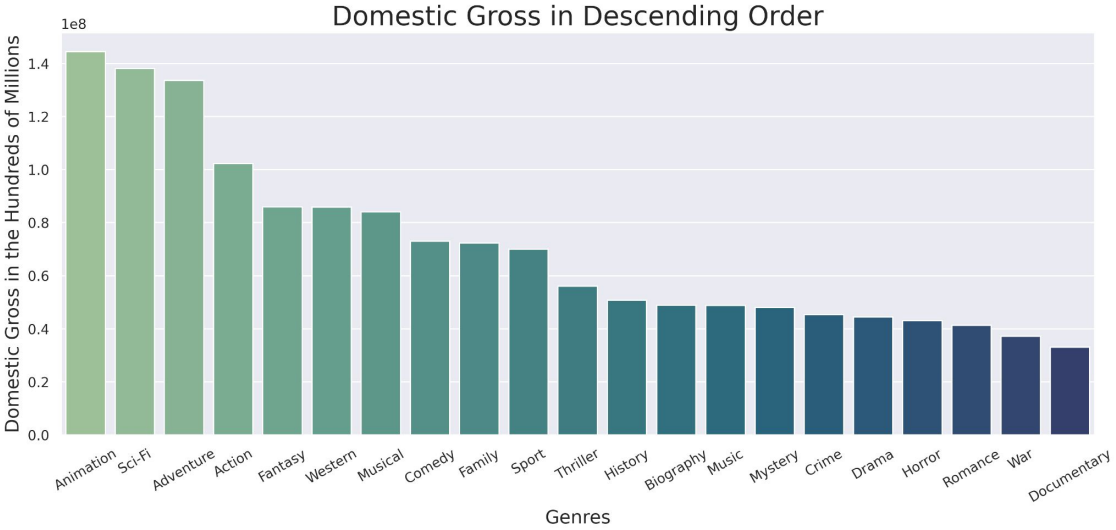
- 982 Movies
  - Dating back to 2010

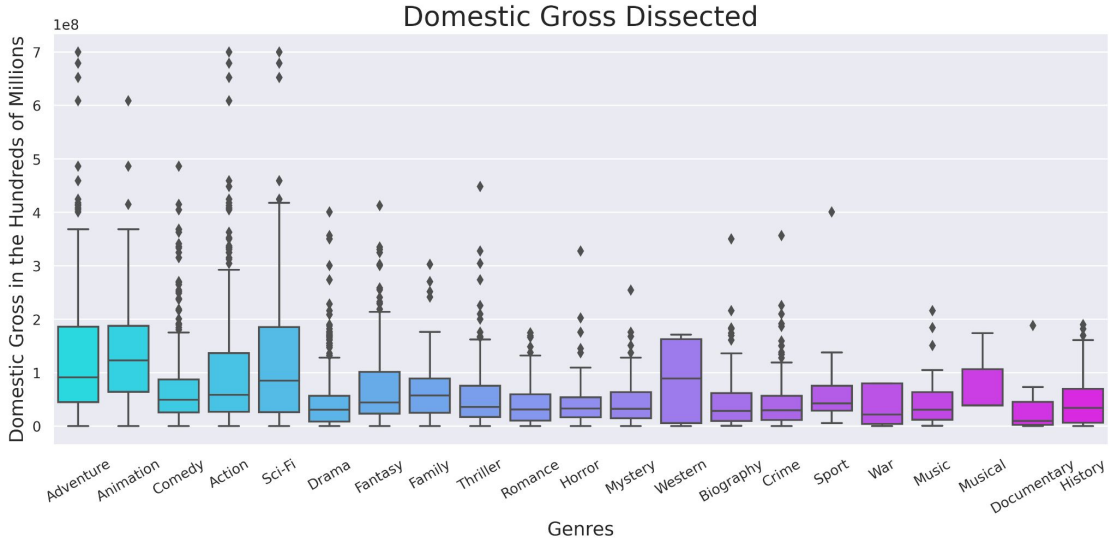
- Movie Title, Domestic Gross, Worldwide Gross, Genres, and Movie Budget Data

Results

Based on gross sales data, these genres generate the most capital in both domestic & worldwide metrics

- Sci-Fi
- Adventure
- Action





- Each box in a box plot, represents 50% of the data for that column.
  - The line in each box represents the median
- Tick Marks encompass 99.3% of the data
- Outliers are represented by dots above the tick marks. About 0.7% of the data total

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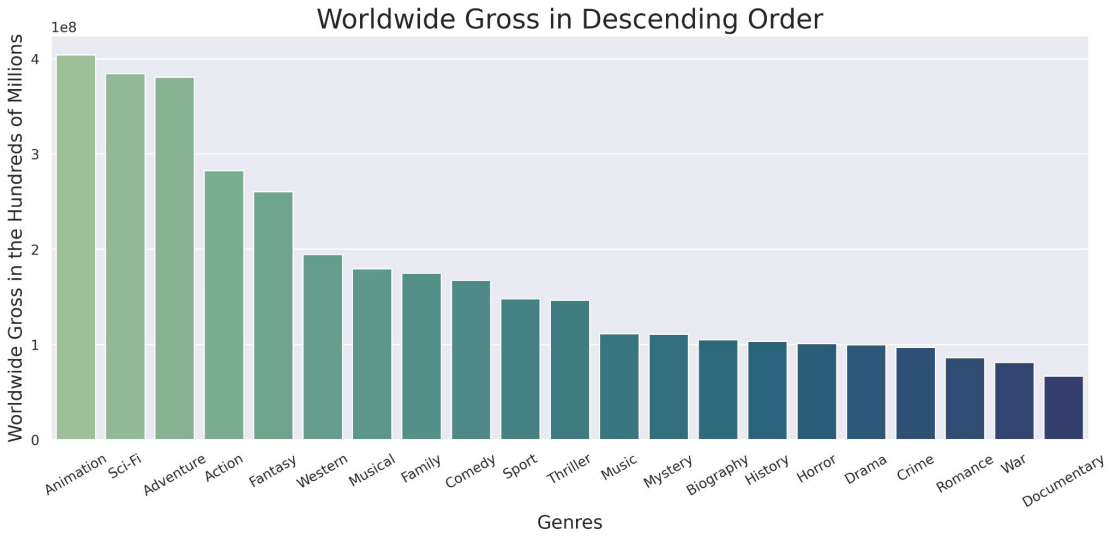
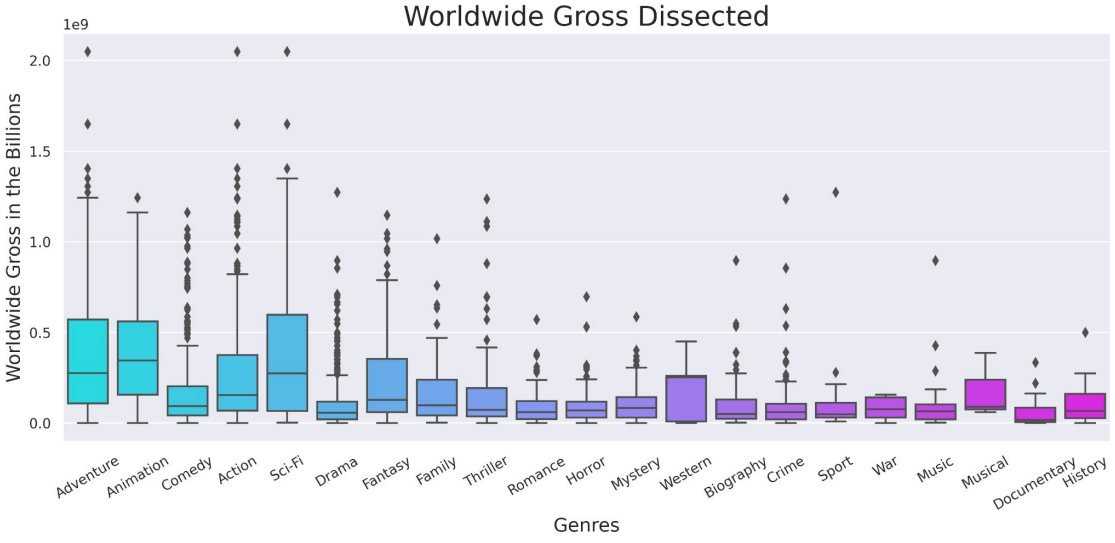
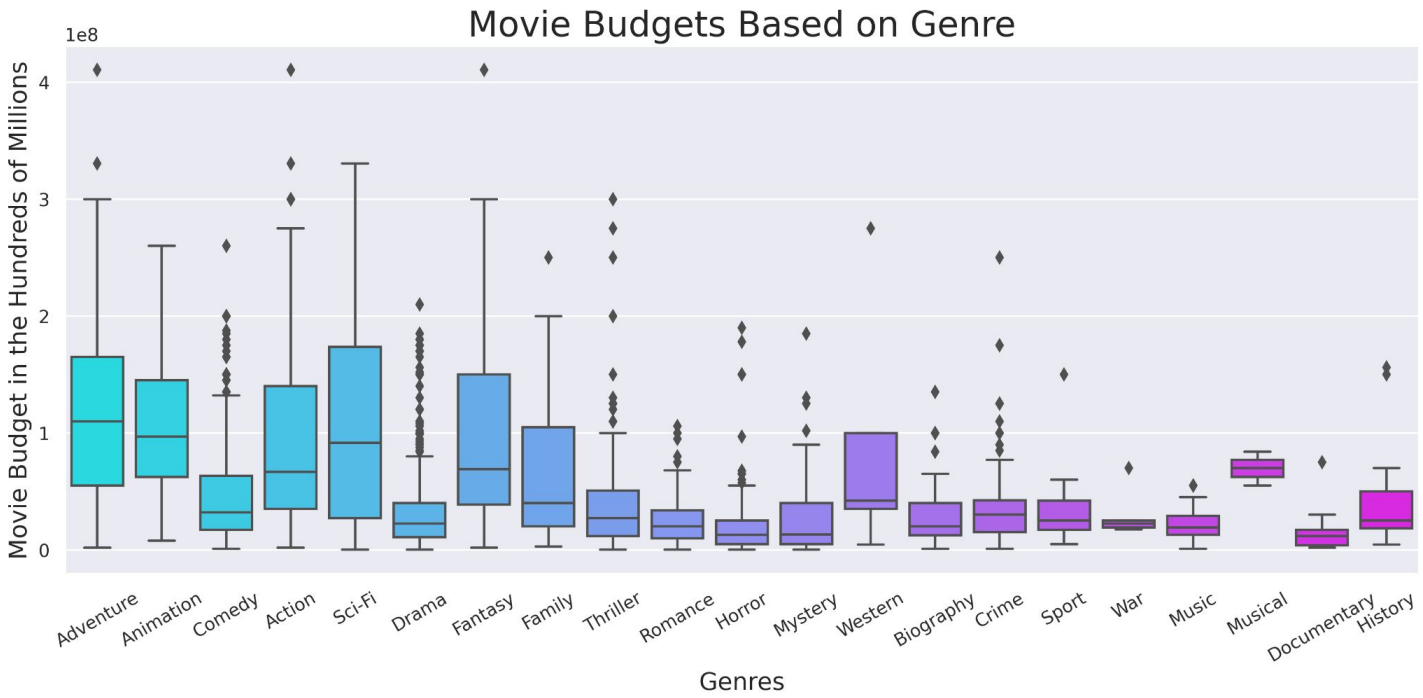


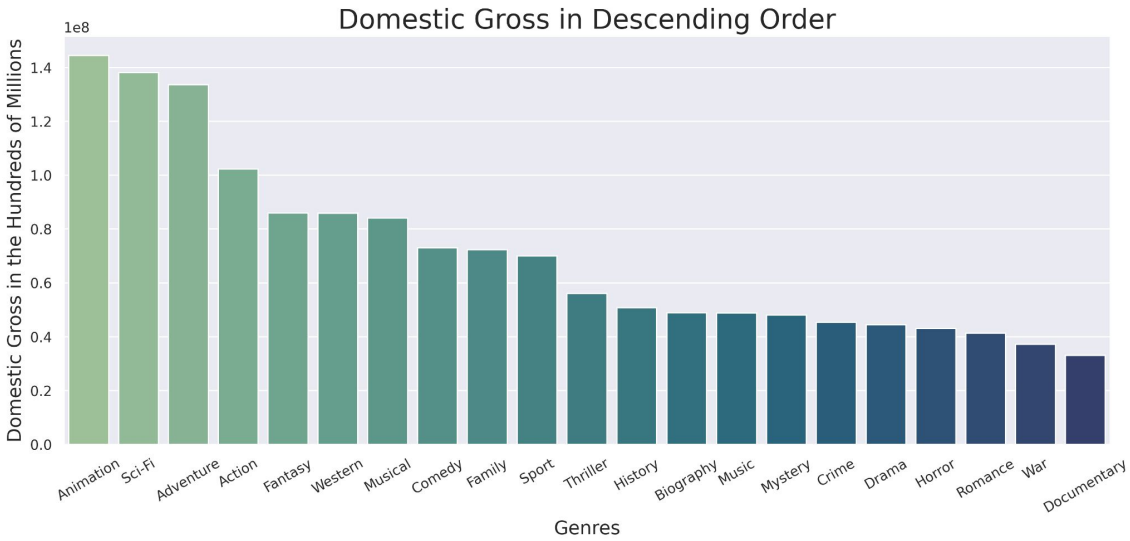


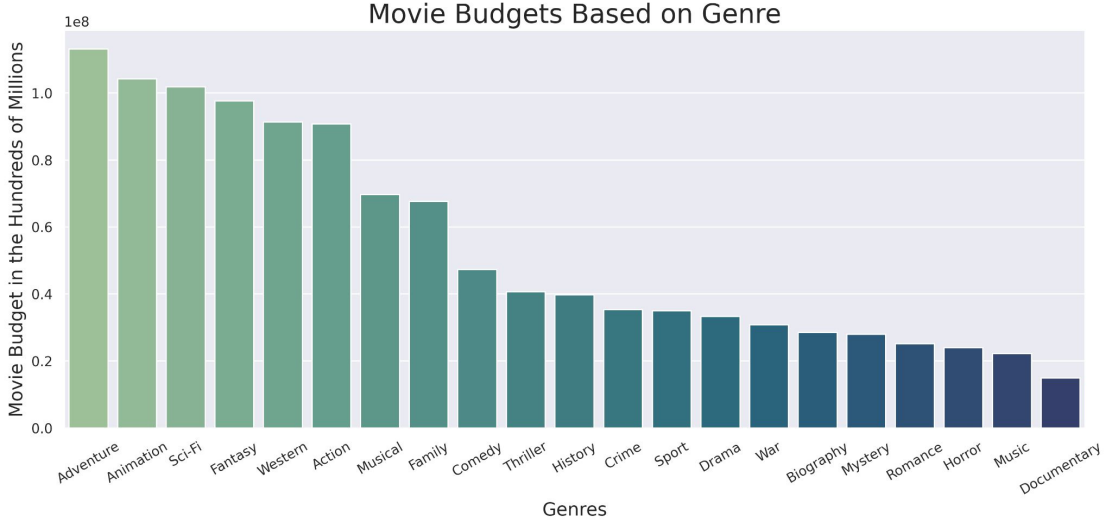
Results

Compare this data to the Domestic & Worldwide sales

- Action, Adventure, Sci-Fi are very lucrative
- Animation movies are also have great showings
- Fantasy movies might break even




Domestic Gross in Descending Order
1e8
Domestic Gross in the Hundreds of Millions
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
Animation
Sci-Fi
Adventure
Action
Fantasy
Western
Musical
Comedy
Family
Sport
Thriller
History
Biography
Music
Mystery
Crime
Drama
Horror
Romance
War
Documentary
Genres


Movie Budgets Based on Genre
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Movie Budget in the Hundreds of Millions
0.0
0.2
0.4
0.6
0.8
1.0
Adventure
Animation
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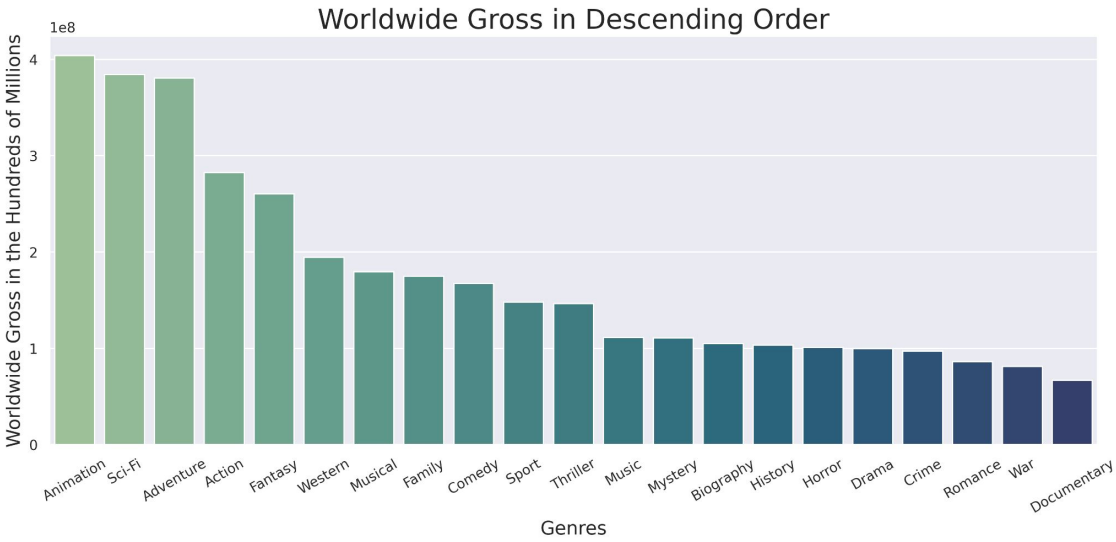
Worldwide Gross in Descending Order
1e8
Worldwide Gross in the Hundreds of Millions
0
1
2
3
4
Animation
Sci-Fi
Adventure
Action
Fantasy
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Musical
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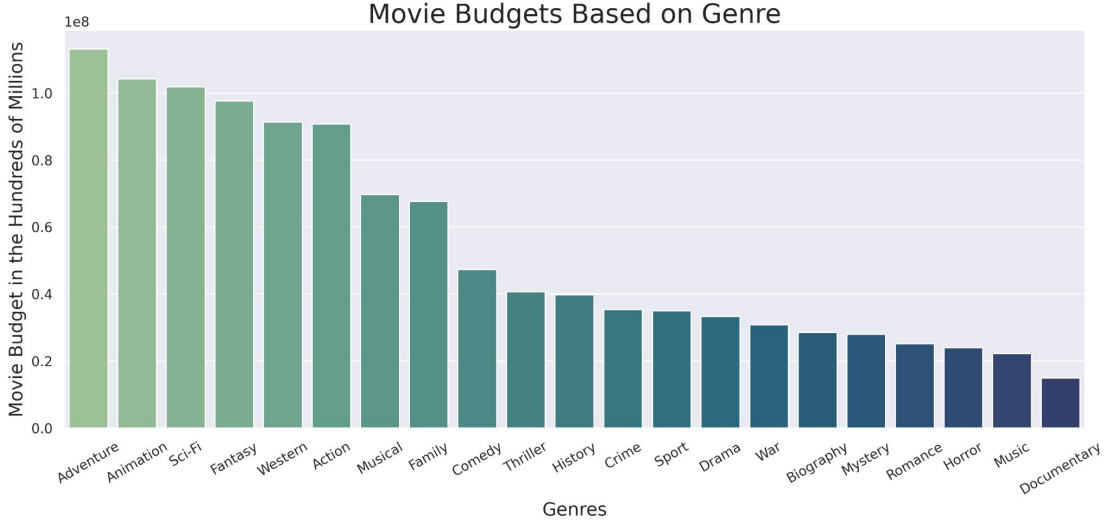
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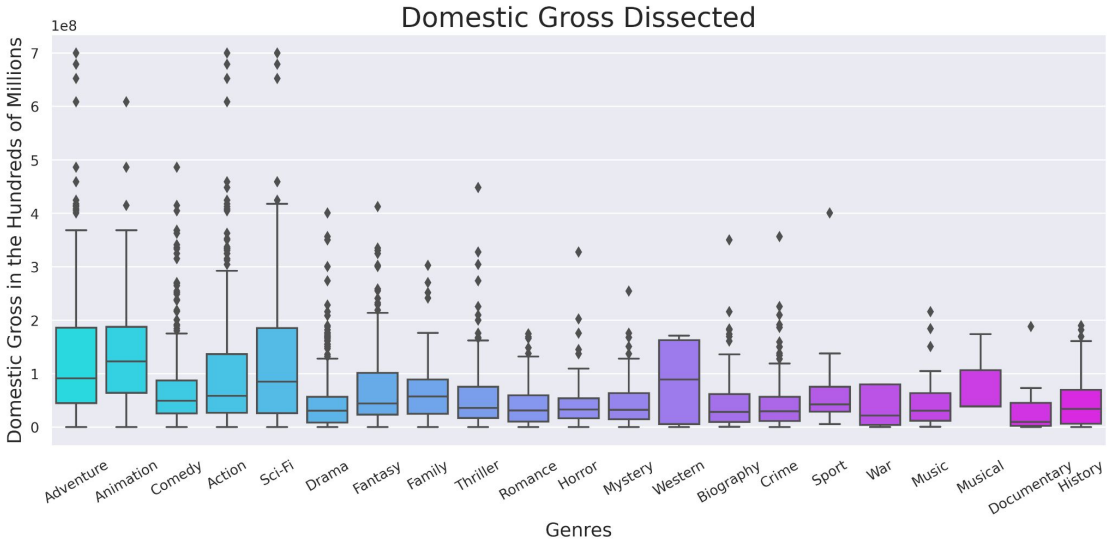
Domestic Gross Dissected
1e8
Domestic Gross in the Hundreds of Millions
0
1
2
3
4
5
6
7
Adventure
Animation
Comedy
Action
Sci-Fi
Drama
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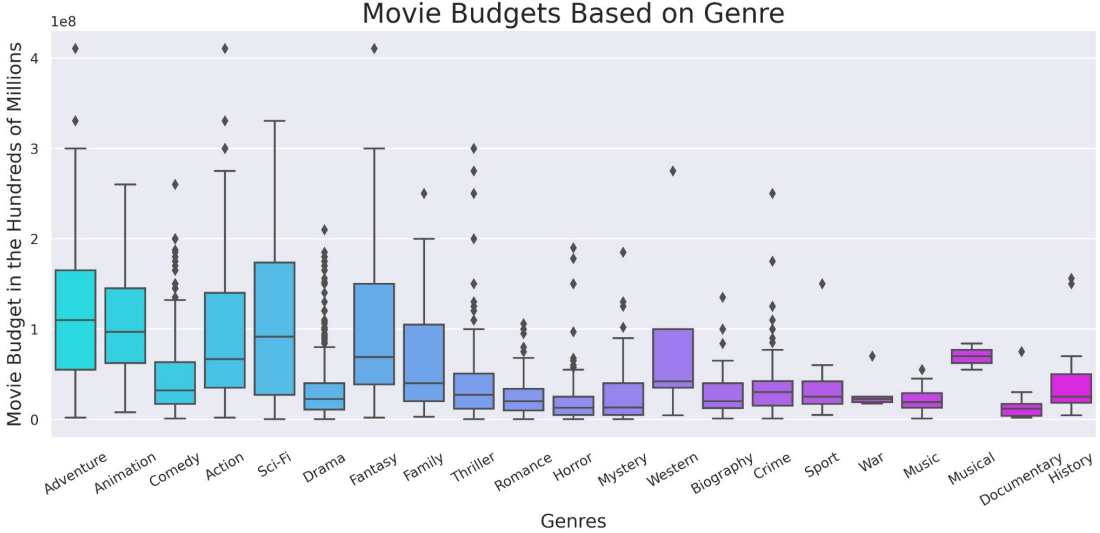
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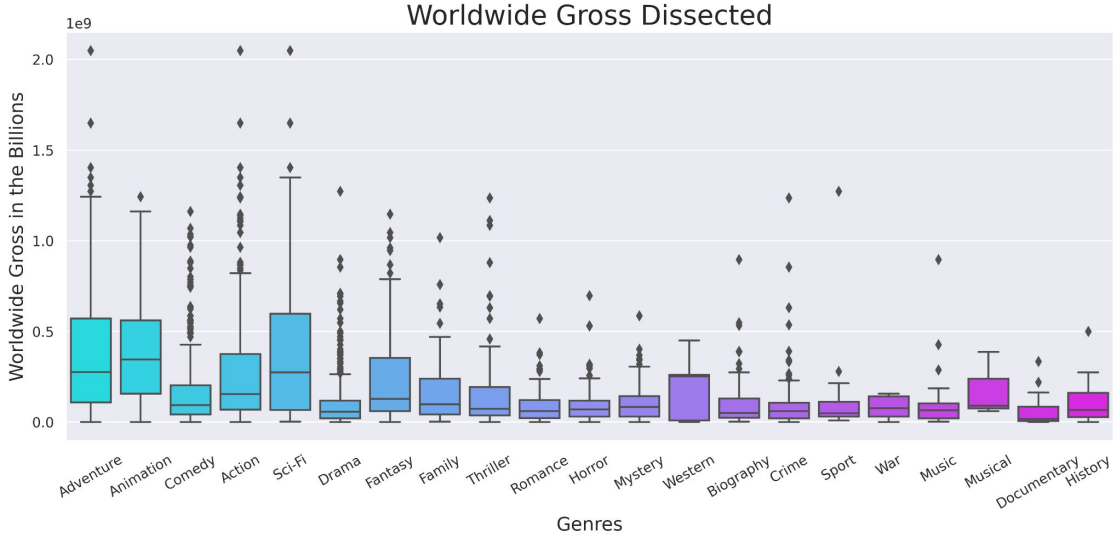
Worldwide Gross Dissected
1e9
2.0
1.5
1.0
0.5
0.0
Worldwide Gross in the Billions
Adventure
Animation
Comedy
Action
Sci-Fi
Drama
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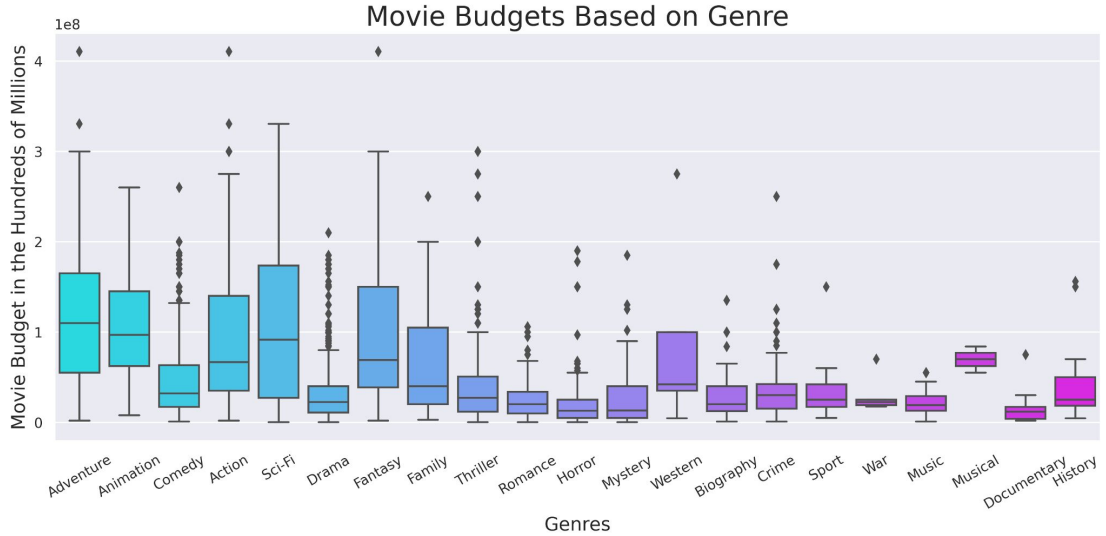
Movie Budgets Based on Genre
1e8
4
3
2
1
0
Movie Budget in the Hundreds of Millions
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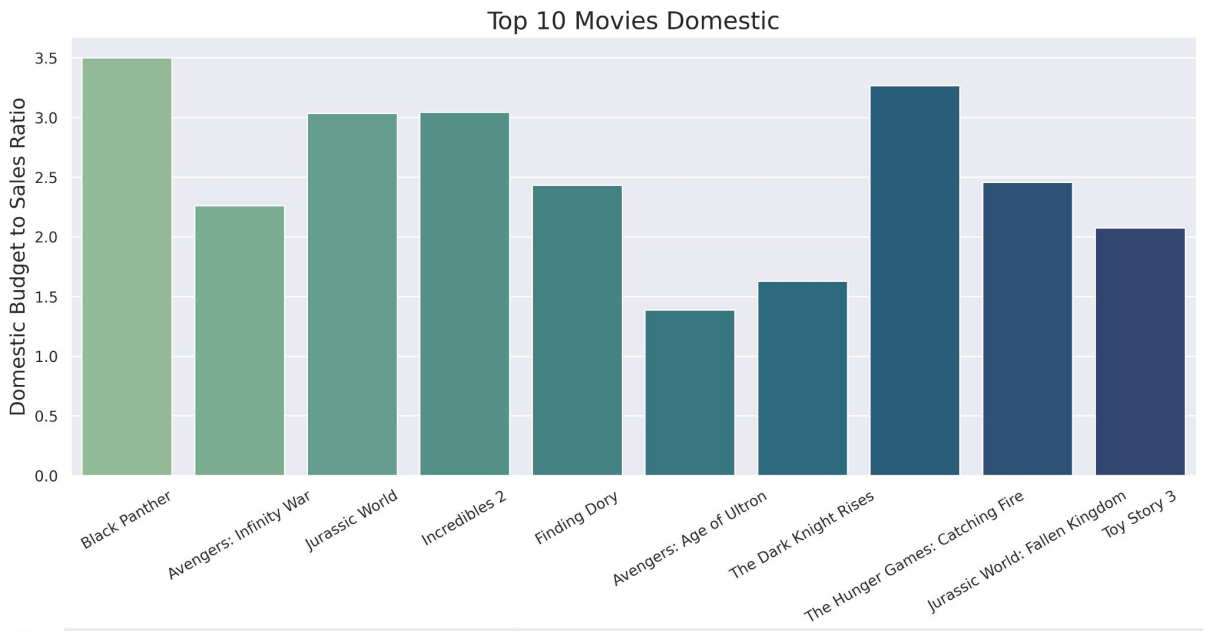
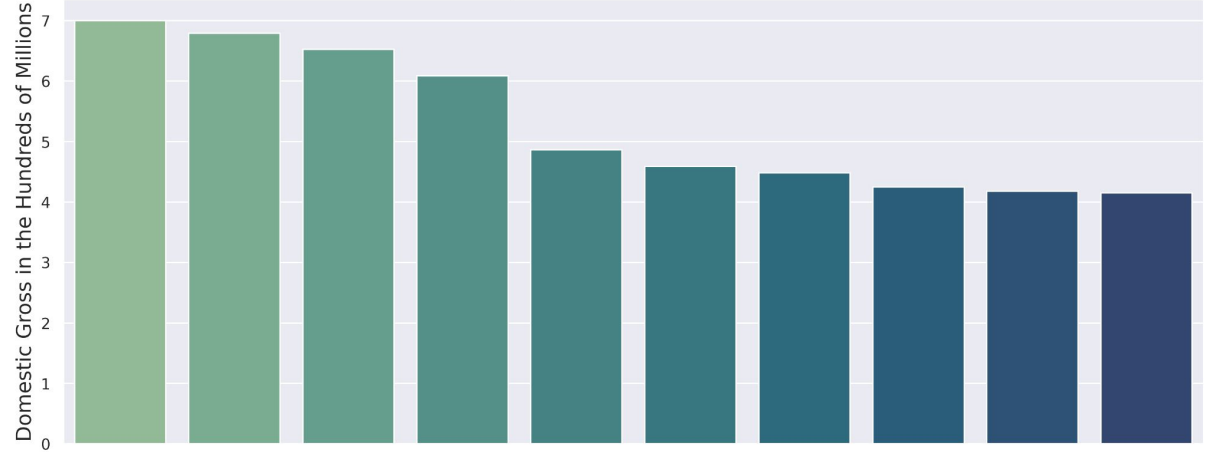
Genres

Results

Top 10 Movies:

Budget-to-Gross ratio



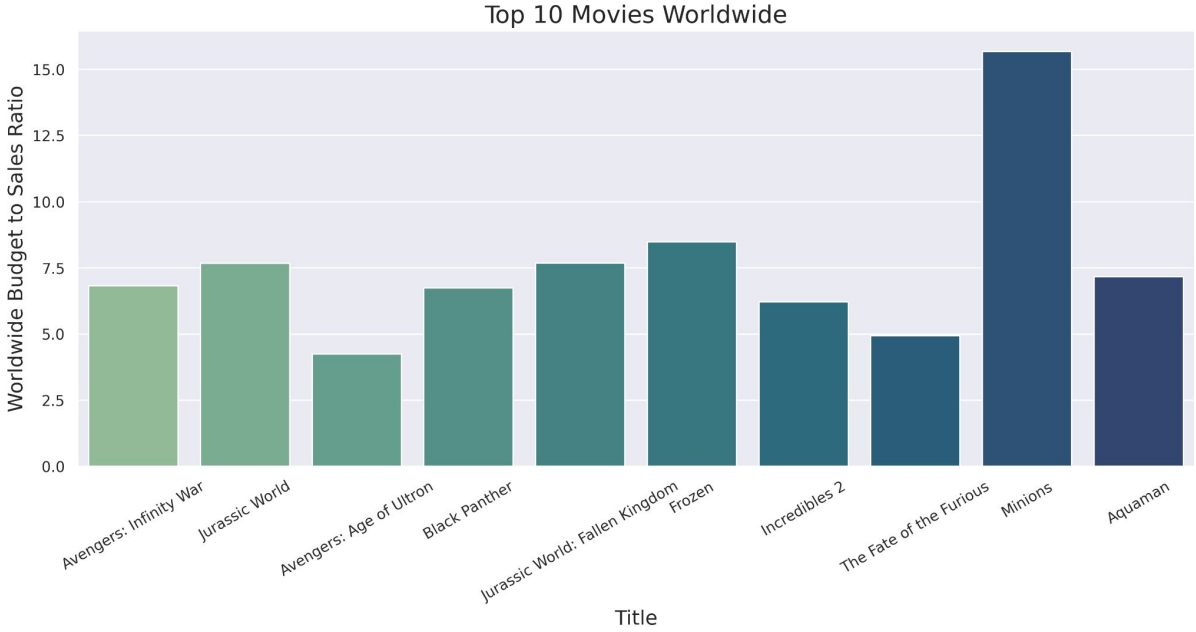


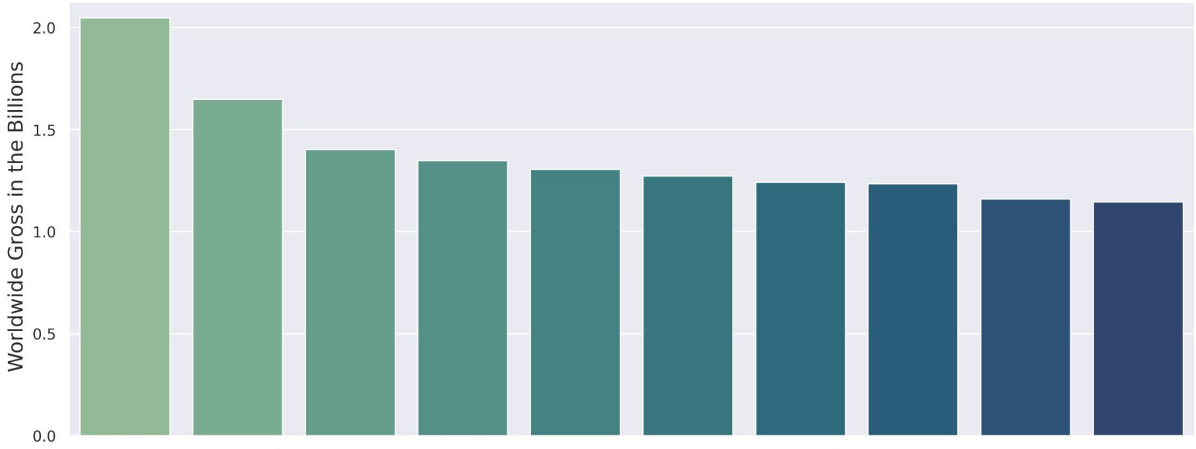
The most successful movies maintain a return of 1.5 or higher, by domestic metrics.

Results

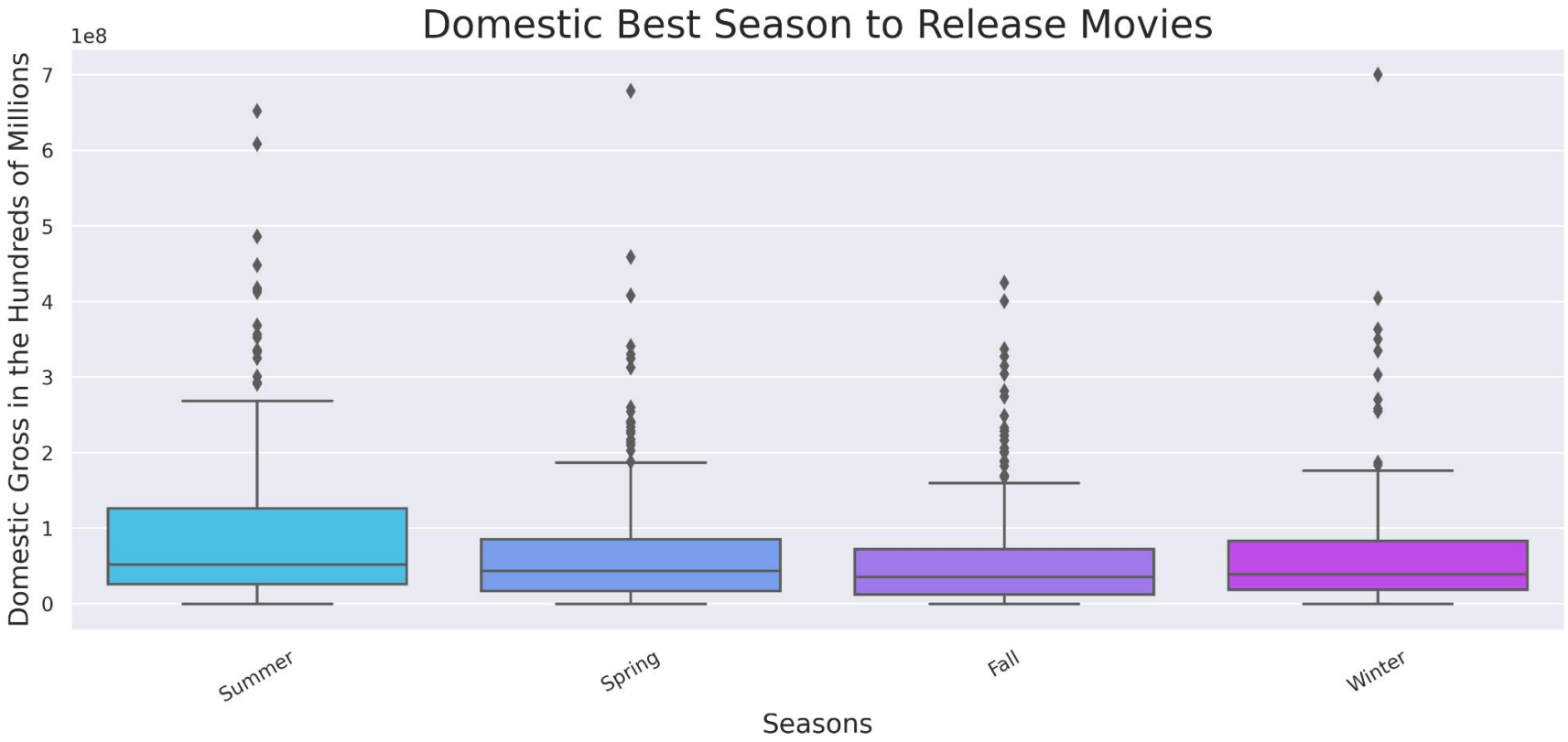
Top 10 Movies:

Budget-to-Gross ratio

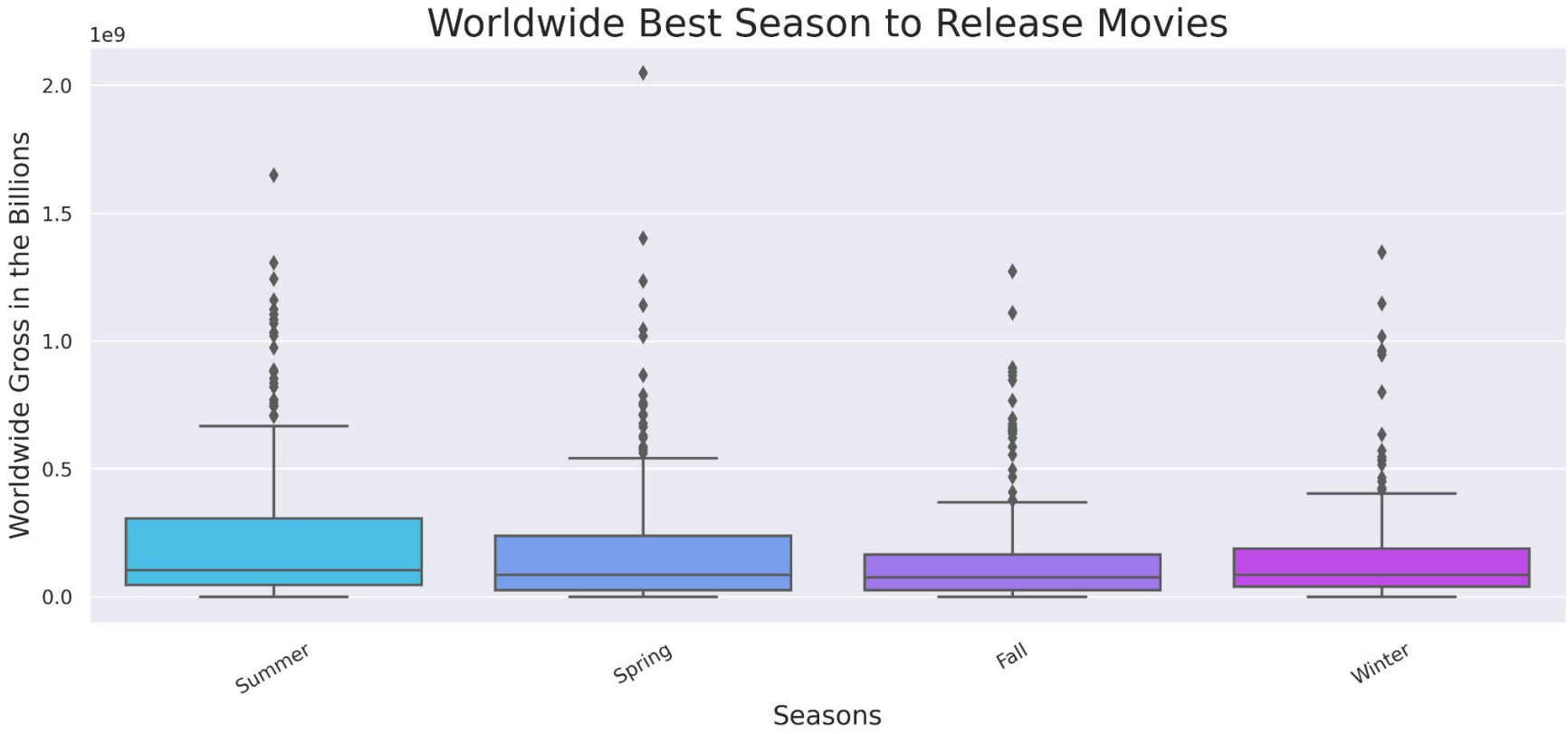




By worldwide metrics, the most successful movies maintain a return of 4.0 or higher ratio.


Domestic Best Season to Release Movies
1e8
Domestic Gross in the Hundreds of Millions
7
6
5
4
3
2
1
0
Summer
Spring
Fall
Winter
Seasons

Results


Worldwide Best Season to Release Movies
1e9
2.0
1.5
1.0
0.5
0.0
Worldwide Gross in the Billions
Summer
Spring
Fall
Winter
Seasons

Results

Conclusions

- Action, Adventure, and Sci-Fi movies completely dominate domestic and worldwide metrics.
- In contrast, Documentary movies perform the least well everywhere.
- Western & Fantasy movies may be a challenge as well. Since they garner a similar amount of returns as the overall cost of the budget, on average.
- Adventure movies can be the most rewarding. Out of the top movie sales, Sci-Fi had the lowest budget output.
    - Animation movies have a similar outlook

Conclusions

- Having the highest budget doesn't necessarily equal high grossing film.
  - A budget between $100M & $200M will suffice
- Summer is the best season to release movies based on average sales. Summer also has fewer outliers compared to Fall & Winter.
  - A release date between June and August is ideal
  - Spring and Winter have comparable & more extreme outlier, high grossing films to Summer
- In line with these conclusions,

  movies like Jurassic World: Fallen Kingdom can be a case study for Microsoft's path to success.
  - Universal Pictures kept a budget under $170M
  - It's an Action, Adventure, and Sci-Fi movie - each genre being a high grossing genre. Fallen Kingdom brought in over $1.3B worldwide
  - It is a sequel to Jurassic World, a film with:
    - A budget of $215M
    - An Action, Adventure, and Sci-Fi film, with a revenue of over $1.6B worldwide

Recommendations

1. Microsoft should make an Action & Adventure movie, with elements of Sci-Fi
2. Microsoft should aim for a minimum 2x return on their investment in domestic metrics
    a. 4x return on their investment in domestic metrics by worldwide metrics
3. Microsoft should release their movie in the summer season

Next Steps

Further analyses could yield additional insights to further improve movie creation at Microsoft's movie studio:

- Curating a movie that benefits from multiple genre entries.
- Looking into the best resources we can use (writers, filmmakers, sound, etc), in order to create our movie.
- Predict undesirable outcomes. This modeling could identify movies that are more likely to have undesirable box office sales, based on shareholder requirements.

Questions?

Thank You!

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