Project One: netflixandchill

An analysis of Netflix and Disney+ Movies and TV Shows

Executive summary

Our project aims to analyze and compare the content offerings, IMDb ratings, budgets, and subscription prices of Netflix and Disney+ between 2019-2021. We will address the research question: **Does Netflix or Disney+ have higher quality rated content?** In addition to IMDb ratings, we will analyze content types and genres, trends in release years, and subscription prices. We utilized datasets containing Netflix and Disney+ titles and gathered ratings metadata from OMDB We also utilized a streaming service price dataset. Through this project, we hope to gain insight into the evolving landscape of streaming services and their content strategies.

Data collection, clean up and exploration

Collection

We selected 3 CSV from Kaggle sources: Netflix titles, Disney+ titles, and Subscription Prices. These sources were chosen due to cleanliness and column header alignment. In addition, we retrieved IMDB metadata from the OMDB API.

Clean Up

We performed these steps: date filtering, date formatting, date extraction, genre normalization, removal of blank date records, and title filtering to combat API limitations. We also added Platform and IMDB ratings, etc column for key analysis.

Exploration

We explored the data by combining in Excel and creating several pivot graphs/charts to confirm our research questions could be answered with our data. The genre normalization took place on a piece of notebook paper.

Project approach

DataFrame

Created cleaned, normalized DataFrame

We read in Disney+ and Netflix CSV files, cleaned each one then combined into one using pd.concat().

API Call & Output

Called OMDB API using a for loop over the title

We ran a request.get() and .json() to get API metadata into our dataframe. The ratings dataframe was saved into a CSV to be used for further analysis.

Charting & Results

Built out visuals using matplotlib and pandas

We targeted visuals with our dataframes in order to assist with answering our research questions. We used pie, bar, line, box & whiskers, scatter and linear regression.

Challenges encountered

Source Data → IMDB API → API Limits → GitHub

Recent Netflix and Disney+ data

We struggled to find data more recent than 2021, but believe research to remain valid using 2019 - 2021.

IMDB API vs OMDB API

We were planning to use IMDB API. After research found it requires a commercial license so pivoted to the OMDB API.

OMDB API limitations

OMDB API has a 1,000 daily limit that changed the scope of our ratings research from over 6,000 titles to 1,000.

GitHub Conflicts

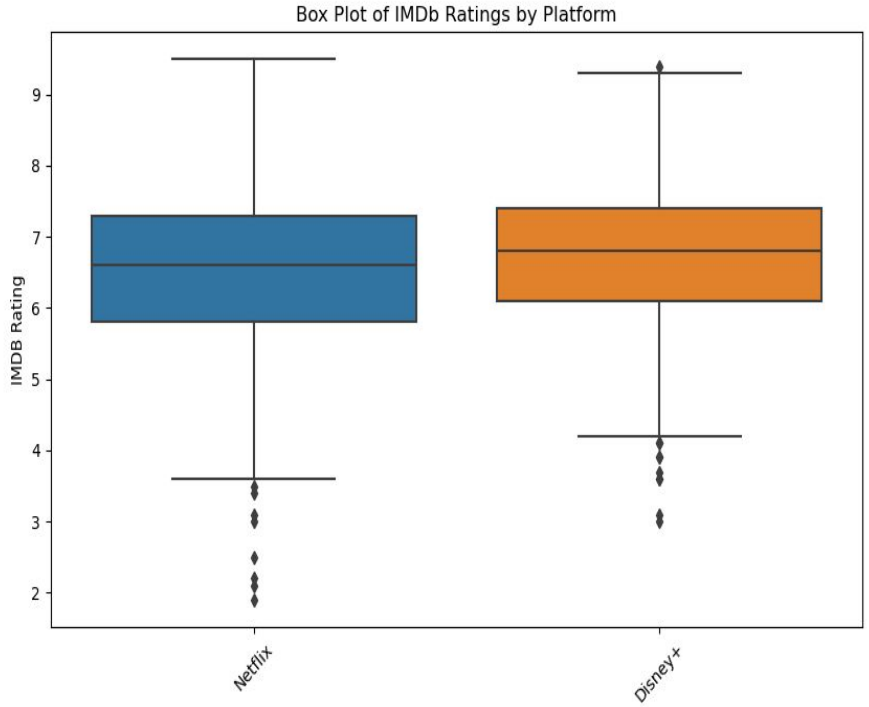
We encountered several instances of conflicts while merging multiple branches to main and resorted to copy/pasting code to ensure it was captured.

Result

Disney+ has slightly higher quality content than Netflix

When evaluating IMDB ratings, Disney+ had a higher average (6.7) compared to Netflix (6.5). Disney+ IMDB ratings had a lower variance indicating overall higher quality content.

Ratings analysis



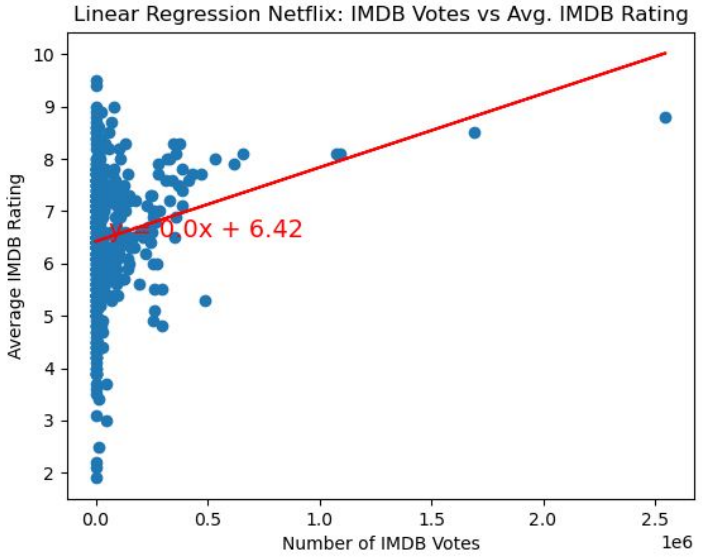
Disney+:

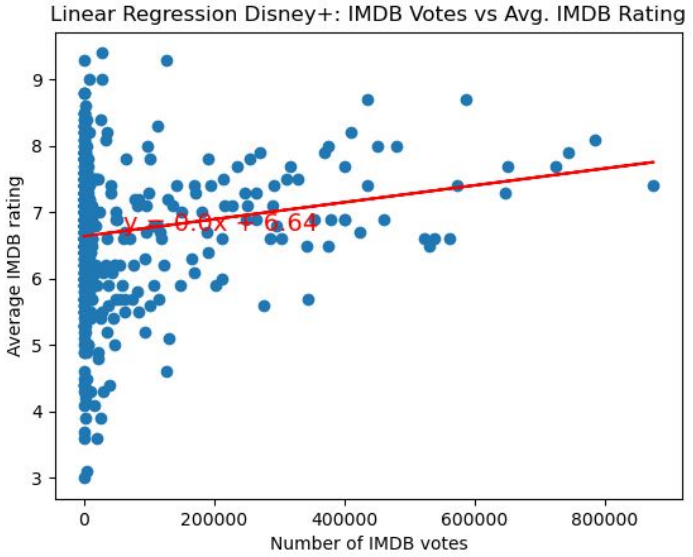
- Mean: 6.720833
- Median: 6.8
- Variance: 1.125609

Netflix:

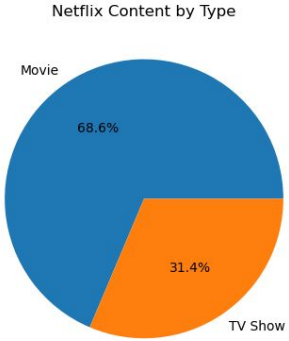
- Mean: 6.510445
- Median: 6.6
- Variance: 1.411557

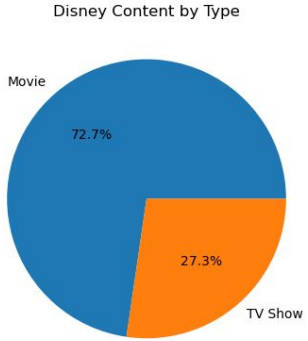
Are ratings correlated to votes?





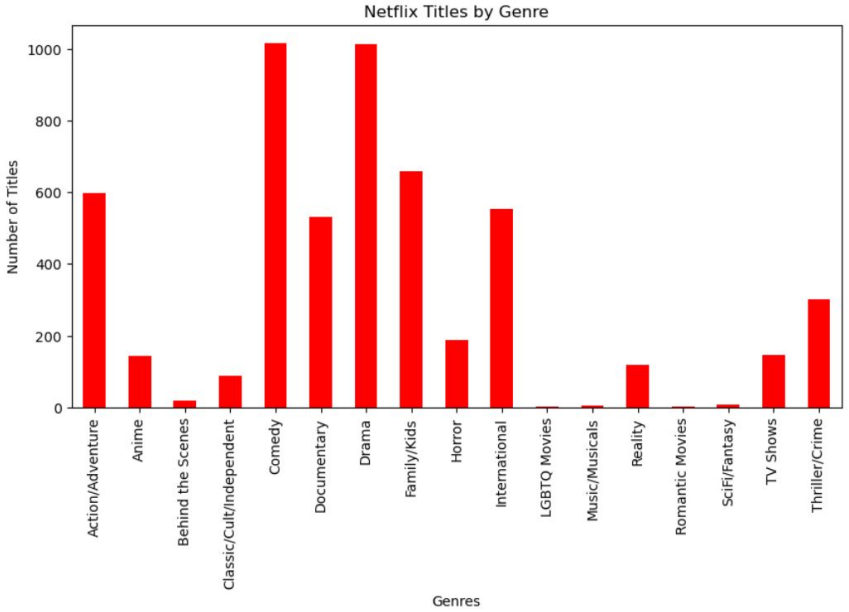
Content composition

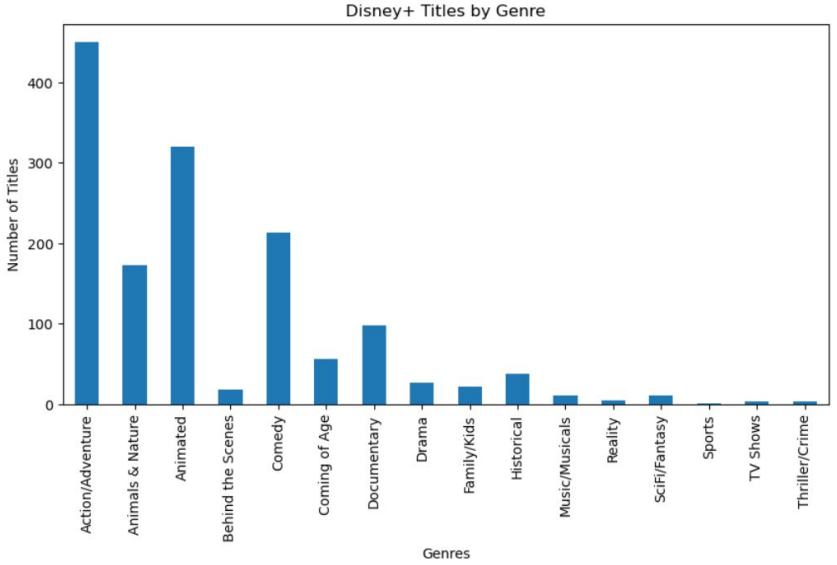




Both platforms greatly favor hosting and producing Movies over TV shows. Disney+ hosts 4.1% more Movies than Netflix does; Disney's catalog of animated movies may contribute to this.

Genre composition

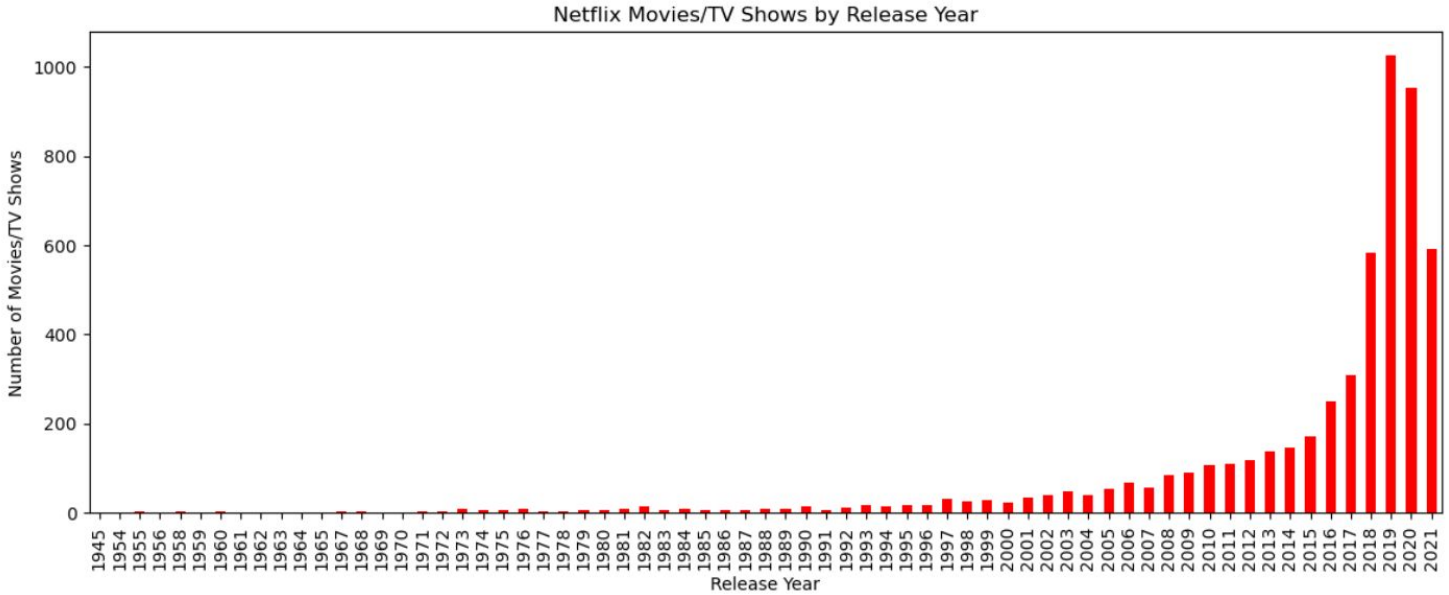




Most popular genres (by production):
Netflix: Comedy, Drama, Family/Kids
Disney+: Action/Adventure, Animated, Comedy

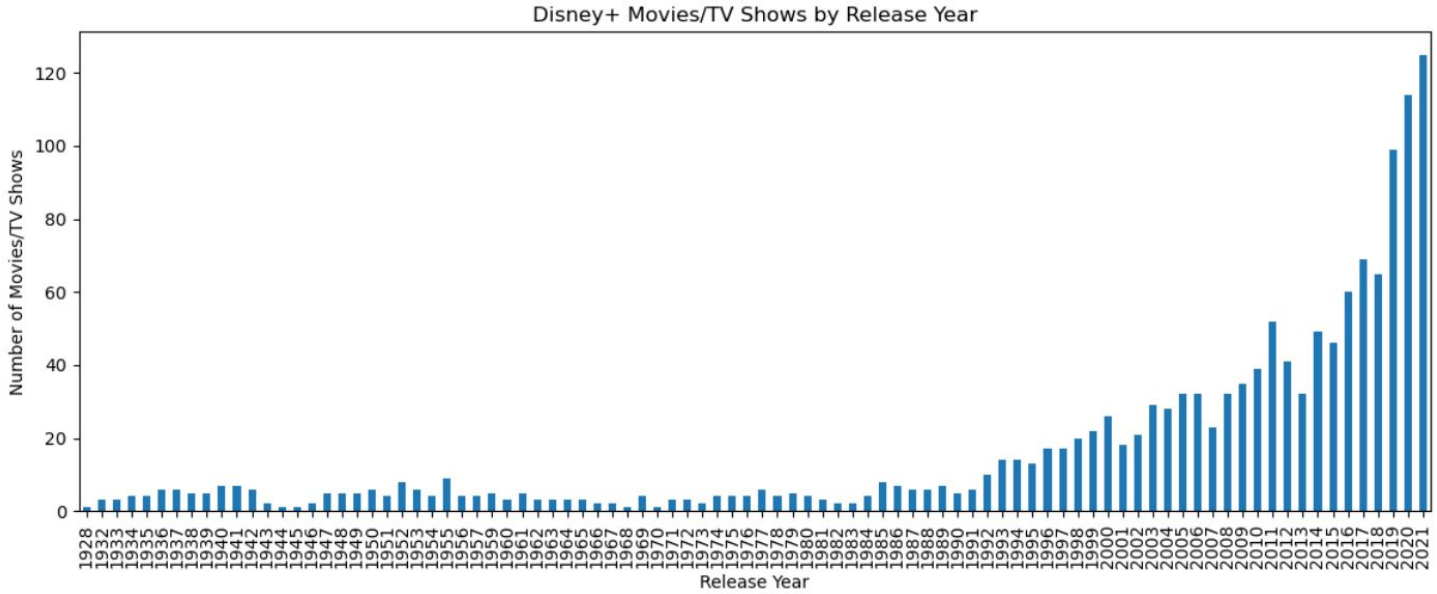
Least popular genres (by production):
Netflix: LGBTQ+, Music/Musicals, SciFi/Fantasy
Disney+: Sports, TV Shows, Thriller/Crime

Patterns in release years - Netflix



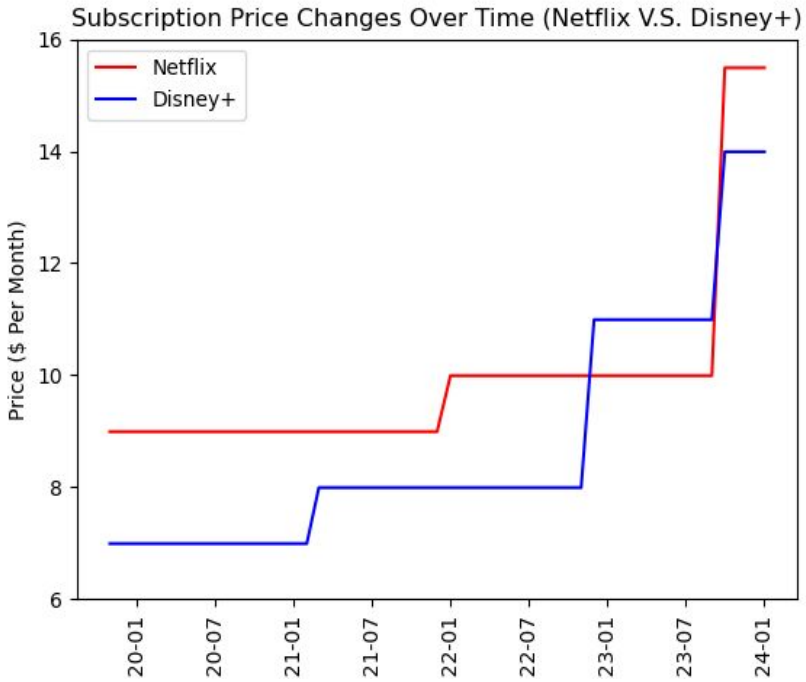
- Oldest title: 1945
- Very few old titles
- New titles seem to be dropping off - peaked in 2019

Patterns in release years - Disney+



- Oldest title: 1928
- More older content than Netflix
- Continuing to add more new content

Subscription price analysis

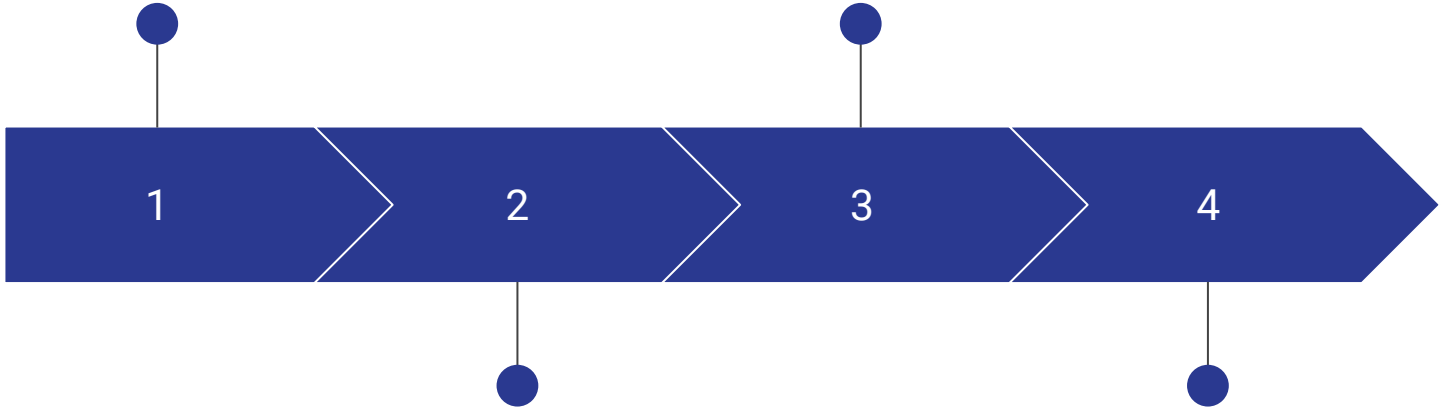


- Both Netflix and Disney+ demonstrated stable subscription prices from 2019 to 2021
- Significant price hikes observed since 2020 for both platforms, with Netflix rising by 56% and Disney+ doubling its subscription price, reflect a strategic response to evolving market dynamics and heightened demand for streaming services

Next steps

Pull in IMDB metadata from OMDB API for all titles

Further analysis into price correlations with supporting content/title data



Expand titles data to additional platforms such as Hulu and Amazon Prime Video

Collect more recent yearly data beyond 2021