Final Project
Netflix Movies and TV Shows

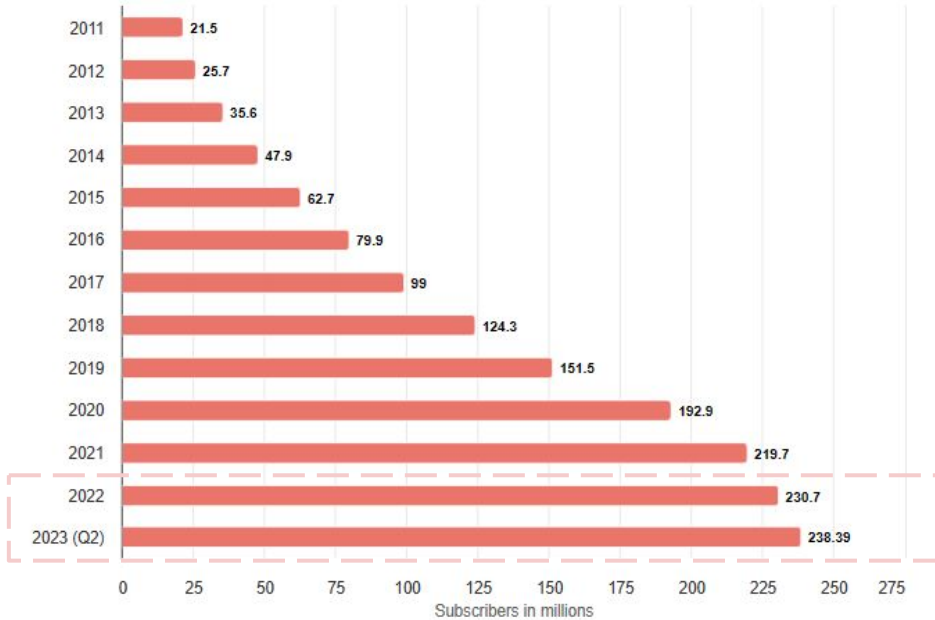## Personal Project by:
NGUYEN TRI THUC

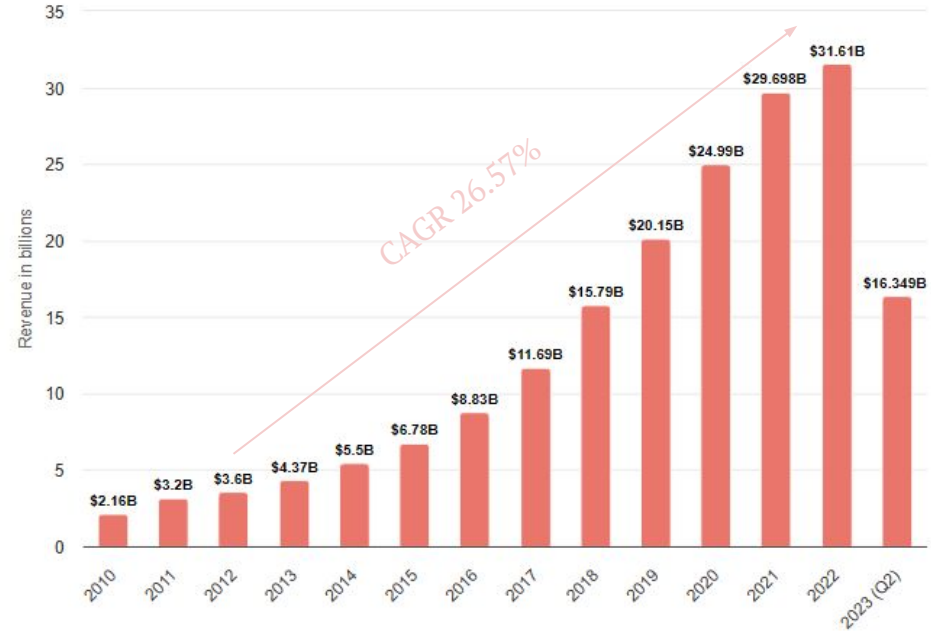**Topic: How has the distribution of Netflix content evolved by release year and rating?**

Netflix Subscriber Count Over the Years

Year	Subscribers in millions
2011	21.5
2012	25.7
2013	35.6
2014	47.9
2015	62.7
2016	79.9
2017	99
2018	124.3
2019	151.5
2020	192.9
2021	219.7
2022	230.7
2023 (Q2)	238.39

Netflix's Revenue Over the Years

CAGR 26.57%

Year	Revenue in billions
2010	$2.16B
2011	$3.2B
2012	$3.6B
2013	$4.37B
2014	$5.5B
2015	$6.78B
2016	$8.83B
2017	$11.69B
2018	$15.79B
2019	$20.15B
2020	$24.99B
2021	$29.698B
2022	$31.61B
2023 (Q2)	$16.349B

source: marketsplash

Table Content:

- **Introduce dataset**

- **Exploratory Data Analysis**

- **Data cleaning**

- **Data visualization**

- **Conclusion**

Data overview:

- The dataset used in this project comes from Kaggle.com.
- Data size: 8807 rows and 12 columns.
- Null percentage in dataset: **country**: **9.4%; rating**: **0.7%; date_added**: **1.1%** - The null values in the dataset could be due to various reasons such as missing data, data corruption, or data entry errors
- Transform into **year_added**, **month_added**, **quarter_added, day_of_week** from **date_added**.
- New column **target_ages** from column rating to Age ratings of TV shows and movies, top genres by age rank.

Attribute Information:

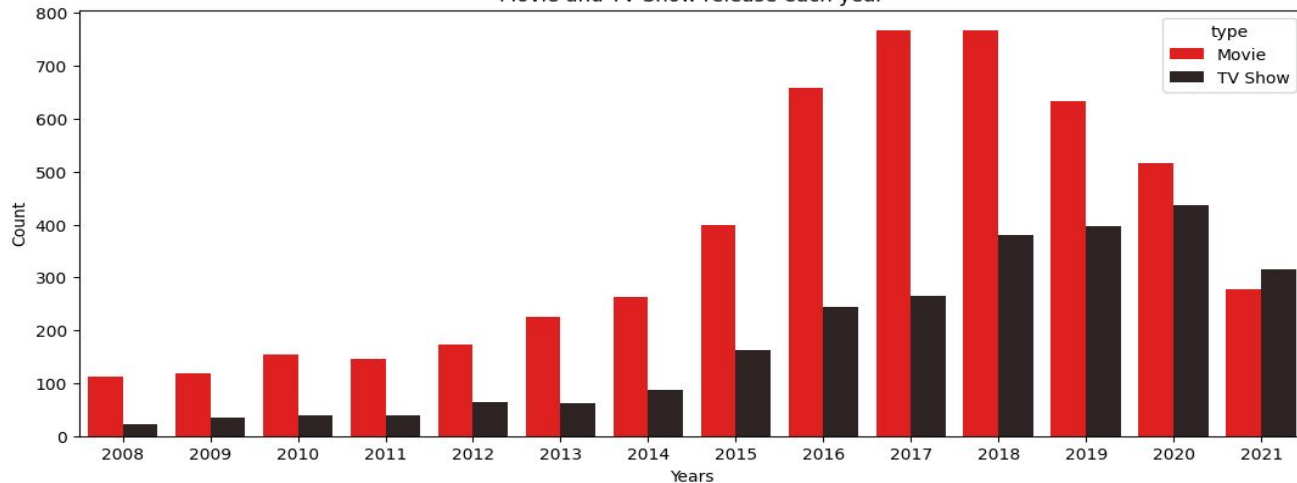|	
● **show_id**: Unique ID for every Movie/ TV Show	● **date_added**: date it was added on Netflix
● **type**: Identifier - a movie or tv show	● **release_year**: actual release year of the movie/ tv show
● **title**: title of the movie/ tv show	● **rating**: tv rating of the movie/ tv show
● **director**: director of the movie	● **duration**: minutes or number of seasons
● **cast**: actor/ actress involved in the movie/ tv show	● **listed_in**: genres
● **country**: country where the movie/ tv show was produced	● **description**: the summary description

Movies are the dominant content offered by Netflix
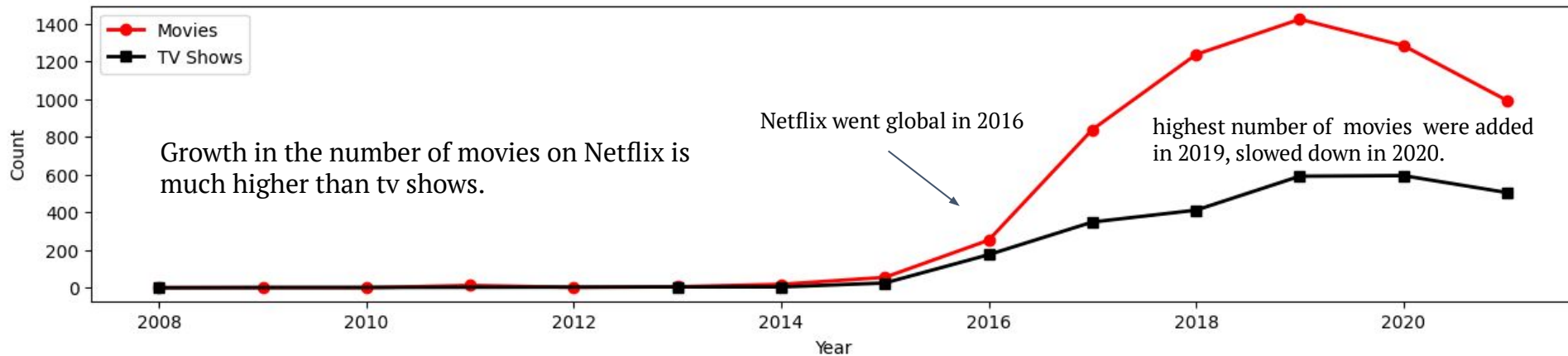
Total Number of Show Types
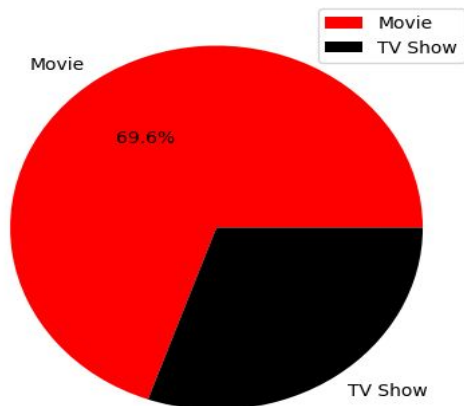
69.6% of the content available on Netflix is Movie, 30.9% is TV Show

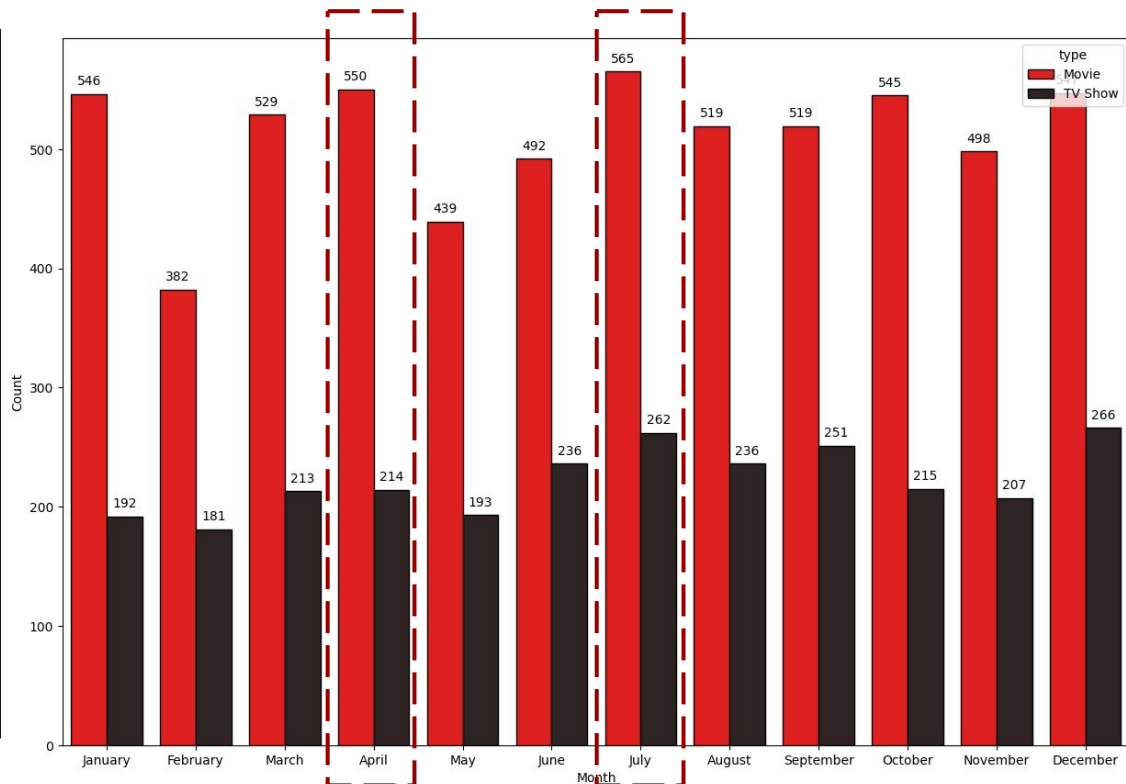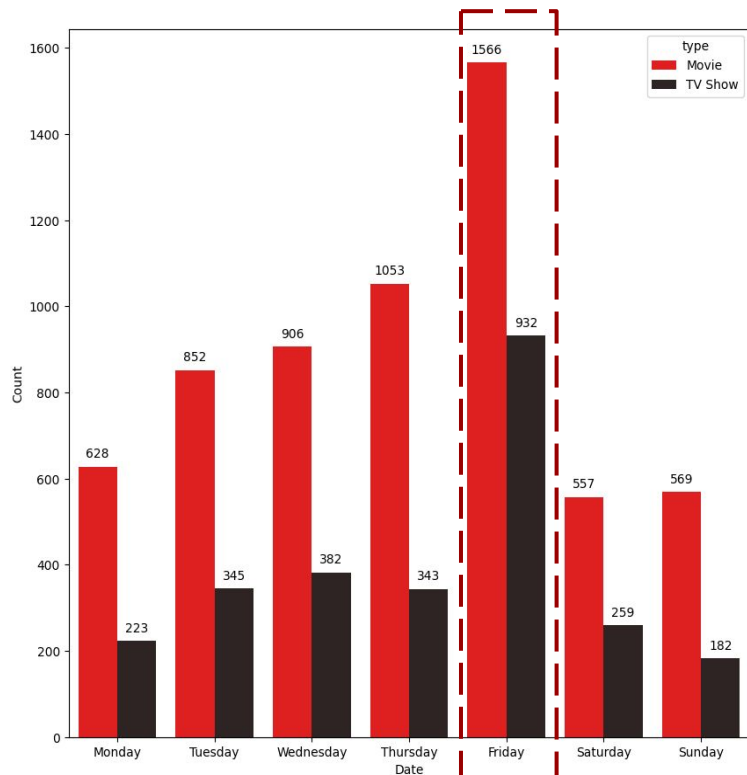### Movie and TV Show release each year

Movie and TV Show added over time

Growth in the number of movies on Netflix is much higher than tv shows.

Netflix went global in 2016

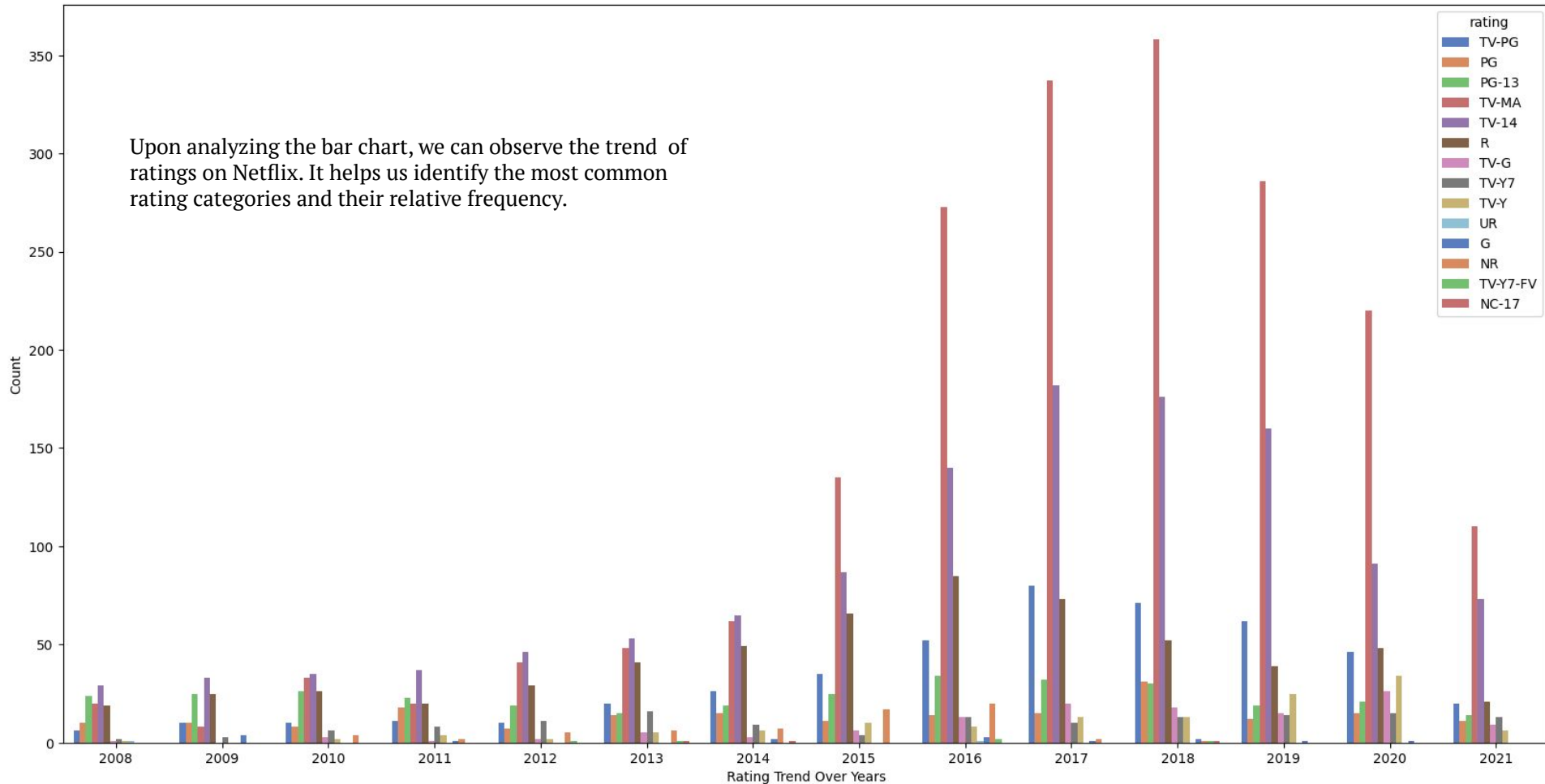highest number of movies were added in 2019, slowed down in 2020.

Distribution content by time

- The most movie additions on Netflix are **July and April** - This information can be valuable for viewers who want to anticipate new releases during these months.
- **December and January**, around Christmas and New Year, also see a significant number of additions, likely due to the festive season, making it a good time for movie releases on Netflix.
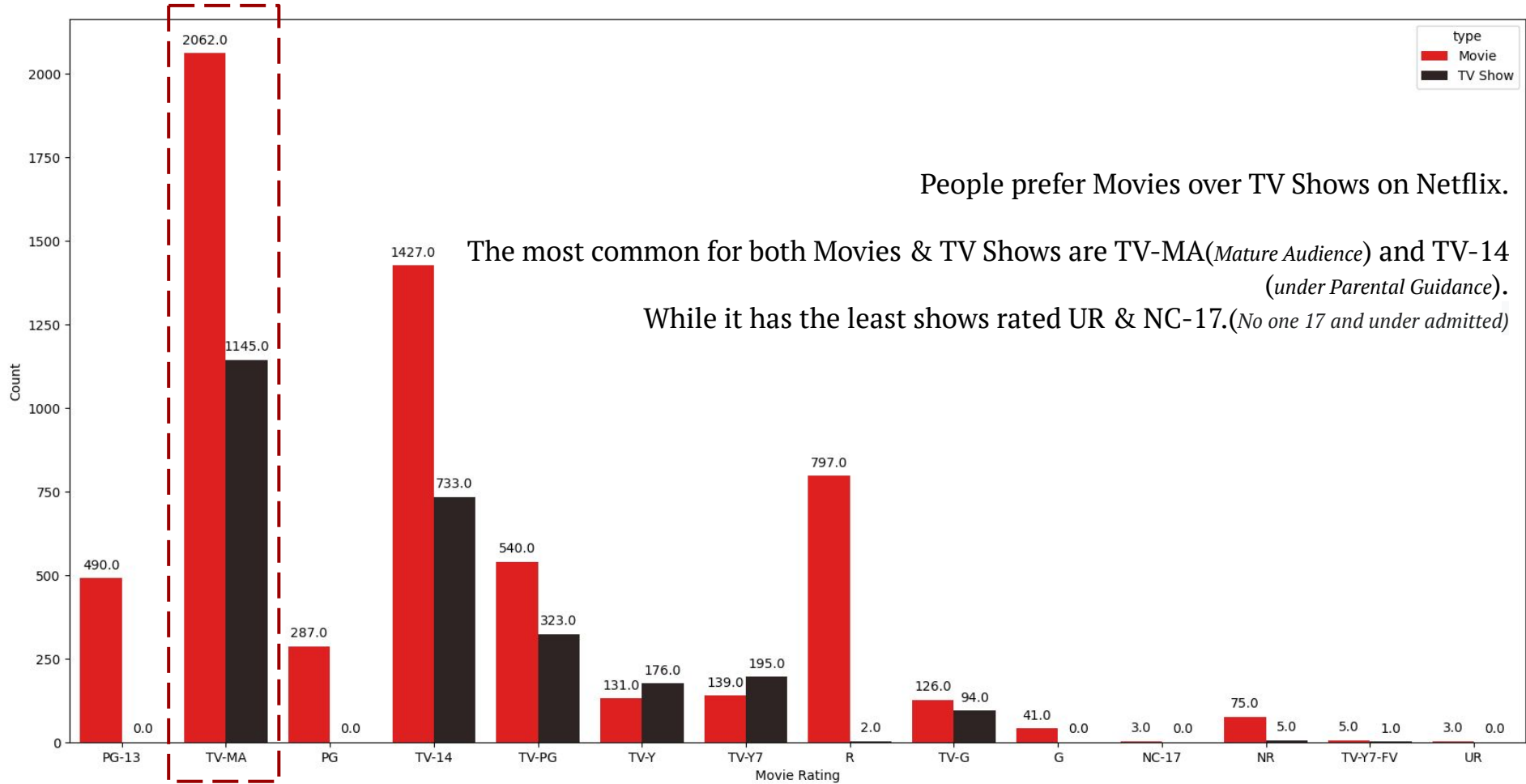- **Friday** is the best day, followed by **Thursday.**

Trend rating by year

Upon analyzing the bar chart, we can observe the trend of ratings on Netflix. It helps us identify the most common rating categories and their relative frequency.

Count

Rating Trend Over Years

rating
TV-PG
PG
PG-13
TV-MA
TV-14
R
TV-G
TV-Y7
TV-Y
UR
G
NR
TV-Y7-FV
NC-17

Count of each rating genre

People prefer Movies over TV Shows on Netflix.

The most common for both Movies & TV Shows are TV-MA(*Mature Audience*) and TV-14 (*under Parental Guidance*).
While it has the least shows rated UR & NC-17.(*No one 17 and under admitted*)

Genre Correlation Heatmap
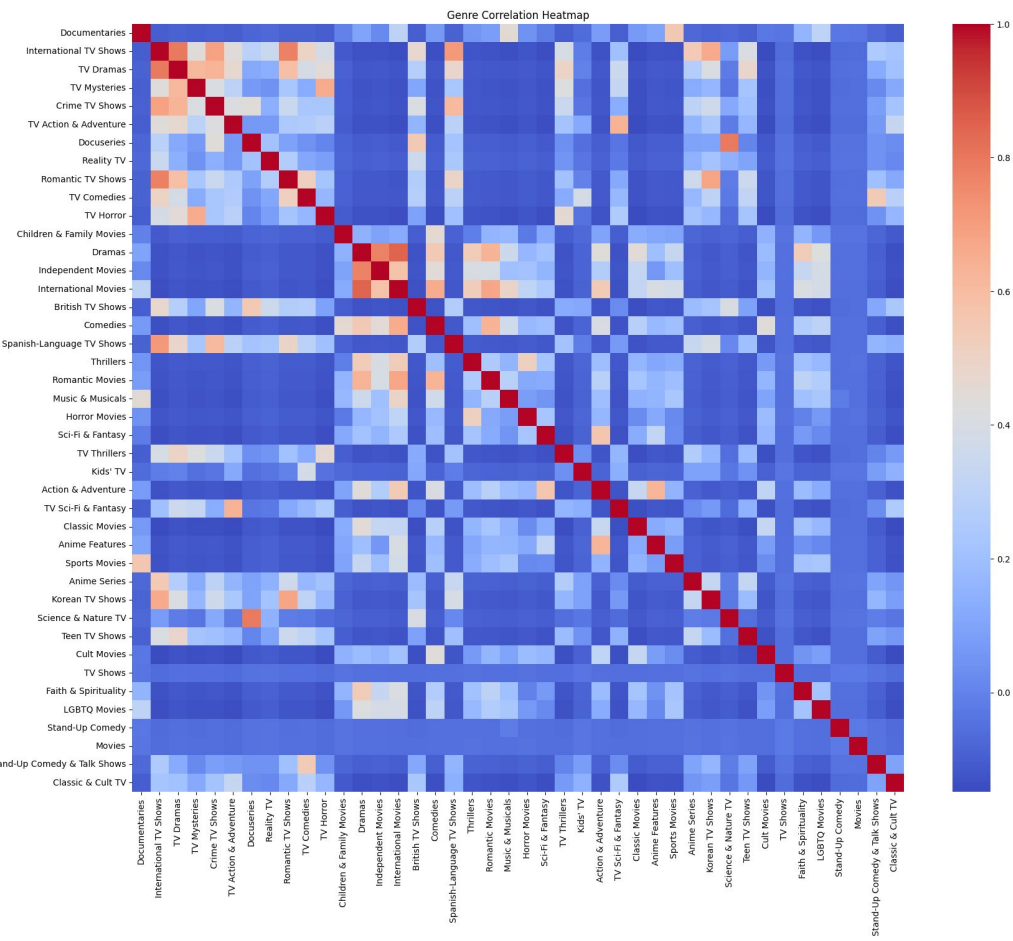

Genre Correlation Heatmap

The heatmap demonstrates the correlation between different genres.

By analyzing the heatmap, we can identify strong positive correlations between specific genres, such as TV Dramas and International TV Shows, Romantic TV Shows, and International TV Shows.

Distribution Genres by Target Ages

Netflix knows how much we all love drama movie...!!
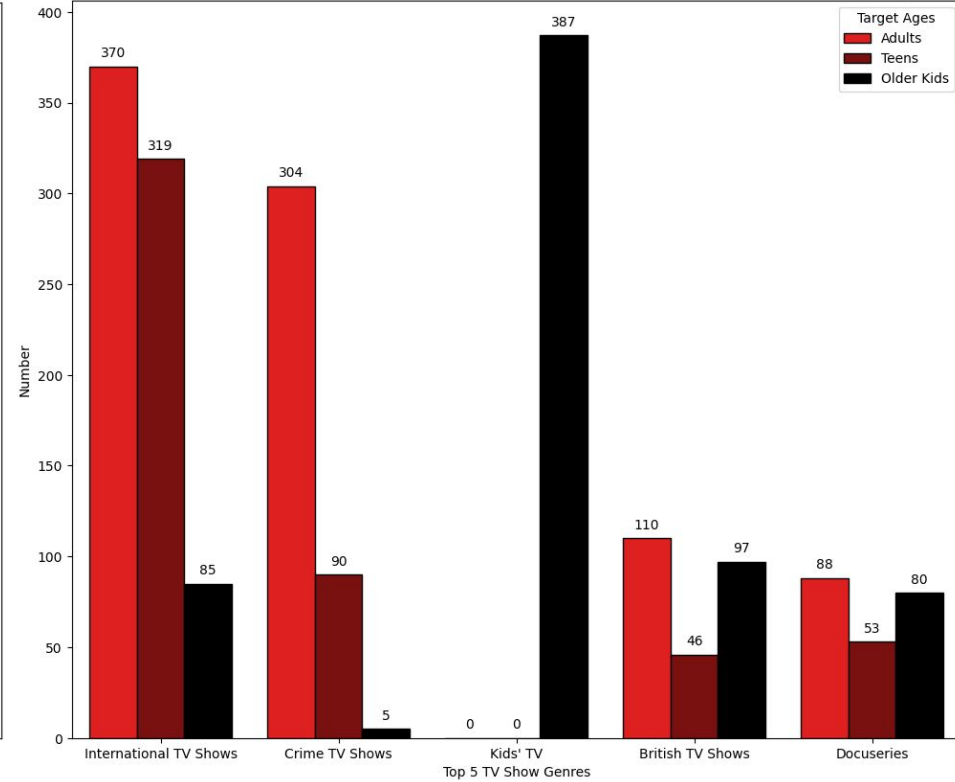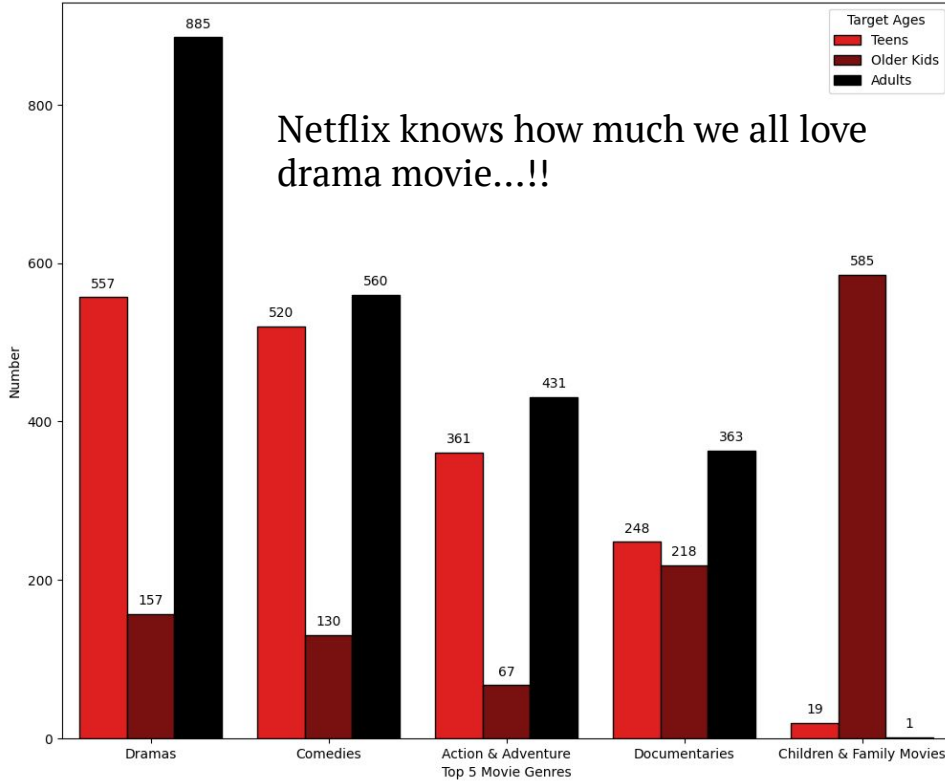
The bar chart shows the top 5 categories of movies and TV shows based on their count. "Dramas" is the most dominant category, followed by "Internationals".

Most genres added recent years
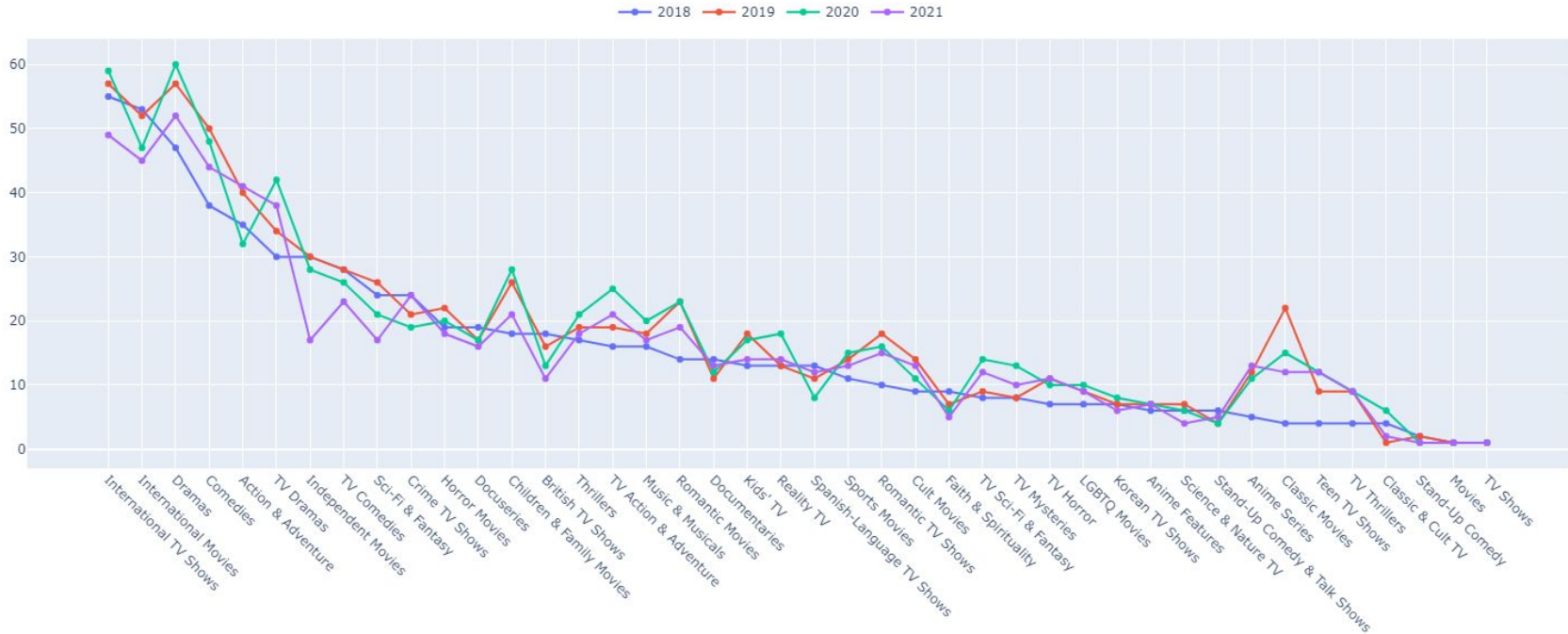
- There are more Movies than Tv Shows on Netflix, which might be enough to assume that Netflix focuses more on Movies than Tv Shows. But the data proves this assumption wrong.
- The above scatter plot shows that Netflix has been adding many International Tv Shows, Tv Dramas, Tv Comedy Shows and many more tv shows in the recent years compared to Movies.
- From this observation, Netflix might be shifting slowly towards Tv Shows.

Distribution of Movie Lengths and TV Show Episode Counts

Duration of Movie

No.of Movies

Consistent trend of movie durations, of which duration time is around in between 90-150 minutes.

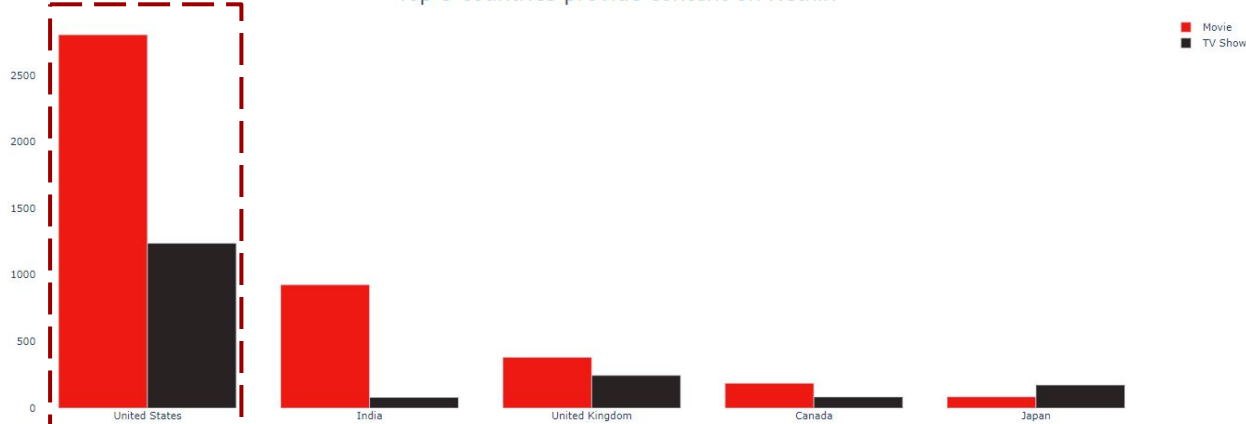Movie's Running time

Less than 30 min | More than 30 min - 1 hours | More than 1 hours - 1.30 hours | More than 1.30 - 2 hours | More than 2.30 hours

Duration of TV Show

No.of TV Show by season

Most of the TV Shows last for 1 or 2 seasons.
For TV shows, finding those with more than 3-4 seasons is uncommon.

TV Show's Seasons

1 Season | 2 Seasons | 3 Seasons | 4 Seasons | 5 Seasons | 6 Seasons | 7 Seasons | 8 Seasons | 9 Seasons +

Trends of countries on Netflix

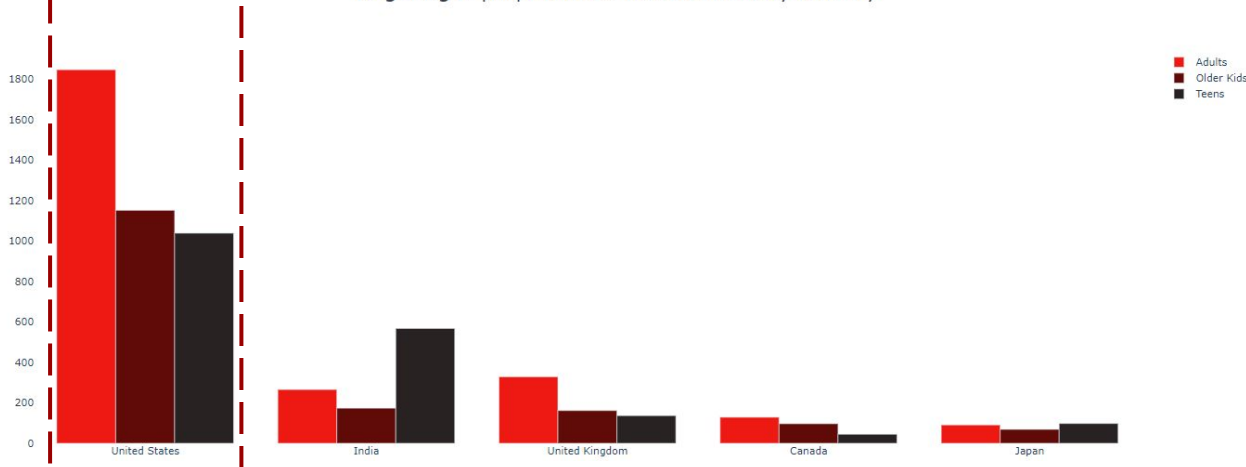## Top 5 countries provide content on Netflix

United States is the top country where Netflix is popular

Bollywood focus of this industry is **Movies** and not TV Shows - **India** is the ranked **second largest contributor**

The popularity of **Japanese** major players in the realm of TV shows - **Anime** is an industry in Japan

Target ages proportion of total content by country

Very interesting results.

Here we see interesting differences between countries. Most shows are targeted to **teens, for instance.**

It is also interesting to note similarities between culturally similar countries - the US & UK are closely aligned with their Netflix target ages, yet vastly different to say, India or Japan!.

Title and Description:

- Examining the word cloud for **titles**, that terms like **"Love," "Girl," "Man," "Life," and "World"** are frequently used, indicating the presence of romantic, coming-of-age, and drama genres in Netflix's content library.
- We saw that most of the movies and tv shows got added during the winters, which tells why **Christmas** appeared many times in the titles.
- Analyzing the word cloud for **descriptions**, we notice dominant words such as **"life," "find," and "family,"** suggesting themes of personal journeys, relationships, and family dynamics prevalent in Netflix's content.

₃. **Conclusions**:

- It was interesting to find that majority of the content available on Netflix is Movies, but in the recent years it has been focusing more on TV Shows.
- **July** emerged as the month when Netflix adds the most content, closely followed by **December**, indicating a strategic approach to content release.
- **United States** and **India** are among the top 5 countries that produce all of the available content on the platform.
- **TV-MA tops the charts**, indicating that mature content is more popular on Netflix. The typical age of a Netflix user is **individuals aged 18-49.** ⇒ Most of the audience is of mature age.
- Most **TV shows** on Netflix have **one season**, suggesting a preference for shorter series among viewers.
- The distribution of **ratings** over the years offers insights into the evolving content landscape and audience reception.
- Words like **love, life, family,** and **adventure** were frequently found in titles and descriptions, capturing recurring themes in Netflix content.
- Our data analysis journey showcased the power of data in unraveling the mysteries of Netflix's content landscape, providing valuable insights for viewers and content creators.
- Our data analysis journey showcased the power of data in unraveling the mysteries of Netflix's content landscape, **providing valuable insights** for viewers and content creators.
- As the streaming industry evolves, understanding these patterns and trends **becomes increasingly essential** for navigating the dynamic landscape of Netflix and its vast library.

4. **Suggestion:**

- Since TV Shows are in trending, we needs to produce more shows in popular **Genre**.
- TV Shows with less seasons and movies with 90-120 mins duration on 'Dramas' & 'Comedies' Genre is preferable.
- Since, USA and Canada have similar popularity in Genre, but have less movies in Canada. We can produce more to increase business in Canada. Similarly, India has common interest. We can provide movies to attract both Audience.
- Produce more dramatic film content, because this is popular film content.
- Target 18-49 years old to keep up with Movie and TV series trends because this is the age group with the most popular viewers.

Thank You For Attention

NETFLIX

December 2023

Reference source:

1. [Netflix: The New Golden Age of Television? - The Atlantic](#)

2. [In 2015, Netflix Became a TV Network. Where Does It Go From Here? | WIRED](#)

3. [Netflix Is Now Available Around the World - About Netflix](#)

4. [Motion Picture Association film rating system - Wikipedia](#)

5. [A Case Study On Netflix Marketing Strategy (safalta.com)](#)

6. [South Korea and Japan Emerge as Key Battlegrounds in the Streaming Wars – The Hollywood Reporter](#)