

## Insights from Netflix Business case study

### DATASET Review:

- The dataset has 8807 rows and 12 unique columns.

```
#nf_data attributes
print(f"shape of data frame:{df.shape}")

shape of data frame:(8807, 12)
```

|        | show_id | type | title | director | cast | country | date_added | release_year | rating | duration | listed_in | description |
|--------|---------|------|-------|----------|------|---------|------------|--------------|--------|----------|-----------|-------------|
| count  | 8807    | 8807 | 8807  | 8807     | 8807 | 8807    | 8807       | 8807.000000  | 8807   | 8807     | 8807      | 8807        |
| unique | 8807    | 2    | 8807  | 4529     | 7693 | 749     | 1768       | NaN          | 18     | 221      | 514       | 8775        |

Nonunique, repeated columns: type,country,date\_added,rating,duration,listed\_in  
Unique, non-repeated columns:show\_id, title, description

- Top 10 directors who made the highest number of films. Rajiv Chilaka made highest number of films compared to other directors

|    | director            | title |
|----|---------------------|-------|
| 1  | Rajiv Chilaka       | 22    |
| 2  | Jan Suter           | 21    |
| 3  | Raúl Campos         | 19    |
| 4  | Suhas Kadav         | 16    |
| 5  | Marcus Raboy        | 16    |
| 6  | Jay Karas           | 15    |
| 7  | Cathy Garcia-Molina | 13    |
| 8  | Martin Scorsese     | 12    |
| 9  | Youssef Chahine     | 12    |
| 10 | Jay Chapman         | 12    |

- Highest director-actor combination

| director       | cast               | title |
|----------------|--------------------|-------|
| Rajiv Chilaka  | Julie Tejjwani     | 19    |
| Rajiv Chilaka  | Rajesh Kava        | 19    |
| Rajiv Chilaka  | Rupa Bhimani       | 18    |
| Rajiv Chilaka  | Jigna Bhardwaj     | 18    |
| Rajiv Chilaka  | Vatsal Dubey       | 16    |
| Rajiv Chilaka  | Mousam             | 13    |
| Rajiv Chilaka  | Swapnil            | 13    |
| Suhas Kadav    | Saurav Chakraborty | 8     |
| S.S. Rajamouli | Rana Daggubati     | 7     |
| S.S. Rajamouli | Sathyaraj          | 7     |
| S.S. Rajamouli | Nassar             | 7     |
| Yılmaz Erdoğan | Yılmaz Erdoğan     | 7     |
| S.S. Rajamouli | Prabhas            | 7     |
| S.S. Rajamouli | Anushka Shetty     | 7     |

- **Highest films by actors**

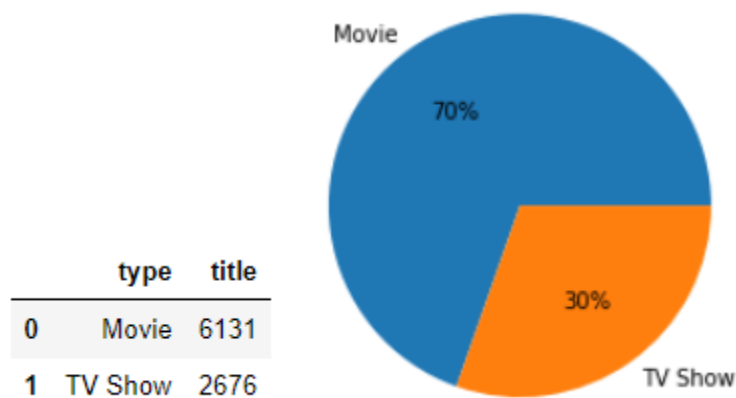
| cast             | title |
|------------------|-------|
| Anupam Kher      | 43    |
| Shah Rukh Khan   | 35    |
| Julie Tejjwani   | 33    |
| Naseeruddin Shah | 32    |
| Takahiro Sakurai | 32    |
| Rupa Bhimani     | 31    |
| Om Puri          | 30    |
| Akshay Kumar     | 30    |
| Yuki Kaji        | 29    |
| Paresh Rawal     | 28    |

- In the year 2018, the highest number of films was released, precisely 1147. Consequently, in the year 2017, the second highest number of films was released, precisely 1032. Year-wise released data is as follows

|   | release_year | title |
|---|--------------|-------|
| 0 | 2018         | 1147  |
| 1 | 2017         | 1032  |
| 2 | 2019         | 1030  |
| 3 | 2020         | 953   |
| 4 | 2016         | 902   |
| 5 | 2021         | 592   |
| 6 | 2015         | 560   |
| 7 | 2014         | 352   |
| 8 | 2013         | 288   |
| 9 | 2012         | 237   |

The number of films is exponentially increased from 2000 to 2018 after that sudden decrease in the number of films released.

- The titles are given data broadly into two categories. Those are movies and Tv shows. Overall more movies are released than TV shows on Netflix. The statistical data is as follows



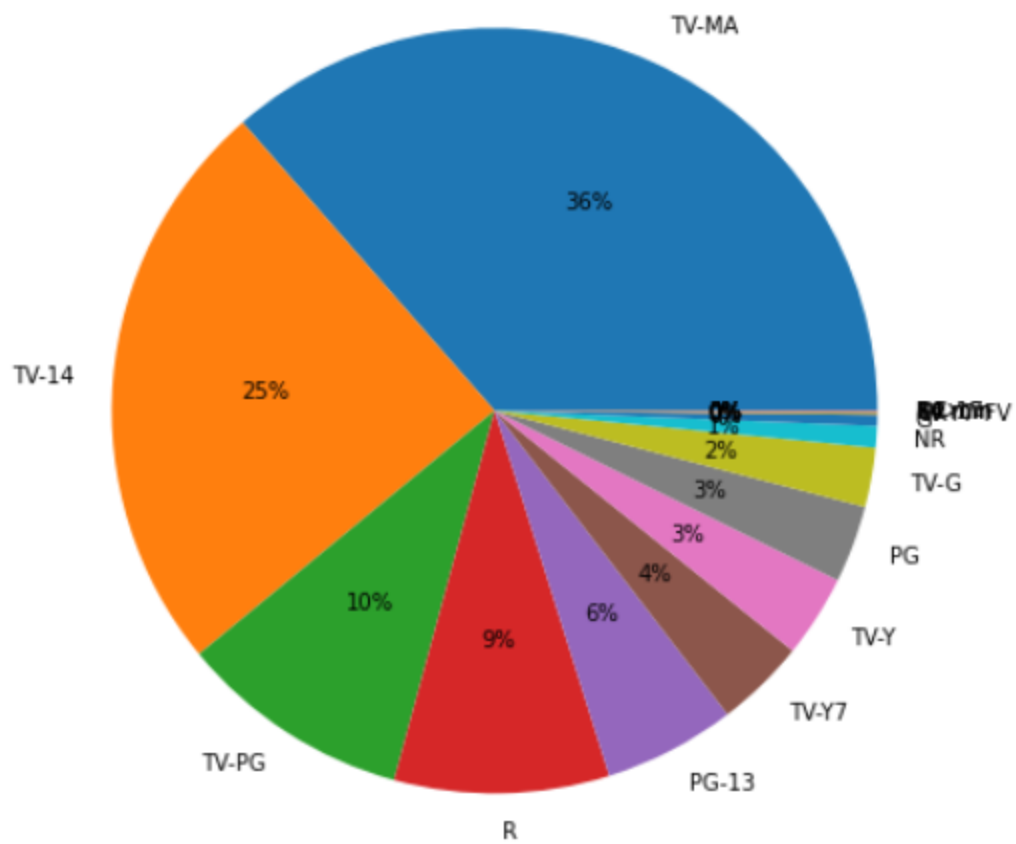
- 42 different genre titles are available on Netflix. Most titles are listed in international movies.
  1. The top five listed categories are international\_movies, Dramas, Comedies, International Tv Shows, and Documentaries.

2. The last five listed categories are TV shows, classic and cult TV, stand-up comedy and talk show, movies, and TV thriller

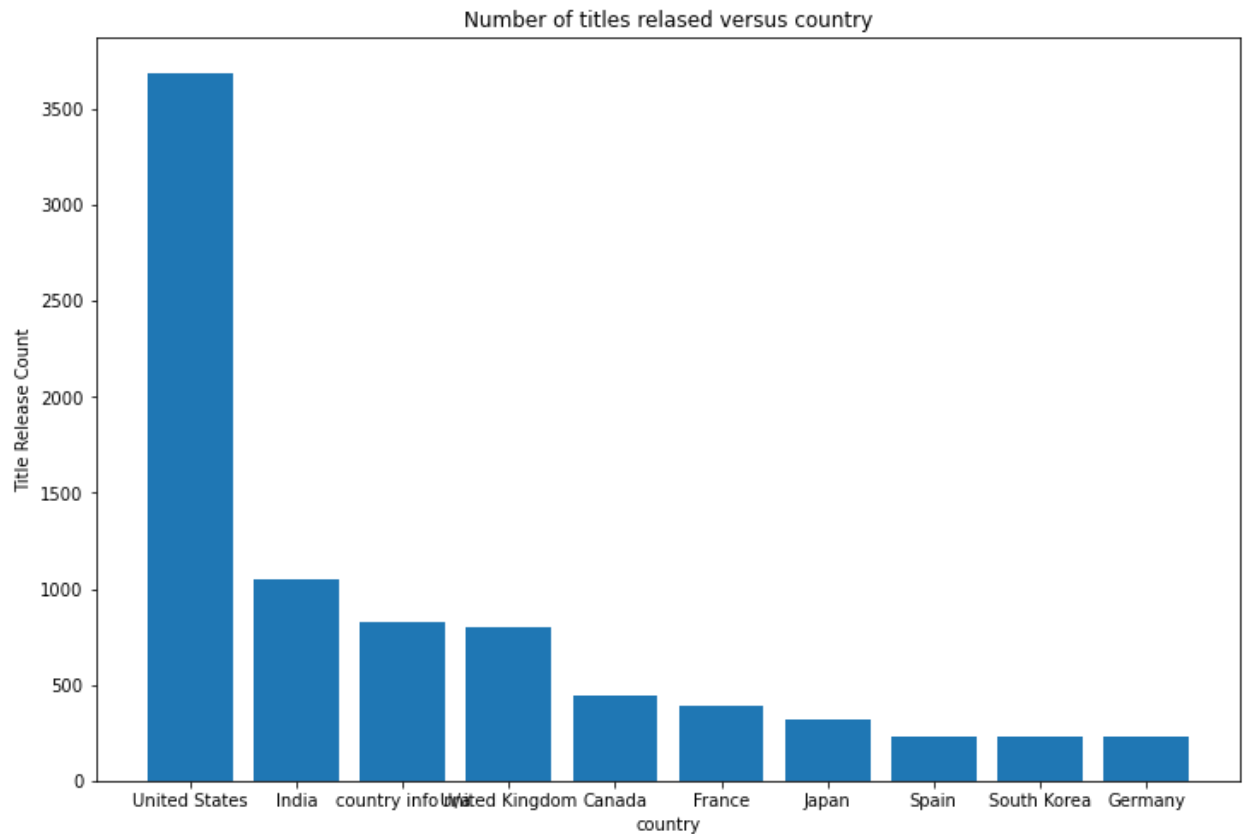
|    | listed_in                    | title |
|----|------------------------------|-------|
| 0  | International Movies         | 2752  |
| 1  | Dramas                       | 2427  |
| 2  | Comedies                     | 1674  |
| 3  | International TV Shows       | 1351  |
| 4  | Documentaries                | 869   |
| 5  | Action & Adventure           | 859   |
| 37 | TV Thrillers                 | 57    |
| 38 | Movies                       | 57    |
| 39 | Stand-Up Comedy & Talk Shows | 56    |
| 40 | Classic & Cult TV            | 28    |
| 41 | TV Shows                     | 16    |

- 17 different ratings were given to the titles on Netflix's data. Most of the titles given a rating of TV-MA, and the number of titles belongs to TV-MA is 3207. TV-MA ratings are 36.43% of overall ratings

|    | rating   | title | percentage |
|----|----------|-------|------------|
| 0  | TV-MA    | 3207  | 36.43      |
| 1  | TV-14    | 2160  | 24.54      |
| 2  | TV-PG    | 863   | 9.80       |
| 3  | R        | 799   | 9.08       |
| 4  | PG-13    | 490   | 5.57       |
| 5  | TV-Y7    | 334   | 3.79       |
| 6  | TV-Y     | 307   | 3.49       |
| 7  | PG       | 287   | 3.26       |
| 8  | TV-G     | 220   | 2.50       |
| 9  | NR       | 80    | 0.91       |
| 10 | G        | 41    | 0.47       |
| 11 | TV-Y7-FV | 6     | 0.07       |
| 12 | UR       | 3     | 0.03       |
| 13 | NC-17    | 3     | 0.03       |
| 14 | 74 min   | 1     | 0.01       |
| 15 | 84 min   | 1     | 0.01       |
| 16 | 66 min   | 1     | 0.01       |



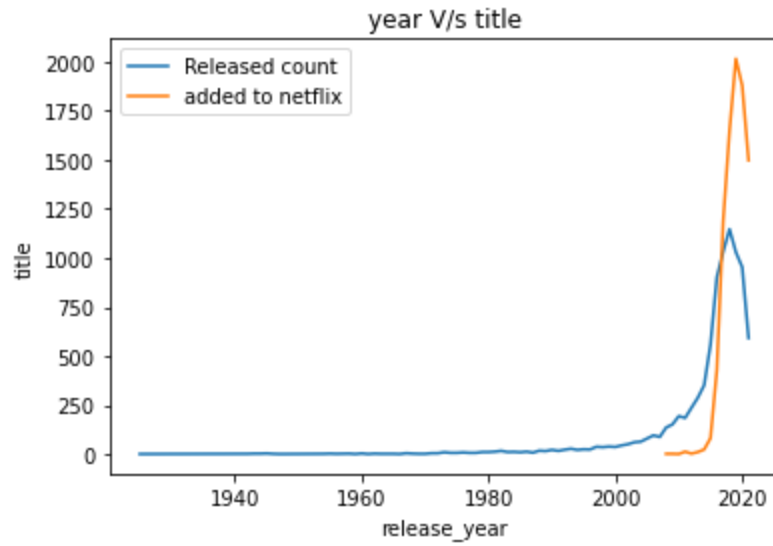
- In usa country highest titles released so far, after that India, uk,canada, france



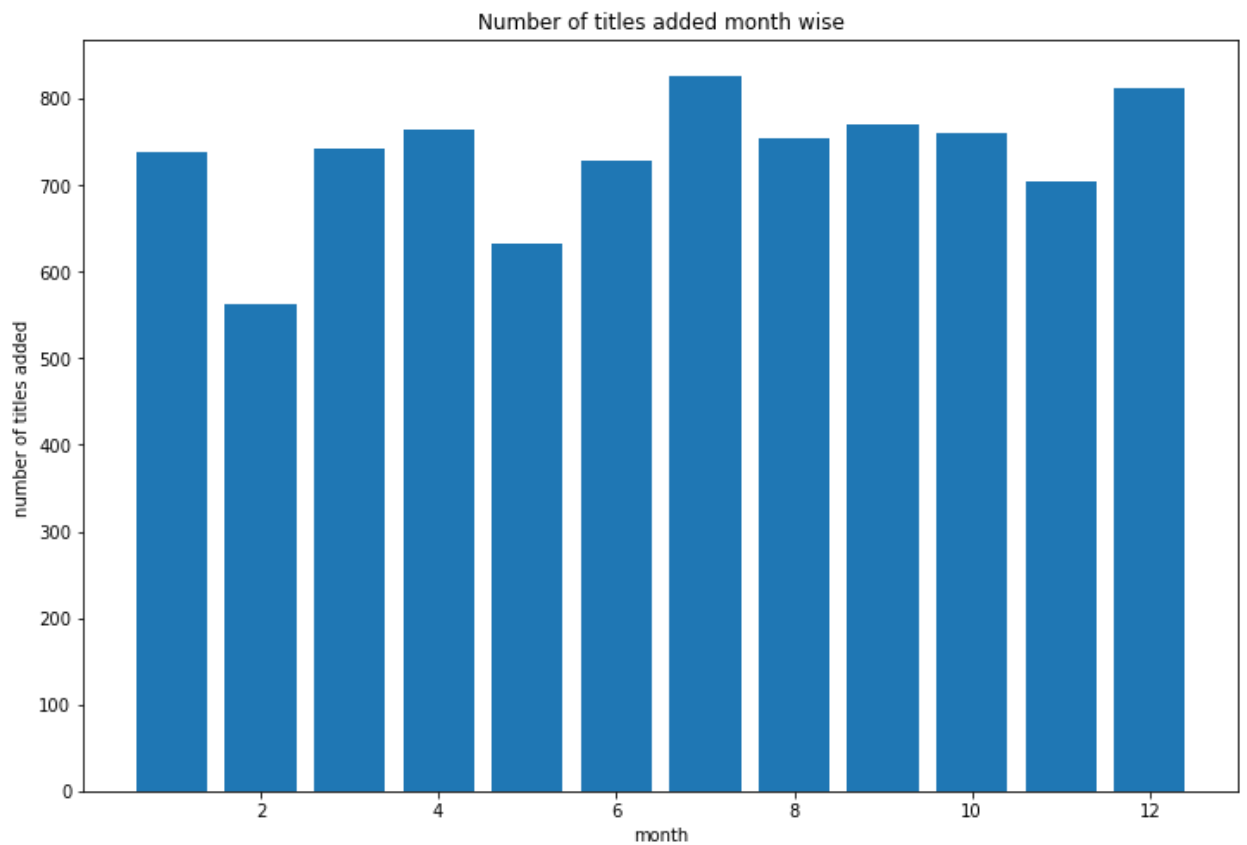
- Even though more films were released in the year 2018, more films were added to Netflix in the year 2019.

|    | Year   | title |
|----|--------|-------|
| 11 | 2019.0 | 2016  |
| 12 | 2020.0 | 1879  |
| 10 | 2018.0 | 1649  |
| 13 | 2021.0 | 1498  |
| 9  | 2017.0 | 1188  |

- Until 2019 the number of titles added to Netflix was less than number of films released. From 2019 onwards more films added to Netflix than films released.

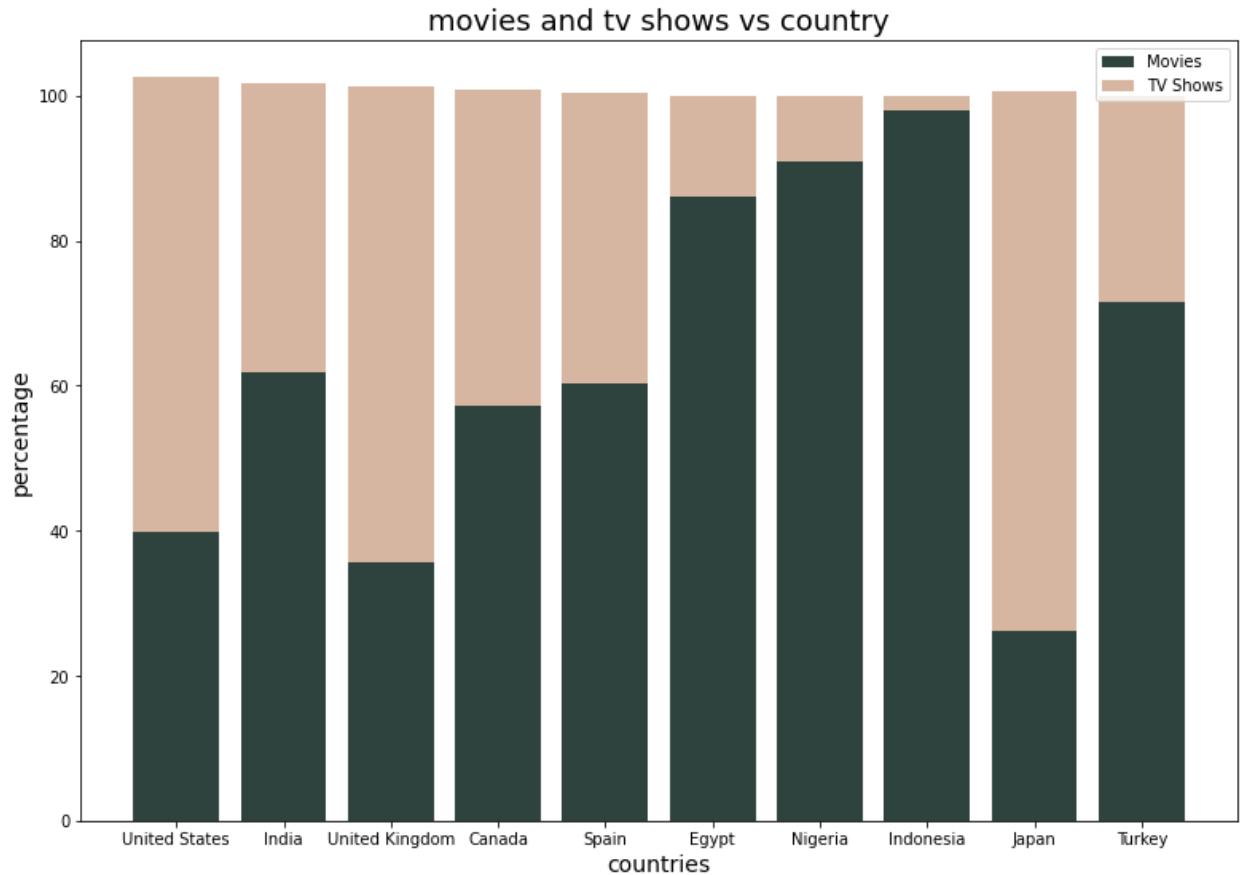


- Most of the films to Netflix were added in July month, afterward December, May



- Country wise the type of title distribution is evaluated.





1. In USA, the percentage of TV shows more than movies

2. In India, the percentage of movies more than TV shows

Similar analysis can be observed for other countries from the above chart

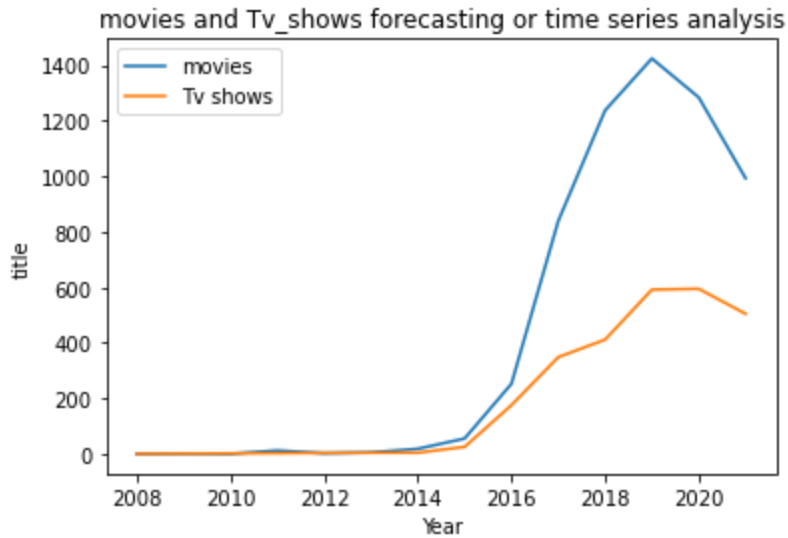
- Maximum number of TV shows with 1 season on Netflix. 1793 TV shows are available on Netflix with 1 season. The maximum number of seasons per TV show is 17.

|    | num_seasons | title |
|----|-------------|-------|
| 0  | 1           | 1793  |
| 1  | 2           | 425   |
| 2  | 3           | 199   |
| 3  | 4           | 95    |
| 4  | 5           | 65    |
| 5  | 6           | 33    |
| 6  | 7           | 23    |
| 7  | 8           | 17    |
| 8  | 9           | 9     |
| 9  | 10          | 7     |
| 10 | 13          | 3     |
| 11 | 11          | 2     |
| 12 | 12          | 2     |
| 13 | 15          | 2     |
| 14 | 17          | 1     |

- Mean running sessions of TV shows on Netflix is 1.76 sessions
- Movies with a duration of 90 minutes are highest on Netflix

|   | cast_time | title |
|---|-----------|-------|
| 0 | 90        | 152   |
| 1 | 93        | 146   |
| 2 | 94        | 146   |
| 3 | 97        | 146   |
| 4 | 91        | 144   |
| 5 | 95        | 137   |
| 6 | 96        | 130   |
| 7 | 92        | 129   |
| 8 | 102       | 122   |
| 9 | 98        | 120   |

- The pattern of movies and tv shows added to Netflix followed same pattern



### Recommendations:

- Netflix has more titles in the month of July and April. Hence, these months website availability should be high and not let down the website.
- Netflix have more titles from USA, India, UK, Canada. Netflix should focus on other countries which have lower title count like Mexico, china
- The title count added in netflix is decreased from 2018, reason for decrease in count should be investigated
- Most genres are international movies, dramas,comedies, international tv shows, and documentaries. The remaining genres count is less on Netflix compared to other genres. It should be carefully investigated that why other genres count is less due to less availability or user interest.