DATASET

https://drive.google.com/file/d/15aSgruCUpDigfmi5kAX6deo7R4uriXcr/view?usp=sharing (https://drive.google.com/file/d/15aSgruCUpDigfmi5kAX6deo7R4uriXcr/view?usp=sharing)

In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sb
df = pd.read_csv("C:/Users/MANSI JANGID/Downloads/netflix.csv")
df.head()
```

Out[1]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	S
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	2021	TV-MA	
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	TV-MA	
4	s5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2021	TV-MA	S

In [2]:
```
df.shape
```

Out[2]:
```
(8807, 12)
```

In [3]:
```
df.dtypes
```

Out[3]:
```
show_id         object
type            object
title           object
director        object
cast            object
country         object
date_added      object
release_year     int64
rating          object
duration        object
listed_in       object
description     object
dtype: object
```

In [4]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8807 entries, 0 to 8806
Data columns (total 12 columns):
 #   Column        Non-Null Count  Dtype 
---  ------        --------------  ----- 
 0   show_id       8807 non-null   object
 1   type          8807 non-null   object
 2   title         8807 non-null   object
 3   director      6173 non-null   object
 4   cast          7982 non-null   object
 5   country       7976 non-null   object
 6   date_added    8797 non-null   object
 7   release_year  8807 non-null   int64 
 8   rating        8803 non-null   object
 9   duration      8804 non-null   object
 10  listed_in     8807 non-null   object
 11  description   8807 non-null   object
dtypes: int64(1), object(11)
memory usage: 825.8+ KB
```

Missing value and Outliers check

In [5]:
```
df.isna().sum()
```

Out[5]:
```
show_id           0
type              0
title             0
director       2634
cast            825
country         831
date_added       10
release_year      0
rating            4
duration          3
listed_in         0
description       0
dtype: int64
```

Data Cleaning:

Re-arranging the country,director and cast names by splitting and concatenating in new columns. Replacing the null values from cast,director and country column with mode for categorical data and mean for numerical data.

In [10]:
```
df["director"]=df["director"].fillna("director_unknown")
df["cast"]=df["cast"].fillna("cast_unknown")
df["country"]=df["country"].fillna("country_unknown")
df["director"]=df["director"].replace('',"director_unknown",regex = True)
df["cast"]=df["cast"].replace('',"cast_unknown",regex = True)
df["country"]=df["country"].replace('',"country_unknown",regex = True)
df
```

Out[10]:

	show_id	type	title	director	cast	country	date_added
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	cast_unknown	United States	September 25, 2021
1	s2	TV Show	Blood & Water	director_unknown	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	country_unknown	September 24, 2021
3	s4	TV Show	Jailbirds New Orleans	director_unknown	cast_unknown	country_unknown	September 24, 2021
4	s5	TV Show	Kota Factory	director_unknown	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021
...	...	...	...	...	...	...	...
8802	s8803	Movie	Zodiac	David Fincher	Mark Ruffalo, Jake Gyllenhaal, Robert Downey J...	United States	November 20, 2019
8803	s8804	TV Show	Zombie Dumb	director_unknown	cast_unknown	country_unknown	July 1, 2019
8804	s8805	Movie	Zombieland	Ruben Fleischer	Jesse Eisenberg, Woody Harrelson, Emma Stone, ...	United States	November 1, 2019
8805	s8806	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States	January 11, 2020
8806	s8807	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019

8807 rows × 12 columns

In [8]:
```
mask=df["cast"].apply(lambda x:str(x).split(",")).tolist()
df_cast=pd.DataFrame(mask,index=df["title"])
df_cast=df_cast.stack()
df_cast=pd.DataFrame(df_cast)
df_cast.reset_index(inplace=True)
df_cast=df_cast[["title",0]]
df_cast.columns=["title","cast"]
df_cast
```

Out[8]:

	title	cast
0	Dick Johnson Is Dead	cast_unknown
1	Blood & Water	Ama Qamata
2	Blood & Water	Khosi Ngema
3	Blood & Water	Gail Mabalane
4	Blood & Water	Thabang Molaba
...	...	...
64946	Zubaan	Manish Chaudhary
64947	Zubaan	Meghna Malik
64948	Zubaan	Malkeet Rauni
64949	Zubaan	Anita Shabdish
64950	Zubaan	Chittaranjan Tripathy

64951 rows × 2 columns

In [11]:
```
mask1=df["country"].apply(lambda x:str(x).split(",")).tolist()
df_country=pd.DataFrame(mask1,index=df["title"])
df_country=df_country.stack()
df_country=pd.DataFrame(df_country)
df_country.reset_index(inplace=True)
df_country=df_country[["title",0]]
df_country.columns=["title","country"]
df_country
```

Out[11]:

	title	country
0	Dick Johnson Is Dead	United States
1	Blood & Water	South Africa
2	Ganglands	country_unknown
3	Jailbirds New Orleans	country_unknown
4	Kota Factory	India
...	...	...
10845	Zodiac	United States
10846	Zombie Dumb	country_unknown
10847	Zombieland	United States
10848	Zoom	United States
10849	Zubaan	India

10850 rows × 2 columns

In [12]:
```
mask2=df["director"].apply(lambda x:str(x).split(",")).tolist()
df_director=pd.DataFrame(mask2,index=df["title"])
df_director=df_director.stack()
df_director=pd.DataFrame(df_director)
df_director.reset_index(inplace=True)
df_director=df_director[["title",0]]
df_director.columns=["title","director"]
df_director
```

Out[12]:

	title	director
0	Dick Johnson Is Dead	Kirsten Johnson
1	Blood & Water	director_unknown
2	Ganglands	Julien Leclercq
3	Jailbirds New Orleans	director_unknown
4	Kota Factory	director_unknown
...	...	...
9607	Zodiac	David Fincher
9608	Zombie Dumb	director_unknown
9609	Zombieland	Ruben Fleischer
9610	Zoom	Peter Hewitt
9611	Zubaan	Mozez Singh

9612 rows × 2 columns

In [13]:
```
mask3=df["listed_in"].apply(lambda x:str(x).split(",")).tolist()
df_genre=pd.DataFrame(mask3,index=df["title"])
df_genre=df_genre.stack()
df_genre=pd.DataFrame(df_genre)
df_genre.reset_index(inplace=True)
df_genre=df_genre[["title",0]]
df_genre.columns=["title","genre"]
df_genre
```

Out[13]:

	title	genre
0	Dick Johnson Is Dead	Documentaries
1	Blood & Water	International TV Shows
2	Blood & Water	TV Dramas
3	Blood & Water	TV Mysteries
4	Ganglands	Crime TV Shows
...	...	...
19318	Zoom	Children & Family Movies
19319	Zoom	Comedies
19320	Zubaan	Dramas
19321	Zubaan	International Movies
19322	Zubaan	Music & Musicals

19323 rows × 2 columns

In [14]:
```
df1=pd.merge(df_country,df_cast,on="title")
df2=pd.merge(df_genre,df_director,on="title")
df3=pd.merge(df1,df2,on="title")
df_clean_data=pd.merge(df3,df,on="title")
df_clean_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 202065 entries, 0 to 202064
Data columns (total 16 columns):
 #   Column        Non-Null Count   Dtype 
---  ------        --------------   ----- 
 0   title         202065 non-null  object
 1   country_x     202065 non-null  object
 2   cast_x        202065 non-null  object
 3   genre         202065 non-null  object
 4   director_x    202065 non-null  object
 5   show_id       202065 non-null  object
 6   type          202065 non-null  object
 7   director_y    202065 non-null  object
 8   cast_y        202065 non-null  object
 9   country_y     202065 non-null  object
 10  date_added    201907 non-null  object
 11  release_year  202065 non-null  int64 
 12  rating        201998 non-null  object
 13  duration      202062 non-null  object
 14  listed_in     202065 non-null  object
 15  description   202065 non-null  object
dtypes: int64(1), object(15)
memory usage: 26.2+ MB
```

FILTERED DATA-df_clean_data

Questions i.How has the number of movies released per year changed over the last 20-30 years?

ii.Comparison of tv shows vs. movies.

iii.What is the best time to launch a TV show?

iv.Analysis of actors/directors of different types of shows/movies.

v.Does Netflix has more focus on TV Shows than movies in recent years

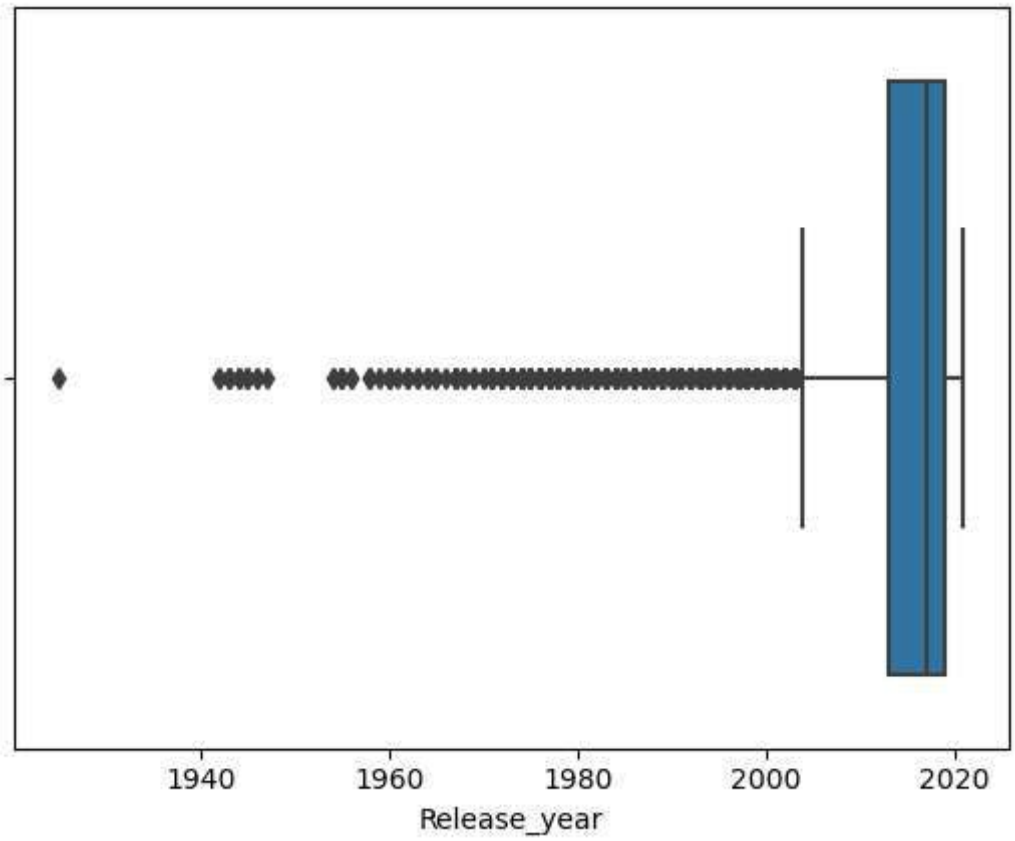
vi.Understanding what content is available in different countries

How has the number of movies released per year changed over the last 20-30 years?

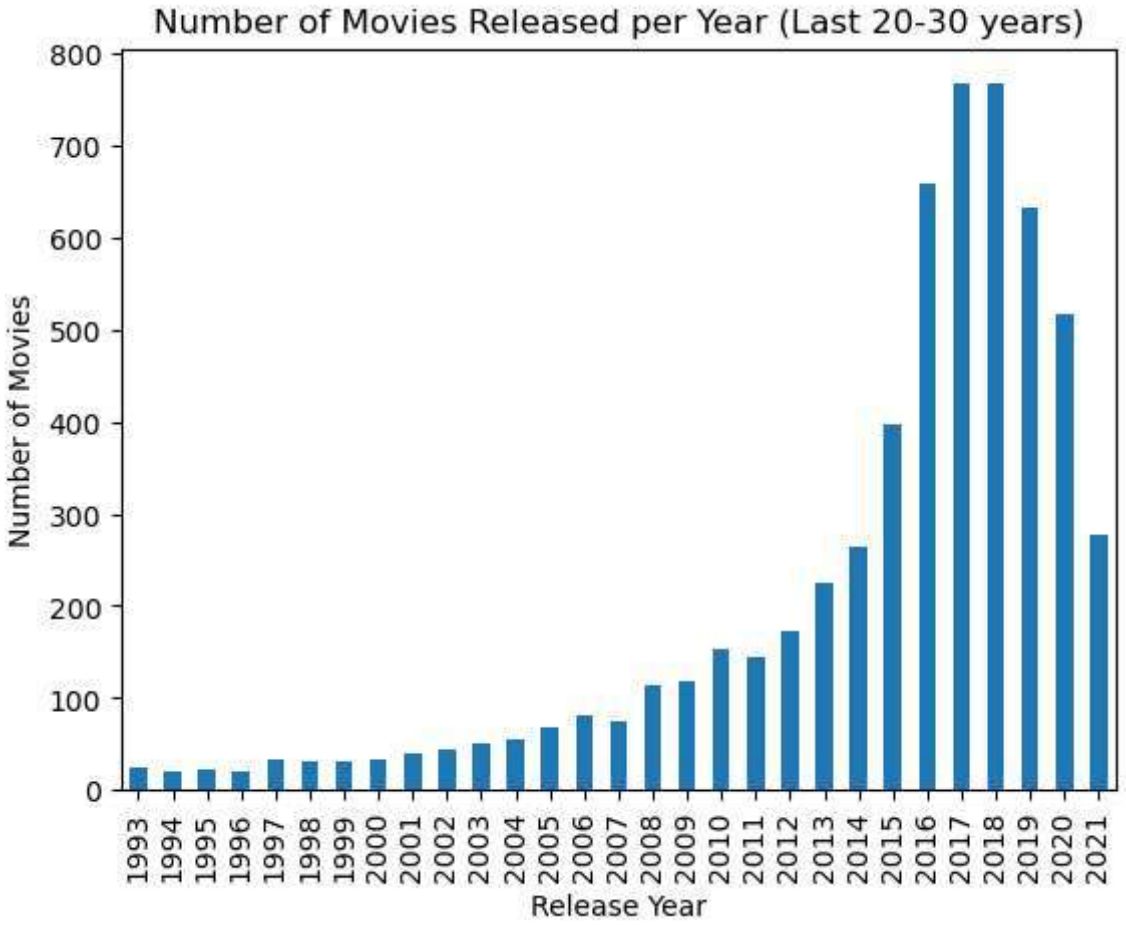
In [16]:
```
sb.boxplot(df['release_year'])
plt.xlabel("Release_year")
```

```
C:\Users\MANSI JANGID\anaconda3\lib\site-packages\seaborn\_decorators.py:36:
FutureWarning: Pass the following variable as a keyword arg: x. From version
0.12, the only valid positional argument will be `data`, and passing other ar
guments without an explicit keyword will result in an error or misinterpretat
ion.
  warnings.warn(
```

Out[16]: Text(0.5, 0, 'Release_year')



In [17]:
```
movies_per_year = df_clean_data[df_clean_data['type'] == 'Movie'].groupby('rel
current_year = pd.Timestamp.now().year
last_20_30_years = movies_per_year.loc[current_year - 30:current_year]
last_20_30_years.plot(kind='bar', xlabel='Release Year', ylabel='Number of Mov
plt.show()
```



INSIGHTS-

The data from the past 30 years reveals a consistent upward trend in the number of movies released per year. Notably, the count reached its peak in 2017 and 2018. However, there was a slight decline in the following years, specifically in 2019 and 2020. This insight highlights the overall growth in the film industry and suggests potential factors that contributed to the temporary dip in movie releases. It is worth considering additional factors such as the impact of the COVID-19 pandemic on film production and distribution during 2019 and 2020.The pandemic led to the closure of theaters, disrupted production schedules, and caused uncertainties within the film industry, resulting in a temporary decrease in movie releases during those years.

Despite the slight downturn in 2019 and 2020, the overall trend indicates a positive growth trajectory for the movie industry. This data insight suggests a thriving and dynamic sector, with filmmakers and studios continually producing a significant number of movies. It also highlights the resilience of the industry, as it adapts to challenges and continues to captivate audiences with new cinematic experiences.

****RECOMMENDATIONS-****

1.Capitalize on the growing trend: Given the increasing number of movie releases over the years, it is essential for studios and filmmakers to capitalize on this trend. By aligning production strategies and release schedules to meet the growing demand, they can maximize their reach and profitability.

2.Embrace digital platforms: With the rise of streaming services and digital platforms, it is crucial for movie industry stakeholders to embrace these channels for distribution. Expanding the availability of movies through online platforms will enable wider access to audiences globally and tap into the growing popularity of streaming.

3.Adapt to changing consumer preferences: As consumer preferences continue to evolve, it is vital for the movie industry to stay in tune with these changes. Conducting market research and analyzing audience preferences can help filmmakers create content that resonates with viewers, ensuring continued success in a competitive market.

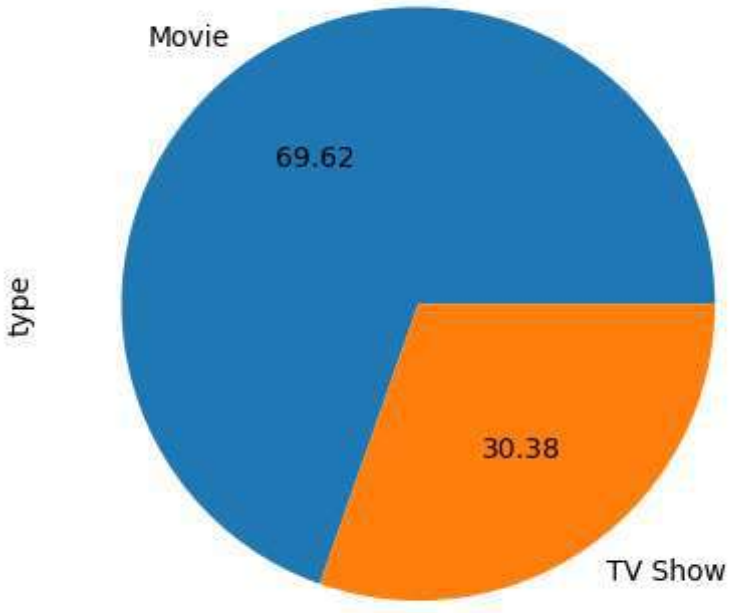
3.Leverage technology advancements: Embrace technological advancements to enhance the filmmaking process and deliver unique cinematic experiences. From utilizing cutting-edge visual effects to exploring virtual reality and immersive storytelling techniques, leveraging technology can create memorable movie experiences and attract audiences.

4.Adapt to changing circumstances: The COVID-19 pandemic highlighted the importance of adaptability. As the movie industry continues to recover from the impact of the pandemic, it is crucial to remain flexible and agile in responding to changing circumstances. Consider hybrid release models, such as simultaneous theatrical and digital releases, to cater to diverse audience preferences.

Comparison of tv shows vs. movies.

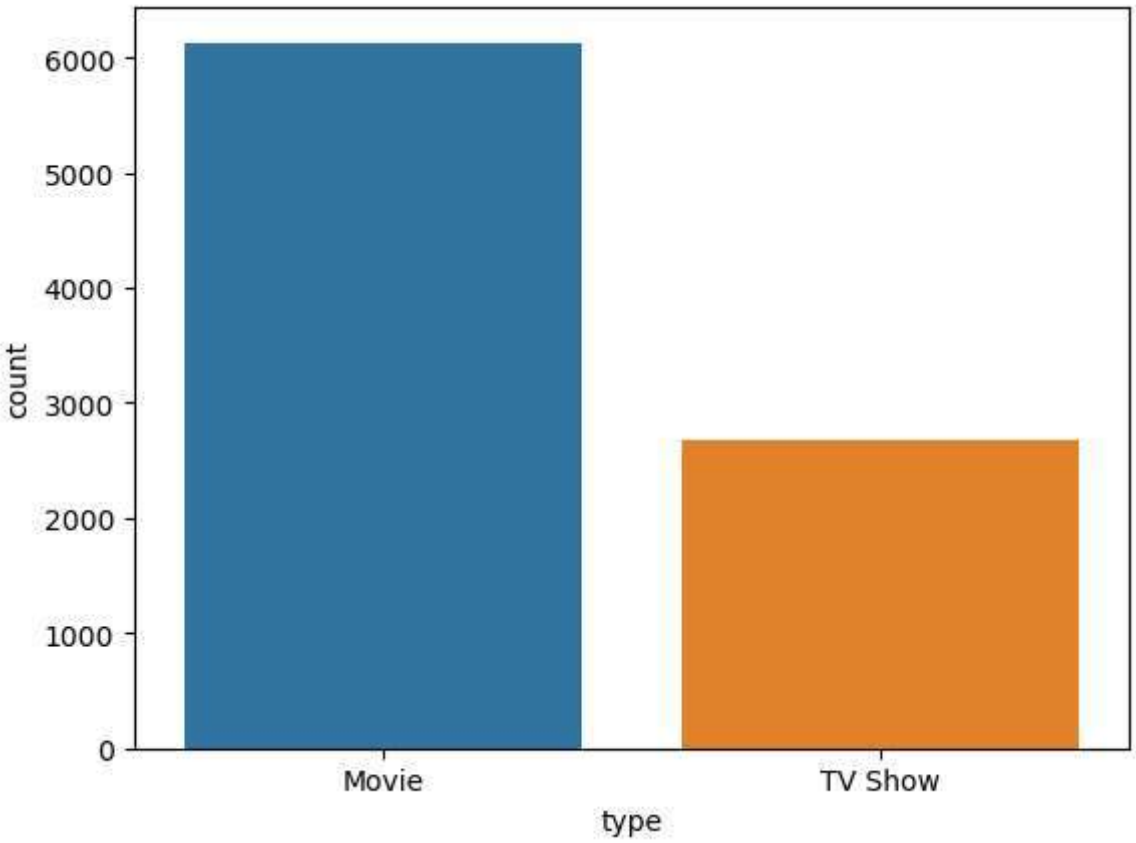
In [19]:
```
df['type'].value_counts().plot(kind='pie',autopct="%.2f")
```

Out[19]: <AxesSubplot:ylabel='type'>



In [20]:
```
sb.countplot(x='type',data=df)
```

Out[20]:
```
<AxesSubplot:xlabel='type', ylabel='count'>
```



INSIGHTS-

Based on this data, it is evident that the majority of content added to the Netflix streaming platform consists of movies rather than TV shows. However, there has been a notable upward trend in the inclusion of TV shows in recent years.

This insight suggests that Netflix initially focused primarily on offering a wide selection of movies to its subscribers. Movies have traditionally been a popular form of entertainment and were likely a strategic choice for Netflix to attract and retain a broad audience base. The extensive collection of movies on the platform catered to diverse viewer preferences and contributed to Netflix's early success.

In more recent years, Netflix has expanded its content library by increasingly incorporating TV shows. This shift reflects the evolving landscape of entertainment consumption, as TV shows have gained significant popularity among audiences worldwide. By adding a diverse range of TV shows, Netflix has tapped into this growing demand and capitalized on the success of serialized storytelling.

RECOMMENDATIONS-

1.Strengthen TV show offerings: Given the upward trend in TV show popularity, it is recommended for Netflix to continue expanding and diversifying its collection of TV shows. This can be achieved through strategic partnerships, acquisitions, and investments in original content production.

2.Target audience segments: Identify specific audience segments that have a strong affinity for TV shows and develop content strategies tailored to their preferences. This could involve analyzing viewing data, conducting market research, and engaging with audiences to understand their needs and interests.

3.Emphasize original content: Netflix's success in producing original content should be continued and amplified. By investing in high-quality and compelling TV shows, Netflix can differentiate itself from competitors and offer exclusive content that attracts and retains subscribers.

4.Collaborate with renowned creators: Forge partnerships with renowned TV show creators, directors, and writers to develop unique and captivating content. Collaborations with established talent can help generate buzz, attract a dedicated fan base, and elevate the overall quality of Netflix's TV show offerings.

5.Leverage global appeal: Expand the selection of TV shows from different countries and cultures to cater to a global audience. This can include licensing popular international TV shows or investing in co-productions to create original content that resonates with diverse viewers worldwide.

What is the best time to launch a TV show?

In [ ]:
```
best_time=df_clean_data[df_clean_data['type'] == 'TV Show'].groupby(['date_add
plt.figure(figsize=(20,10))
sb.barplot(data=best_time, x='date_added_year', y='Count', hue='date_added_mon
plt.xticks(rotation=45)
plt.title('Number of TV Shows added Month_Year')
plt.legend(bbox_to_anchor=(1, 1), loc='upper left')
plt.show()
```

INSIGHTS-

Based on the provided data on the number of TV show additions on OTT platforms, a recurring trend is observed in the months of July and December. In July, there is a consistent increase in the number of TV shows added each year, indicating a notable surge in content releases during that month. Similarly, December also stands out as a leading factor for TV show additions.

This insight suggests that July and December are strategically significant months for OTT platforms in terms of introducing new TV shows to their libraries. The reasons behind these trends could be influenced by various factors, such as production schedules, holiday seasons, and viewer behavior.

The increasing number of TV show additions in July might be attributed to the summer season in many parts of the world. This period often sees a higher viewership as people take vacations and have more leisure time to engage with TV shows. Thus, OTT platforms could be capitalizing on this increased demand by releasing new content during this time.

December, on the other hand, is known for the holiday season, when people tend to spend more time at home and seek entertainment options. OTT platforms likely leverage this opportunity by adding a significant number of TV shows in December to cater to the increased viewership during the festive period.

Additionally, the consistent additions of TV shows in January indicate a strategic approach by OTT platforms to start the new year with fresh and engaging content. This could be a deliberate effort to attract and retain subscribers who are looking for new shows to watch at the beginning of the year.

RECOMENDATIONS-

1.Content acquisition and production strategy: Based on the observed trends in July and December, OTT platforms should strategically plan their content acquisition and production to align with these months. Allocate resources to secure high-quality TV shows that can be released during these periods, taking advantage of increased viewer engagement.

2.Seasonal marketing campaigns: Develop targeted marketing campaigns around the TV shows added in July and December. Leverage the summer season and holiday festivities to create buzz and excitement among viewers. Highlight the new additions through promotional activities, social media campaigns, and partnerships with influencers to generate anticipation and attract a larger audience.

3.Balance content releases throughout the year: While July and December show consistent trends, it is important to maintain a balanced release schedule throughout the year. Avoid overloading these months with too much content, as it could lead to viewer fatigue or overshadow other releases. Distribute TV show additions evenly across other months to ensure a steady flow of engaging content year-round.

4.Analyze viewer preferences: Continuously monitor viewer preferences and behavior during different months. Analyze data to understand which genres, themes, or types of TV shows resonate most with audiences during July, December, and other months. This information can inform content acquisition decisions and guide the selection of TV shows that are likely to attract a larger viewership during specific periods.

5.Explore exclusive partnerships: To stand out during peak months, consider exclusive partnerships with renowned creators, production studios, or streaming networks. This can secure early access to highly anticipated TV shows, providing a competitive edge and increasing subscriber retention.

6.Leverage viewer feedback: Engage with viewers to gather feedback and insights on the TV shows added during July and December. Conduct surveys, monitor social media discussions, and leverage user reviews to understand audience preferences and make informed decisions for future content additions.

Analysis of actors/directors of different types of shows/movies.

In [27]:
```
popular_actor = df_cast.groupby('cast')['title'].nunique().reset_index(name='T
popular_actor.sort_values(by="Title Count",ascending=False)
```

Out[27]:

	cast	Title Count
39283	cast_unknown	825
2612	Anupam Kher	39
26941	Rupa Bhimani	31
30303	Takahiro Sakurai	30
15541	Julie Tejwani	28
...	...	...
15290	João Côrtes	1
15289	João Assunção	1
15288	Joziah Lagonoy	1
15287	Jozef Gjura	1
39296	Ṣọpẹ́ Dìrísù	1

39297 rows × 2 columns

In [28]:
```
popular_actor = df_clean_data[df_clean_data['type'] == 'TV Show'].groupby('cas
popular_actor.sort_values(by="Title Count",ascending=False)
```

Out[28]:

	cast_x	Title Count
15496	cast_unknown	350
11974	Takahiro Sakurai	24
13204	Yuki Kaji	17
6136	Junichi Suwabe	17
222	Ai Kayano	17
...	...	...
5662	Johan van Assche	1
5663	Johanna Braddy	1
5665	Johanna Francella	1
5666	Johanna Gastdorf	1
15501	Şükrü Özyıldız	1

15502 rows × 2 columns

In [29]:
```
popular_actor = df_clean_data[df_clean_data['type'] == 'Movie'].groupby('cast_
popular_actor.sort_values(by="Title Count",ascending=False)
```

Out[29]:

	cast_x	Title Count
27869	cast_unknown	475
1946	Anupam Kher	38
16781	Om Puri	27
19235	Rupa Bhimani	27
27291	Shah Rukh Khan	26
...	...	...
10758	Jonatan Rodriguez	1
10756	Jonas Leite	1
10755	Jonas Bloquet	1
10754	Jonah Mussolino	1
27879	Ṣọpẹ́ Dìrísù	1

27880 rows × 2 columns

INSIGHTS-

Based on the data analysis, it is evident that Anupam Kher emerges as the most popular actor among the movies and TV shows added to Netflix. However, when focusing specifically on TV shows, Takahiro Sakurai stands out as the best actor in the TV show industry.

This insight suggests that Anupam Kher has gained significant popularity across both movies and TV shows, showcasing his versatility and talent as an actor. His presence in various projects has resonated well with Netflix viewers, contributing to his status as the most popular actor overall.

On the other hand, Takahiro Sakurai's prominence primarily lies within the TV show industry. His performances in TV shows added to Netflix have garnered critical acclaim and viewer appreciation. This indicates that he has established himself as a standout talent in the realm of TV shows, captivating audiences with his acting skills and on-screen presence.

RECOMMENDATIONS-

1.Capitalize on Anupam Kher's popularity: Given Anupam Kher's status as the most popular actor across movies and TV shows on Netflix, it is recommended to leverage his star power to attract and retain subscribers. Promote his projects prominently, feature him in marketing campaigns, and consider collaborating with him on exclusive content that showcases his talent.

2.Expand Takahiro Sakurai's presence: Acknowledging Takahiro Sakurai's success in the TV show industry, consider acquiring more TV shows featuring him as a lead actor. This can further enhance the platform's appeal to viewers interested in Japanese content and increase engagement among anime and drama enthusiasts.

3.Curate dedicated sections or collections: Create curated sections or collections on the platform that highlight the works of Anupam Kher and Takahiro Sakurai. This can assist users in discovering and exploring their filmography easily, attracting fans and increasing their viewership.

4.Foster partnerships with renowned actors: Building on the popularity of Anupam Kher and Takahiro Sakurai, explore collaborations with other well-known actors across different regions and languages. This can bring a diverse range of talent to the platform and cater to the preferences of a broader audience.

5.Invest in original content featuring popular actors: To capitalize on the success of Anupam Kher and Takahiro Sakurai, consider investing in original content that features these actors in prominent roles. This can generate anticipation, create exclusivity, and attract a dedicated fan base.

In [30]:
```
popular_director = df_clean_data.groupby('director_x')['title'].nunique().rese
popular_director.sort_values(by="Title Count",ascending=False)
```

Out[30]:

	director_x	Title Count
5108	director_unknown	2634
4020	Rajiv Chilaka	22
261	Jan Suter	18
4067	Raúl Campos	18
4651	Suhas Kadav	16
...	...	...
2341	J. Lee Thompson	1
2342	J. Michael Long	1
610	Songyos Sugmakanan	1
609	Smriti Keshari	1
2560	Joaquín Mazón	1

5121 rows × 2 columns

In [31]:
```
popular_director = df_clean_data[df_clean_data['type'] == 'TV Show'].groupby('
popular_director.sort_values(by="Title Count",ascending=False)
```

Out[31]:

	director_x	Title Count
300	director_unknown	2446
187	Ken Burns	3
86	Alastair Fothergill	3
24	Gautham Vasudev Menon	2
155	Iginio Straffi	2
...	...	...
101	Billy Corben	1
100	Bhavik Thakore	1
99	Bejoy Nambiar	1
98	BB Sasore	1
150	He Xiaofeng	1

301 rows × 2 columns

In [32]:
```
popular_director = df_clean_data[df_clean_data['type'] == 'Movie'].groupby('di
popular_director.sort_values(by="Title Count",ascending=False)
```

Out[32]:

	director_x	Title Count
4874	director_unknown	188
3818	Rajiv Chilaka	22
234	Jan Suter	18
3865	Raúl Campos	18
4429	Suhas Kadav	16
...	...	...
2236	Jameel Buari	1
2237	James Barr	1
575	Syed Saleh Ahmed Sobhan	1
2239	James Brown	1
2443	Joel Schumacher	1

4887 rows × 2 columns

INSIGHTS-

Based on the data, it is evident that Rajiv Chilaka is the top director whose work has been added to Netflix, primarily in the movies category. However, in the TV show category, Ken Burns emerges as the renowned director.

This insight suggests that Rajiv Chilaka's contributions as a director have garnered significant recognition in the realm of movies, showcasing his talent and creative vision. His work being prominently featured on Netflix signifies his popularity among viewers who enjoy movies on the platform.

On the other hand, Ken Burns is renowned for his directorial prowess in the TV show category. His distinct style and compelling storytelling have made a significant impact on the TV show industry, earning him acclaim and a dedicated fan base. The presence of his work on Netflix further solidifies his position as a distinguished director in this genre.

RECOMMENDATIONS-

1.Spotlight Rajiv Chilaka's movies: Given Rajiv Chilaka's position as the top director in the movies category, it is recommended to feature his movies prominently on the platform. Create dedicated sections or collections that showcase his filmography, making it easier for viewers to discover and enjoy his work.

2.Collaborate with Rajiv Chilaka: To further capitalize on Rajiv Chilaka's popularity, consider collaborating with him on new projects exclusively for Netflix. This partnership can bring fresh and engaging content to the platform, attracting both existing fans of his work and new viewers.

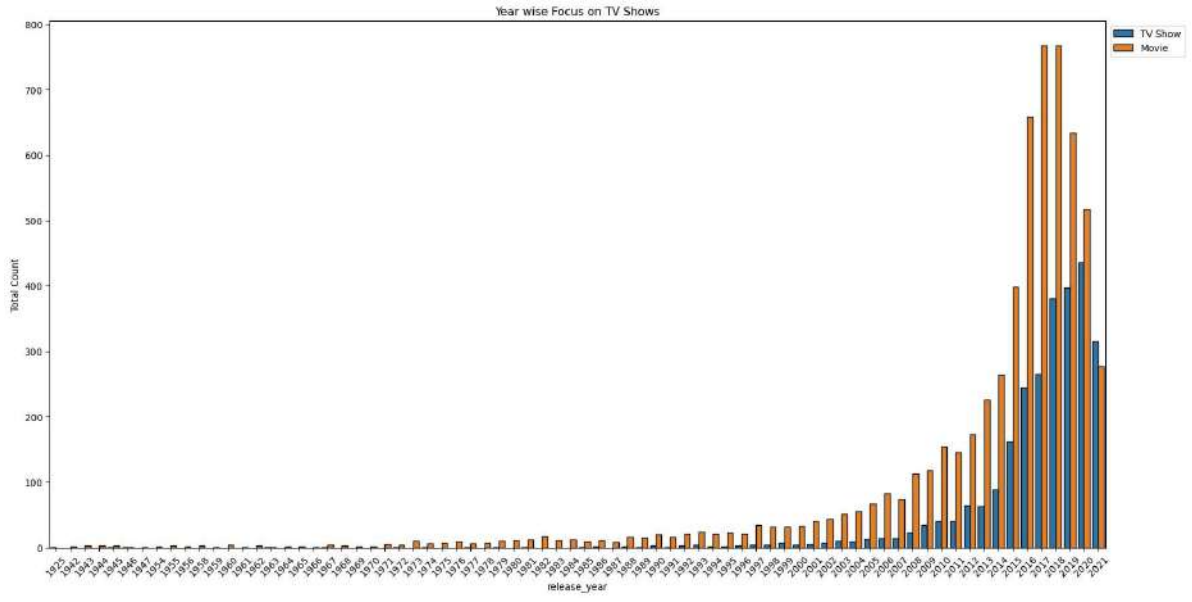
3.Highlight Ken Burns' TV shows: Emphasize Ken Burns' acclaimed TV shows on Netflix by prominently featuring them in relevant sections. Implement personalized recommendations based on viewers' interests and viewing history, ensuring that his captivating storytelling reaches the target audience effectively.

4.Invest in Ken Burns-style documentaries: Recognizing the influence of Ken Burns as a director in the TV show category, explore opportunities to invest in and produce similar high-quality documentary series. This can cater to the demand for compelling and informative content that engages viewers on a deep level.

5.Curate director-themed collections: Create curated collections that celebrate the works of both Rajiv Chilaka and Ken Burns. These collections can showcase their unique directorial styles and storytelling approaches, appealing to viewers who appreciate their respective contributions to the film and TV show industries.

Does Netflix has more focus on TV Shows than movies in recent years

In [33]:
```
show_type_focus=df_clean_data.groupby(['release_year',"type"])["title"].nuniqu
plt.figure(figsize=(20,10))
sb.barplot(data=show_type_focus, x='release_year', y='Total Count', hue='type'
plt.xticks(rotation=45)
plt.title('Year wise Focus on TV Shows')
plt.legend(bbox_to_anchor=(1, 1), loc='upper left')
plt.show()
```



INSIGHTS-

The data clearly indicates a significant increase in the addition of TV shows on Netflix in recent years, demonstrating a rapid growth trend. However, it's important to note that movies still contribute a higher volume overall.

This insight highlights the platform's strategic focus on expanding its TV show catalog to cater to the evolving viewing preferences of subscribers. The surge in TV show additions suggests that Netflix recognizes the growing demand for serialized storytelling and is actively acquiring and producing more TV content to meet this need.

Despite the emphasis on TV shows, movies remain a substantial part of Netflix's content library. The platform continues to offer a wide range of movies, catering to viewers who prefer standalone cinematic experiences or shorter-form storytelling.

RECOMMENDATIONS-

1.Strengthen TV show acquisitions: Given the rapid growth in TV show additions on Netflix, it is recommended to continue expanding the platform's TV show catalog. Focus on acquiring diverse and high-quality TV shows from various genres, languages, and regions to cater to the diverse tastes of subscribers.

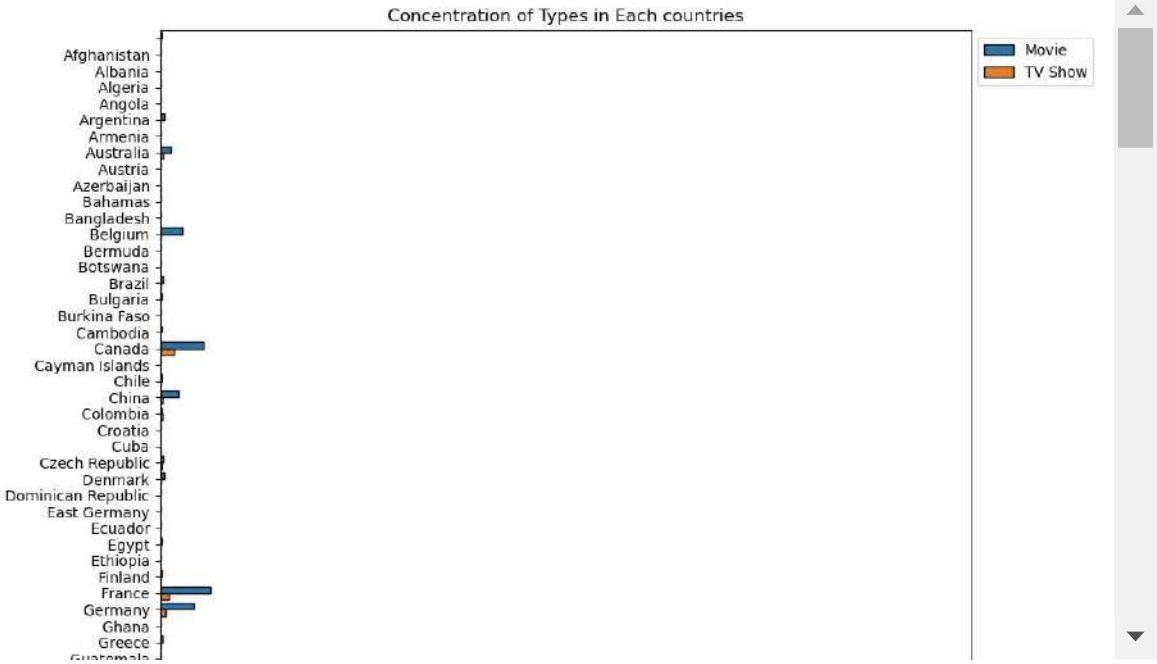
2.Emphasize original TV content: Capitalize on the success of original TV shows by further investing in their production. Develop a robust pipeline of compelling and exclusive TV series that can attract and retain subscribers. Leverage data-driven insights and market research to identify trending genres and themes for original TV content.

3.Enhance partnerships for movie releases: While TV shows may be gaining prominence, it is crucial to maintain a strong movie catalog. Strengthen partnerships with production studios and distributors to secure timely releases of popular and highly anticipated movies on the platform. This can help attract movie enthusiasts and ensure a well-rounded content offering.

4.Leverage binge-watching behavior: Recognize the binge-watching behavior of viewers and leverage it to drive engagement. Release TV shows in binge-worthy formats, such as full seasons or multiple episodes at once, to encourage prolonged viewing sessions. Consider experimenting with interactive storytelling and innovative narrative structures to further enhance the binge-watching experience.

Understanding what content is available in different countries

In [35]:
```
countries_content=df_clean_data.groupby(['country_x','type'])["title"].nunique
plt.figure(figsize=(10,40))
sb.barplot(data=countries_content, y='country_x', x='Total Count', hue='type',
plt.xticks(rotation=90)
plt.title('Concentration of Types in Each countries')
plt.legend(bbox_to_anchor=(1, 1), loc='upper left')
plt.show()
```



INSIGHTS-

The data reveals that the United States, followed by the United Kingdom and India, contributes the highest number of movie and TV show types to the Netflix platform. However, it is noteworthy that movies still constitute a significant proportion of the content added.

This insight highlights the dominant presence of content originating from the United States, which is renowned for its thriving entertainment industry. The United Kingdom and India also play substantial roles in contributing diverse and culturally rich content to the platform, reflecting the global appeal of their respective film and TV industries.

While movies remain a major focus on Netflix, the inclusion of TV shows from these countries suggests an effort to diversify the content library and cater to the growing demand for serialized storytelling.

RECOMENDATIONS-

1.Strengthen regional partnerships: Foster stronger collaborations with production studios, content creators, and filmmakers from the United States, the United Kingdom, and India. These partnerships can facilitate the acquisition of high-quality content and exclusive licensing

agreements, allowing Netflix to maintain a competitive edge and secure a diverse range of movies and TV shows.

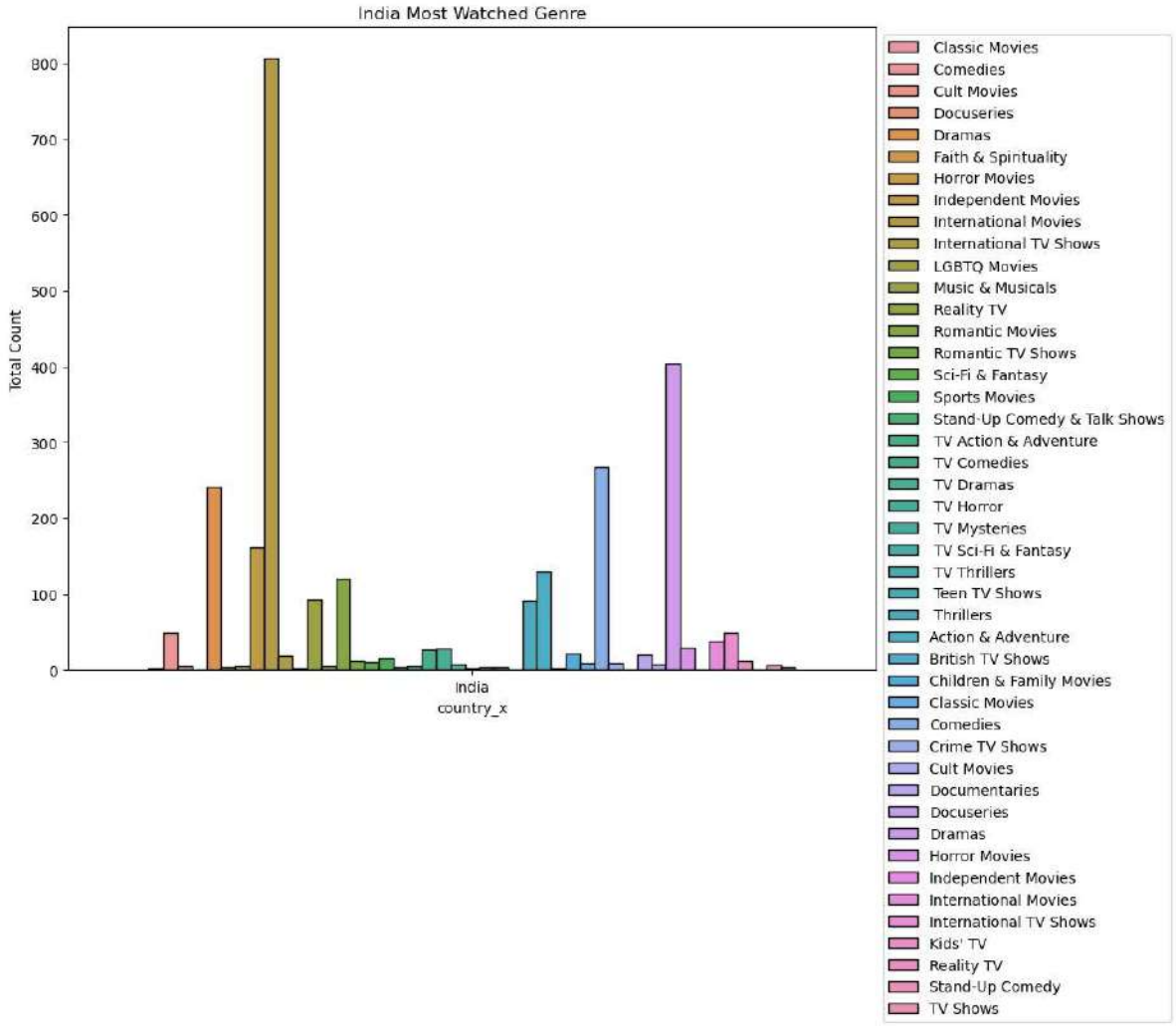
2.Invest in original content: While movies currently hold a significant proportion of the content library, allocate resources to the production of original TV shows from the United States, the United Kingdom, and India. By developing compelling and regionally focused TV series, Netflix can attract a broader audience and tap into the unique storytelling traditions of these countries.

3.Targeted marketing campaigns: Tailor marketing campaigns to cater to the preferences and interests of viewers in each region. Highlight movies and TV shows from the United States, the United Kingdom, and India through targeted advertising, social media promotions, and local events. This approach can increase awareness, engagement, and viewership among the respective target audiences.

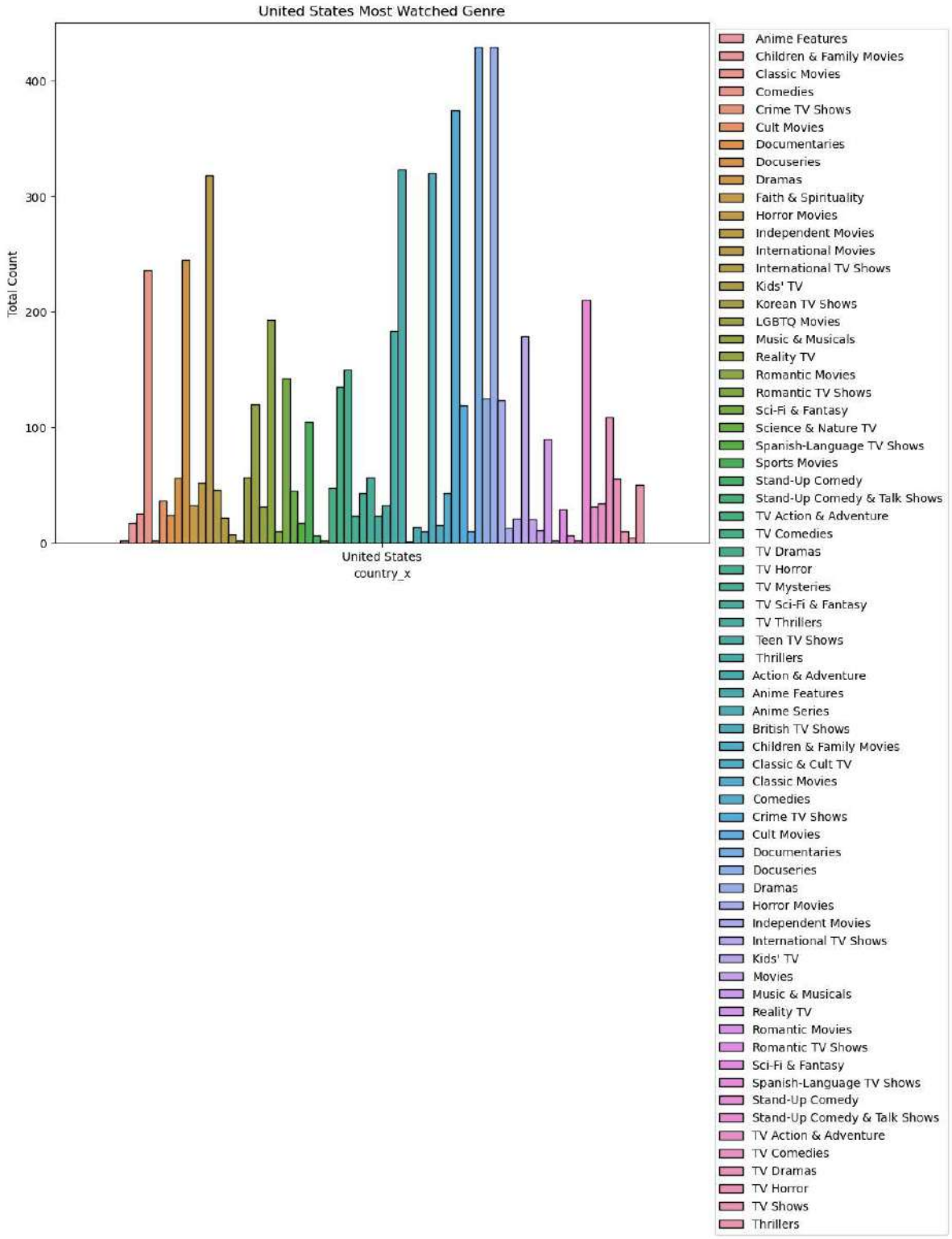
4.Explore co-production opportunities: Identify potential co-production opportunities between the United States, the United Kingdom, and India to create content that appeals to a global audience. By combining resources, talent, and storytelling techniques, Netflix can produce original content with wider international appeal, further enhancing its content portfolio.

5.Showcase cultural diversity: Actively seek out movies and TV shows that represent the rich cultural diversity of these regions. Promote content that explores unique cultural aspects, traditions, and perspectives, providing viewers with a rich and immersive experience. By celebrating diverse narratives, Netflix can cater to the evolving demands of a global audience.

In [36]:
```
countries_c=df_clean_data[df_clean_data['country_x'] == 'India'].groupby(['cou
plt.figure(figsize=(10,8))
sb.barplot(data=countries_c, x='country_x', y='Total Count', hue='genre',edgec
#plt.xticks(rotation=90)
plt.title('India Most Watched Genre')
plt.legend(bbox_to_anchor=(1, 1), loc='upper left')
plt.show()
```



In [37]:
```
countries_c=df_clean_data[df_clean_data['country_x'] == 'United States'].group
plt.figure(figsize=(10,8))
sb.barplot(data=countries_c, x='country_x', y='Total Count', hue='genre',edgec
#plt.xticks(rotation=90)
plt.title('United States Most Watched Genre')
plt.legend(bbox_to_anchor=(1, 1), loc='upper left')
plt.show()
```



INSIGHTS-

The data reveals that in India, International Movies are the most popular genre watched and added on OTT platforms. Conversely, in the United States, Horror Movies and Docuseries garner the highest viewership and addition rates.

This insight highlights the contrasting genre preferences of viewers in India and the United States, reflecting the diverse cultural and entertainment landscapes of both countries. Indian audiences exhibit a strong affinity for International Movies, which encompass a broad range of foreign-language films from various countries. This trend indicates a growing interest in global cinema and an openness to exploring narratives beyond domestic offerings.

In the United States, the popularity of Horror Movies and Docuseries suggests a strong appetite for thrilling and suspenseful content, as well as a keen interest in non-fiction storytelling. This aligns with the enduring fascination for horror genres and the increasing popularity of docuseries that explore real-life events, true crime, and compelling narratives.

RECOMENDATIONS-

1.Localization and regional partnerships: Netflix should focus on strengthening its localization efforts in India by partnering with local production studios, filmmakers, and distributors. This collaboration can help acquire popular International Movies and facilitate the creation of region-specific content that resonates with Indian audiences. By adapting to local preferences and showcasing culturally relevant stories, Netflix can enhance viewer engagement.

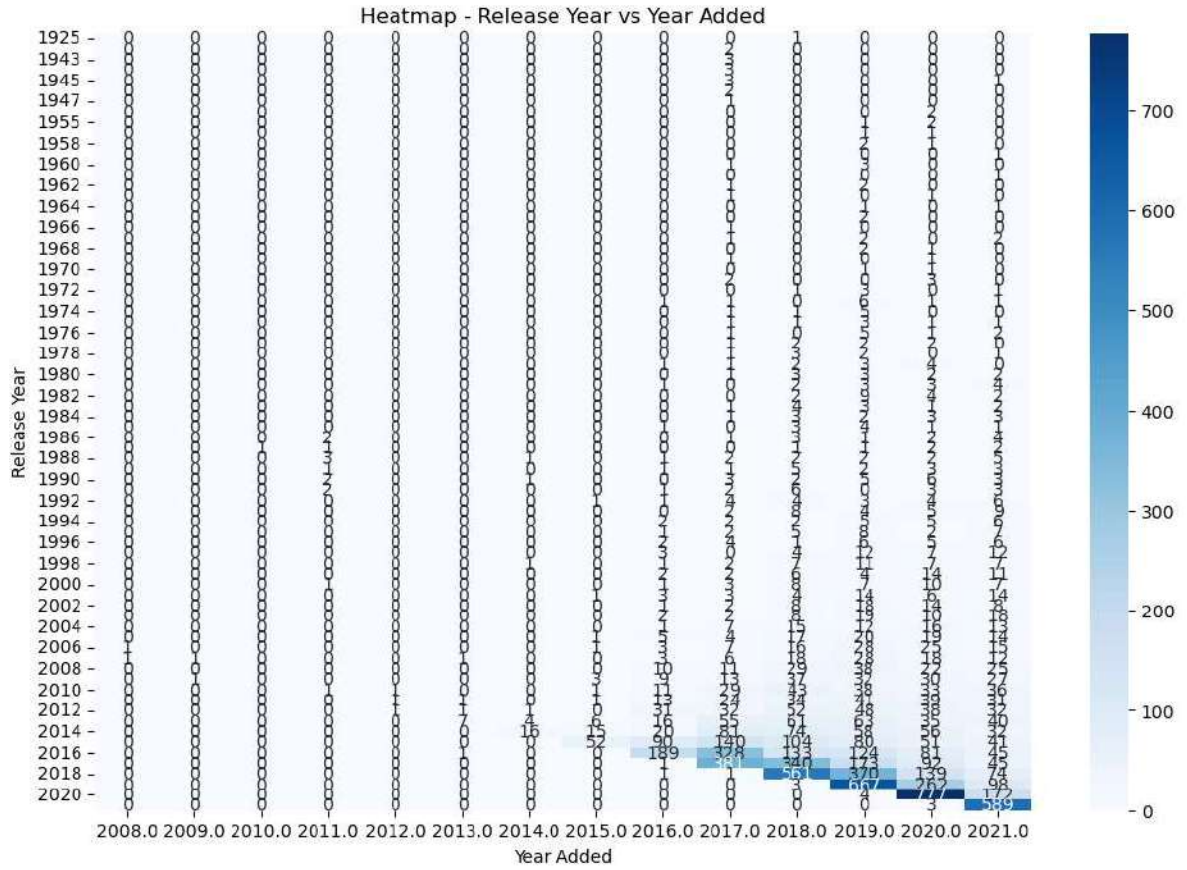
2.Curated collections and recommendations: To cater to the popularity of International Movies in India, Netflix should create curated collections featuring films from different regions, languages, and genres. Implementing an effective recommendation algorithm that takes into account viewer preferences and previous watching habits can further personalize the movie suggestions, ensuring a seamless and enjoyable user experience.

3.Market research and content acquisition: Conduct in-depth market research to identify emerging trends and preferences within the International Movies genre in India. This information can guide content acquisition strategies, helping Netflix secure rights to highly anticipated movies and partnering with renowned international filmmakers. By staying ahead of viewer demands, Netflix can maintain a competitive edge and offer a compelling lineup of International Movies.

4.Original content development: In addition to acquiring International Movies, Netflix should invest in the production of original films that cater to Indian audiences. Collaborate with talented filmmakers from different countries to create exclusive content that showcases diverse narratives and cultural experiences. This approach will allow Netflix to offer a unique selection of films that cannot be found elsewhere, attracting and retaining subscribers.

In [38]:
```
df['date_added_year'] = pd.DatetimeIndex(df['date_added']).year
df['date_added_month'] = pd.DatetimeIndex(df['date_added']).month_name()
df['date_added_day'] = pd.DatetimeIndex(df['date_added']).day
```

In [39]:
```
pivot_table = df.pivot_table(index='release_year', columns='date_added_year',
plt.figure(figsize=(12, 8))
sb.heatmap(pivot_table, cmap='Blues', annot=True, fmt='d')
plt.title('Heatmap - Release Year vs Year Added')
plt.xlabel('Year Added')
plt.ylabel('Release Year')
plt.show()
```



INSIGHTS-

The data indicates a notable concentration of movie releases on Netflix in the year 2020. This insight highlights a significant surge in the addition of movies to the platform during that particular year.

due to-

1.Increased demand during the COVID-19 pandemic: The concentration of movie releases on Netflix in 2020 can be attributed, in part, to the unprecedented circumstances of the COVID-19 pandemic. With widespread lockdowns and theater closures, more viewers turned to streaming

platforms for their entertainment needs. As a result, Netflix capitalized on this surge in demand by adding a higher number of movies to its library during that year.

2.Strategic movie acquisitions and productions: Netflix likely pursued strategic movie acquisitions and productions in 2020 to bolster its content offerings and attract a larger audience. By acquiring rights to popular movies or investing in original movie productions, the platform aimed to provide a diverse range of cinematic experiences for its subscribers.

3.Expansion of partnerships and distribution deals: In 2020, Netflix may have forged new partnerships and secured distribution deals with production studios and filmmakers, allowing for a greater influx of movies on the platform. Collaborations with renowned filmmakers, studios, and international distributors can provide access to a broader range of high-quality movies.

RECOMMENDATIONS-

1.Capitalize on movie release trends: Netflix should continue monitoring movie release trends and strategically align its content acquisition and production efforts accordingly. By identifying patterns and concentrating on years with higher movie releases, the platform can ensure a robust and timely movie lineup that aligns with viewer preferences.

2.Strengthen partnerships with studios and distributors: To secure a steady stream of movie releases, Netflix should foster stronger partnerships with production studios and distributors. This can involve negotiating exclusive rights, securing early access to highly anticipated movies, and exploring co-production opportunities. Building strong relationships within the industry will enhance the platform's ability to acquire a diverse range of movies.

3.Invest in original movie productions: While acquiring movie rights is essential, Netflix should also invest in producing original movies. This strategy allows the platform to have exclusive content and creative control over the production process. By attracting talented filmmakers and exploring diverse storytelling styles, Netflix can create a compelling library of original movies that further differentiate its offerings.

----------THE END----------

In [ ]: