



BIG DATA AND BUSINESS INTELLIGENCE MODULE

TOPIC- NETFLIX MOVIES AND TV SHOWS ANALYSIS

SECTION 1: BUSINESS INTELLIGENCE DESIGN

TECHNICAL REPORT FOR DEVELOPERS

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Submission Date- 10-01-2024

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Section 1: Business Intelligence Design

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Introduction

Netflix is the world's largest online streaming platform with over 220 million subscribers in over 190 countries enjoying movies tv series, documentaries, feature films across a wide variety of genres and languages. around the world as of 2022. it important to see how effectively they merge the movies and tv shows on their platform in order to enhance the user experience, without losing subscribers churn.

Data set source and description

The datasets used is the Netflix movies and tv shows which obtained from Kaggle

<https://www.kaggle.com/datasets/shivamb/netflix-shows>

<https://www.kaggle.com/datasets/pariaagharabi/netflix2020>

<https://www.kaggle.com/code/arnavsmayan/netflix-userbase-visualization-notebook/input>

This dataset contains movies and tv shows from 1969-2022 including title release year, age, certification, runtime, genres, production countries, seasons information for tv shows, IMDB score, number of votes, Netflix userbase, total revenue and subscribers.

Screenshot of the datasets are presented below:

id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
1	Movie	Mindhunter	David Fincher	Jonathan Groff, Holt McCallister	United States	September 1, 2017	2017	TV-MA	16 min	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
2	TV Show	The Crown	Stephen Daldry	Jodie Comer, Matt Smith	United Kingdom	September 1, 2016	2016	TV-MA	1 Season	Crime TV-14	Crime TV-14 To protect his family from a powerful drug lord, a police officer is pulled into a violent and deadly war.
3	TV Show	Stranger Things	Matthew D'Ercole	Millie Bobby Brown, Finn Wolfhard	United States	September 1, 2016	2016	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
4	TV Show	The Irishman	Steven Soderbergh	Al Pacino, Al Pacino	United States	September 1, 2019	2019	TV-MA	3 Seasons	Crime TV-14	Crime TV-14 To protect his family from a powerful drug lord, a police officer is pulled into a violent and deadly war.
5	TV Show	The Mandalorian	Jon Favreau	Pedro Pascal, Gina Carano	United States	September 1, 2019	2019	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
6	TV Show	The Big Bang Theory	Sheldon Cooper	Jim Parsons, Mayim Bialik	United States	September 1, 2007	2007	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
7	TV Show	The Office	Greg Kinnear	Steve Carell, Tim Allen	United States	September 1, 2005	2005	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
8	TV Show	The Simpsons	James L. Brooks	Nancy Cartwright, Dan Castellaneta	United States	September 1, 1989	1989	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
9	TV Show	The Walking Dead	Frank Darabont	Nancy Cartwright, Dan Castellaneta	United States	September 1, 2010	2010	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
10	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
11	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
12	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
13	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
14	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
15	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
16	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
17	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
18	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
19	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
20	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
21	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
22	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
23	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
24	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
25	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
26	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
27	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
28	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
29	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.
30	TV Show	The Mindy Project	Michael McCullough	Mindy Kaling, Will Packer	United States	September 1, 2012	2012	TV-MA	1 Season	Documentary	Documentary After crossing paths at a party, a Cape Town teen sets out to prove whether a private-school swimming star is her sister who was abducted.

id	title	release_year	score	number_of_ratings	duration	main_genre	production_company
1	The Shawshank Redemption	1994	8.8	102942	143 min	Drama	United Artists
2	The Godfather	1972	8.7	11408	175 min	Drama	Paramount
3	The Godfather Part II	1974	8.6	54564	197 min	Drama	Paramount
4	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
5	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
6	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount
7	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
8	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
9	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount
10	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
11	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
12	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount
13	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
14	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
15	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount
16	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
17	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
18	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount
19	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
20	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
21	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount
22	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
23	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
24	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount
25	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
26	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
27	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount
28	The Godfather Part III	1990	8.5	29055	162 min	Drama	Paramount
29	The Godfather Part I	1972	8.5	29055	175 min	Drama	Paramount
30	The Godfather Part II	1974	8.5	29055	197 min	Drama	Paramount

Index	INDEX	TITLE	RELEASE_YEAR	SCORE	NUMBER	DURATION	NUMBER	MAIN_GENRE	MAIN_PRODUCTION
1	244	48 of Us A	2022	7.5	41202	61	1 action	NR	
2	223	Thunder Road	2020	7.5	43806	69	2 action	US	
3	229	Knights	2020	7.5	36105	47	2 action	NR	
4	224	Arrow	2012	7.5	425716	42	9 action	US	
5	200	Tenacious 8	2020	7.5	69821	49	1 action	US	
6	191	Alice in the	2020	7.6	47951	47	2 action	JP	
7	182	Midnight 5	2021	7.7	502321	64	1 action	US	
8	159	A Series of	2017	7.8	59239	47	3 action	US	
9	172	NCIS	2000	7.8	141049	44	10 action	US	
10	138	Kill to Kill	2013	7.8	33372	25	1 action	JP	
11	140	Into the Bi	2013	7.9	45618	43	8 action	US	
12	138	The Seven	2014	7.9	30342	24	5 action	JP	
13	143	Matrix	2006	7.9	80138	44	5 action	GB	
14	142	Inchanka	2000	7.9	25821	25	9 action	JP	
15	129	Squid Game	2021	8	455718	54	2 action	KR	
16	129	Marine For	2014	8	71229	55	2 action	US	
17	102	The Studio	2010	8.2	945125	46	11 action	US	
18	79	Kingdom	2019	8.3	43762	48	2 action	KR	
19	86	Visceral	2021	8.4	51314	30	1 action	KR	
20	56	Ash vs Evil	2015	8.4	93087	30	2 action	US	
21	62	TombRaider	2016	8.4	56506	22	3 action	US	
22	54	The Legend	2013	8.4	117464	23	4 action	US	
23	44	The Last K	2015	8.5	129479	55	5 action	GB	
24	40	Sacred Gas	2018	8.6	80088	50	2 action	IN	
25	35	Cobra Kai	2018	8.6	163816	31	5 action	US	
26	25	One Piece	2015	8.7	148388	24	2 action	JP	
27	18	One Piece	1999	8.8	112586	25	21 action	JP	
28	3	Arcane	2021	9.1	125412	61	1 action	US	

User ID	Subcountry	Monthly K	Join Date	Last Payment Date	Country	Age	Gender	Device	Plan Duration
1	Basic	10	05-01-2022	10-06-2022	United Sta	28	Male	Smartphon	1 Month
2	Premium	15	05-09-2021	27-06-2022	Canada	35	Female	Tablet	1 Month
3	Standard	12	28-02-2022	27-06-2022	United Kin	42	Male	Smart TV	1 Month
4	Standard	12	10-07-2022	29-06-2022	Australia	31	Female	Laptop	1 Month
5	Basic	10	01-05-2022	28-06-2022	Germany	33	Male	Smartphon	1 Month
6	Premium	15	18-01-2022	27-06-2022	France	25	Female	Smart TV	1 Month
7	Standard	12	09-12-2021	25-06-2022	Brazil	46	Male	Tablet	1 Month
8	Basic	10	02-04-2022	24-06-2022	Mexico	39	Female	Laptop	1 Month
9	Standard	12	20-10-2022	23-06-2022	Spain	27	Male	Smartphon	1 Month
10	Premium	15	07-01-2022	22-06-2022	Italy	44	Female	Smart TV	1 Month
11	Basic	10	15-05-2022	23-06-2022	United Sta	31	Female	Smartphon	1 Month
12	Premium	15	29-01-2022	28-06-2022	Canada	42	Male	Tablet	1 Month
13	Standard	12	30-11-2021	27-06-2022	United Kin	48	Female	Laptop	1 Month
14	Basic	10	01-08-2022	28-06-2022	Australia	27	Male	Smartphon	1 Month
15	Standard	12	09-03-2022	28-06-2022	Germany	36	Female	Smart TV	1 Month
16	Premium	15	07-04-2022	27-06-2022	France	30	Male	Tablet	1 Month
17	Basic	10	24-01-2022	25-06-2022	Brazil	30	Female	Laptop	1 Month
18	Standard	12	18-10-2021	24-06-2022	Mexico	43	Male	Smartphon	1 Month
19	Premium	15	15-02-2022	24-06-2022	Spain	42	Female	Smart TV	1 Month
20	Basic	10	27-02-2022	22-06-2022	Italy	41	Male	Tablet	1 Month
21	Premium	15	10-06-2022	22-06-2022	United Sta	26	Female	Laptop	1 Month
22	Basic	10	22-07-2022	28-06-2022	Canada	34	Male	Smartphon	1 Month
23	Standard	12	05-12-2021	27-06-2022	United Kin	49	Female	Smart TV	1 Month
24	Standard	12	03-04-2022	29-06-2022	Australia	31	Male	Tablet	1 Month
25	Basic	10	16-01-2022	28-06-2022	Germany	40	Female	Laptop	1 Month
26	Premium	15	12-01-2022	27-06-2022	France	29	Male	Smartphon	1 Month
27	Basic	10	28-08-2022	25-06-2022	Brazil	47	Female	Smart TV	1 Month
28	Standard	12	27-06-2021	24-06-2022	Mexico	31	Male	Tablet	1 Month

Netflix Revenue and Usage Statistics - Excel

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

Clipboard Font Background Color Text Color Text Background Color Alignment Number Conditional Formatting Styles Cell Styles Insert Delete Format Find & Replace Editing Add-ins

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Date	Subscribers (mm)														
2	2011	31.5														
3	2012	25.71														
4	2013	35.63														
5	2014	47.08														
6	2015	62.71														
7	2016	79.9														
8	2017	89.04														
9	2018	124.35														
10	2019	151.55														
11	2020	180.55														
12	2021	209														
13	2022	220.6														
14	2023	238.3														

Netflix annual net income.xlsx Netflix annual content spend.xlsx Netflix annual subscribers 2011 Netflix annual sub...

Ready Microsoft Word is open. Search Windows 11 09:28 09-11-2024

Netflix Revenue and Usage Statistics - Excel

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

Clipboard Font Background Color Text Color Text Background Color Alignment Number Conditional Formatting Styles Cell Styles Insert Delete Format Find & Replace Editing Add-ins

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Year	Revenue (\$B)														
2	2011	3.1														
3	2012	3.5														
4	2013	4.3														
5	2014	5.4														
6	2015	6.7														
7	2016	8.8														
8	2017	11.6														
9	2018	15.7														
10	2019	20.1														
11	2020	24.9														
12	2021	29.6														
13	2022	31.6														

Netflix annual revenue 2011 to Netflix annual revenue by region Netflix annual ARPU by region 2 Netflix annual r...

Ready Microsoft Word is open. Search Windows 11 09:28 09-11-2024

Purpose for choosing the dataset

In order to effectively analyse and get useful trends and patterns about How Netflix Movies & Tv Shows analysis Provided insightful information how audience votes and score impacts movies and tv shows ratings over the years, how movie duration time is changing over time. This research provides light on the various elements driving the popularity of content by carefully examining Number of votes received for each genre on IMDB scale and category preferences for Audience. This analysis makes producer's and movie production team to take more informed decisions about current audience preferences over Movies and Tv Shows.

Scope of work and BI questions

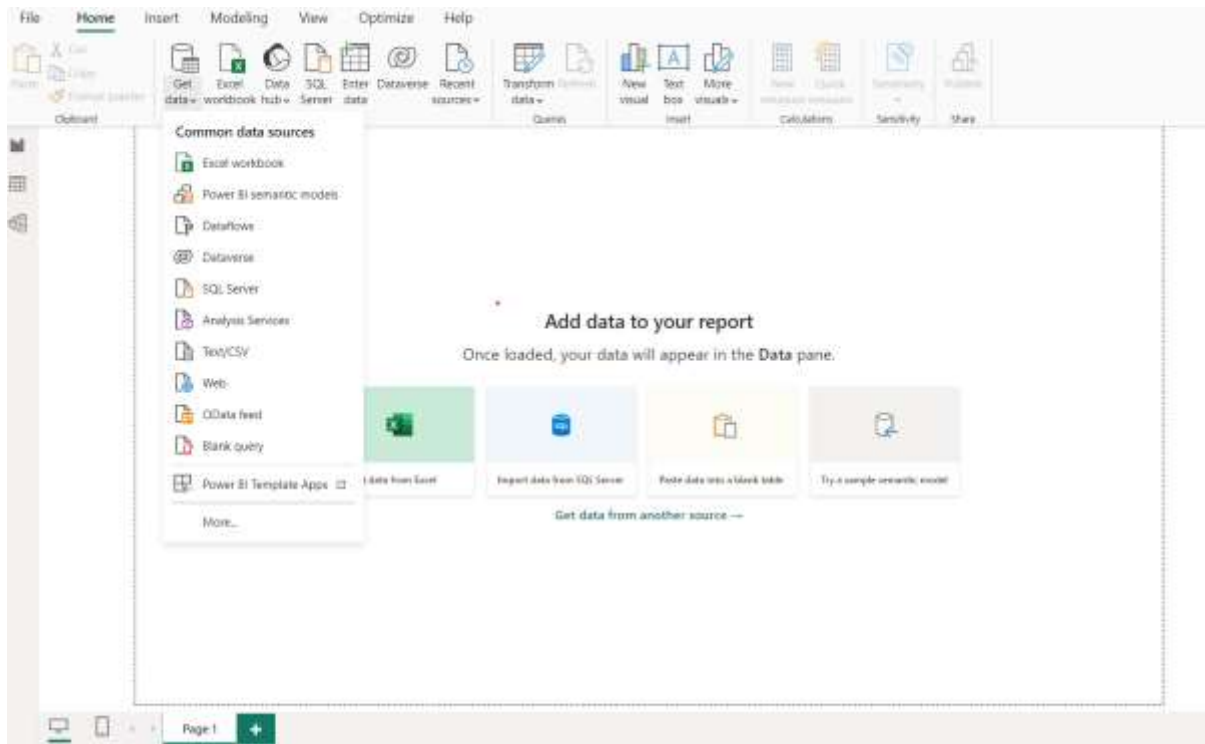
The questions this project seeks to answer are as follows:

- What content Netflix is adding over the years & which content holds majorly in Netflix -movies or Tv shows?
- Which countries produced most number of movies and TV shows in Netflix and percentage of movies and tv shows are produced for different age groups?
- Which month, Netflix adding most number of movies and tv shows?
- Movies run time preference by larger amount of audience and change of movie duration length over the years?
- Most popular movie and tv show genre over the years in terms of highest number of votes received and IMDB score?
- Most and least watched seasons for a tv shows by number of votes received?
- Monthly and yearly Revenue regenerated by subscription type of different countries?
- Netflix growth and downfall of subscribers over the years?

Data pre-processing and cleaning

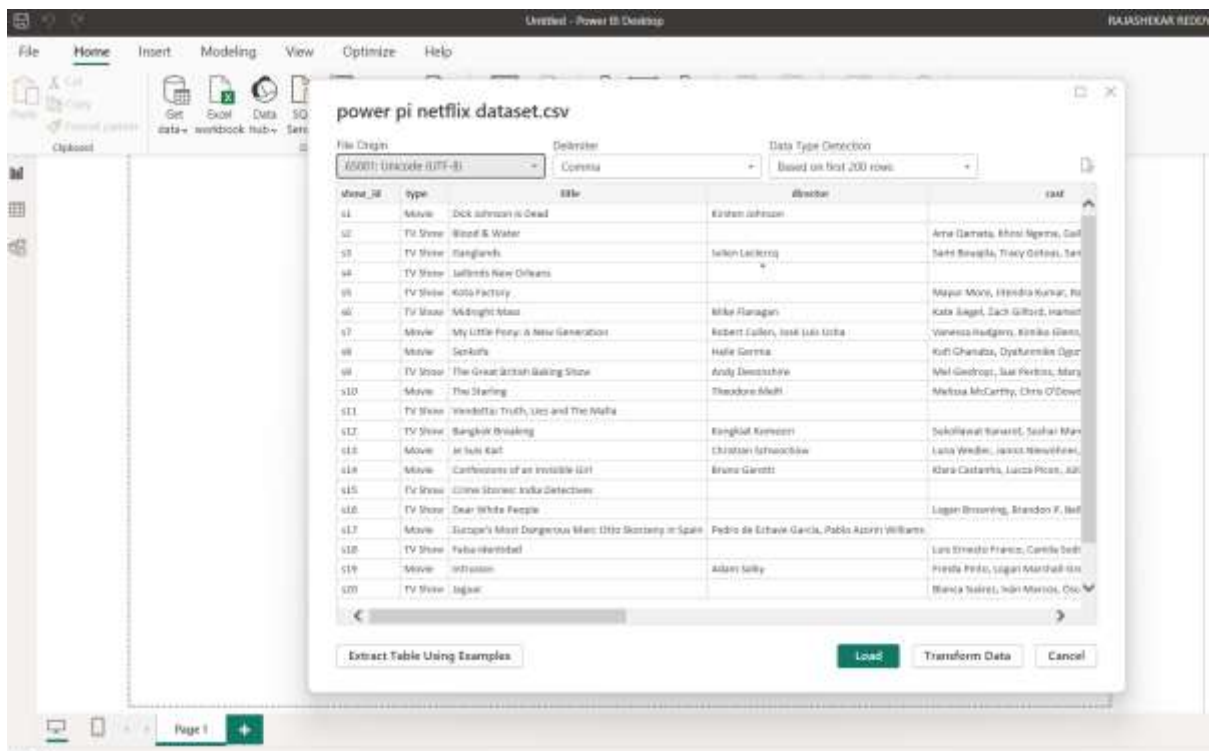
Loading the data

The first step in this analysis is loading the dataset. This is done via get data option from home tab. This button gives a drop down presenting the different ways of data can be loaded into power bi.

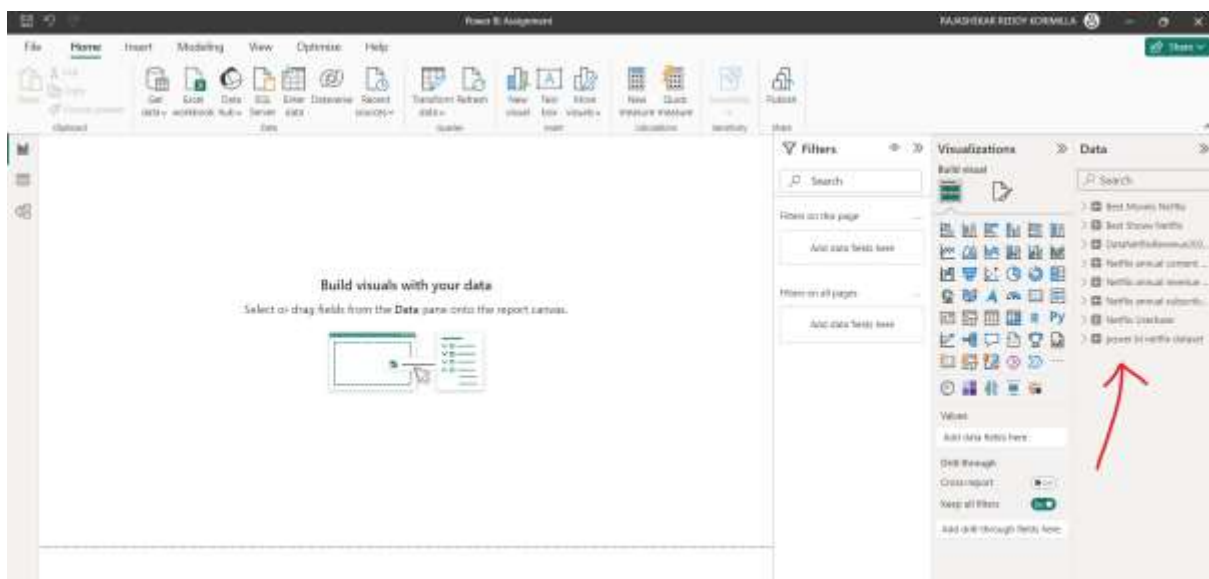


The data for this project is in csv format so the text /csv option was selected .

First the Netflix data set was chosen. This open the dialog box showing the top 200 rows of the data with an option to load , transform data or cancel .



The same process was followed to load the other datasets into power bi.



Data cleaning

The next step is the data cleaning and pre-processing which will be done in power query editor.

To perform this , use the option transform data , this will open power query editor

show_id	type	title	director	cast	description
1	Movie	Die Hard	John Woo	Bruce Willis, Alan Rickman	John Woo
2	TV Show	Brooklyn Nine-Nine	Anthony Russo	Andy Samberg, Melissa McCarthy	Andy Samberg
3	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
4	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
5	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
6	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
7	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
8	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
9	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
10	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
11	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
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13	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
14	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
15	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
16	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
17	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
18	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
19	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
20	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters

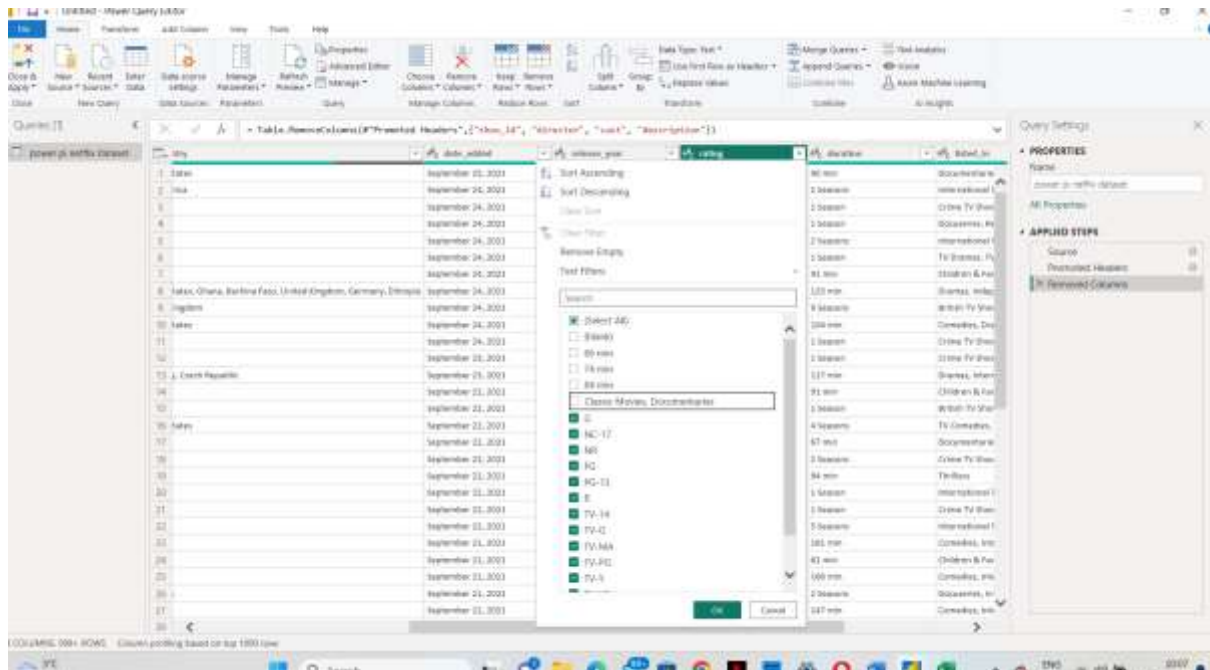
Removing unnecessary columns

Columns like show id , director, cast, description are not needed for analysis , it will be removed from the dataset.

show_id	type	title	director	cast	description
1	Movie	Die Hard	John Woo	Bruce Willis, Alan Rickman	John Woo
2	TV Show	Brooklyn Nine-Nine	Anthony Russo	Andy Samberg, Melissa McCarthy	Andy Samberg
3	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
4	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
5	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
6	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
7	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
8	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
9	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
10	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
11	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
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16	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
17	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
18	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
19	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters
20	TV Show	Veep	David Mandel	Julie Walters, Julia Louis-Dreyfus	Julie Walters

Filtering Rows

The dataset contains unwanted rows in the rating column as shown in fig . so we will filter out the unwanted rows from the rating column as shown in the fig.



Removing Nulls /blanks

The country column contains a lot of blank rows and nulls rows which we have to deal with it.

Remove Columns

Keep Rows

Remove Rows

Sort

Split Column

Group By

Use first row as headers

1 2 Replace Values

Append queries

Combine Files

Azure Machine Learning

AI Insights

Transform

Combine

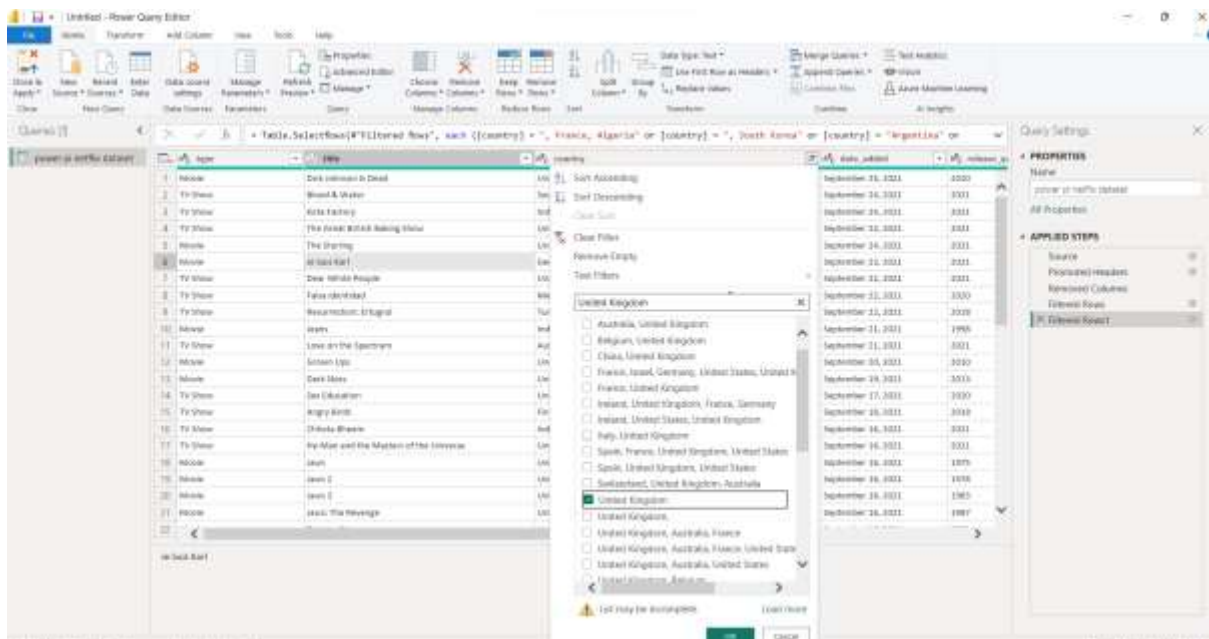
, each ([rating] <> "" and [rating] <> "66 min" and [rating] <> "74 min" and [rating] <> "84 min"

	country	date_added	
	United States	September 25, 2021	21
	South Africa	September 24, 2021	21
		September 24, 2021	21
		September 24, 2021	21
	India	September 24, 2021	21
		September 24, 2021	21
		September 24, 2021	21
	United States, Ghana, Burkina Faso, United Kingdom, Germany, Ethiopia	September 24, 2021	15
	United Kingdom	September 24, 2021	21
	United States	September 24, 2021	21
		September 24, 2021	21
		September 23, 2021	21
	Germany, Czech Republic	September 23, 2021	21
		September 22, 2021	21
		September 22, 2021	21
	United States	September 22, 2021	21
o Skorzeny in Spain		September 22, 2021	21
	Mexico	September 22, 2021	21
		September 22, 2021	21
		September 22, 2021	21
lly Milligan		September 22, 2021	21
	Turkey	September 22, 2021	21
		September 21, 2021	15
the Wheel		September 21, 2021	21
	India	September 21, 2021	15
	Australia	September 21, 2021	21
		September 21, 2021	15

we have many countries names with same names in country column, , so we need to remove the other rows and we will stick to only single country name.

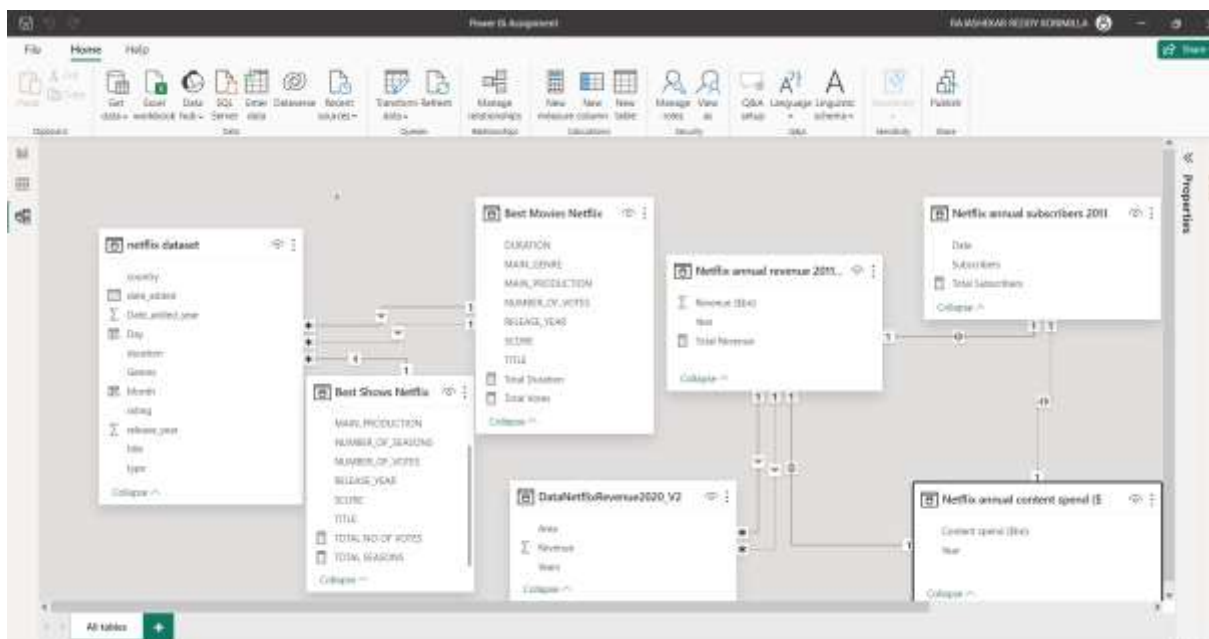
The screenshot shows the Power Query Editor interface. The main table has columns: type, title, country, date_added, and release_year. A filter dialog is open for the 'country' column, showing a list of countries. The dialog includes a search bar and a list of countries with checkboxes. The countries listed are: (Select All), (blank), France, Algeria, South Korea, Argentina, Argentina, Spain, Argentina, Venezuela, Australia, Australia, Germany, Australia, New Zealand, Australia, United Kingdom, Australia, United States, Austria, Belgium, Belgium, Netherlands, Belgium, United Kingdom, and Peru. The dialog also has a 'List may be incomplete' warning and 'Load more' and 'OK' buttons.

The screenshot shows the Power Query Editor interface. The main table has columns: type, title, country, date_added, and release_year. A filter dialog is open for the 'country' column, showing a list of countries. The dialog includes a search bar and a list of countries with checkboxes. The countries listed are: (Select All Search Results), Australia, India, India, India, Australia, India, Germany, Austria, India, Nepal, India, United Kingdom, India, United Kingdom, France, Qatar, United States, Brazil, Japan, Spain, India, United States, India, United States, India, France, United States, India, United Kingdom, and Peru. The dialog also has a 'List may be incomplete' warning and 'Load more' and 'OK' buttons.



Creating relationships

To be able to perform the analysis for this project , relationships need to be created between the tables in our model.



The first relationship is between Netflix dataset table and Best Movies Netflix best tv shows table based on the connecting column Content type and Movie Title this creates a relationship with many to one and a single cross-filter direction. This procedure is repeated for all other columns between these tables.

Next relationship is between Netflix annual revenue and Netflix revenue by area based on the connecting column revenue and year makes a one to many and a single cross-filter direction.

Next relationship is between Netflix annual revenue and Netflix revenue by area based on the connecting column revenue and year makes a one to many and a single cross-filter direction.

Next relationship is between Netflix annual subscribers and Netflix annual content spend by area based on the connecting column date and year makes a one-to-one relationship



BIG DATA AND BUSINESS INTELLIGENCE MODULE

TOPIC - NETFLIX MOVIES AND TV SHOWS ANALYSIS

SECTION 2 : BUSINESS INTELLIGENCE SOLUTION

EXECUTIVE SUMMARY REPORT FOR STAKE HOLDERS

NAME: RAJASHEKAR REDDY KORIMILLA

Student ID- W9633347

Submission Date- 10-05-2024

Executive summary

Introduction

Netflix is the world's largest online streaming platform with over 220 million subscribers in over 190 countries enjoying movies tv series, documentaries, feature films across a wide variety of genres and languages. around the world as of 2022. it important to see how effectively they merge the movies and tv shows on their platform in order to enhance the user experience, without losing subscribers churn.

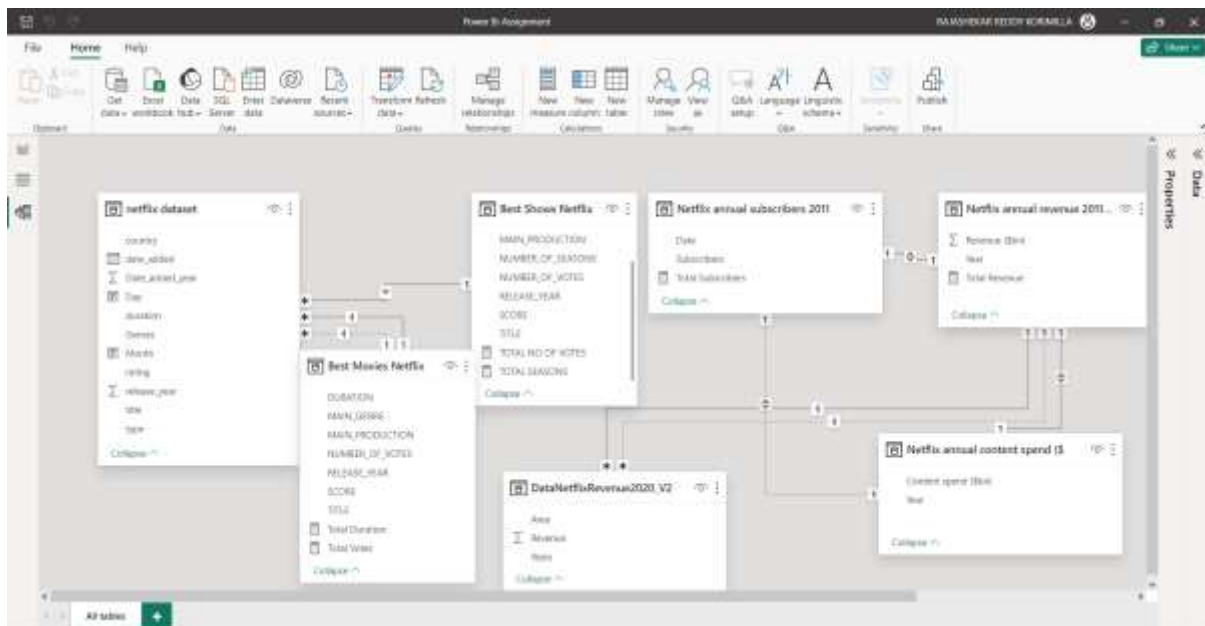
This report seeks to answer the following questions

- What content Netflix is adding over the years & which content holds majorly in Netflix -movies or Tv shows?
- Which countries produced most number of movies and TV shows in Netflix and percentage of movies and tv shows are produced for different age groups?
- Which month, Netflix adding most number of movies and tv shows?
- Movies run time preference by larger amount of audience and change of movie duration length over the years?
- Most popular movie and tv show genre over the years in terms of highest number of votes received and IMDB score?
- Most and least watched seasons for a tv shows by number of votes received ?
- Monthly and yearly Revenue regenerated by subscription type of different countries?
- Netflix growth and downfall of subscribers over the years?

Data Set

This data set contains movies and tv shows from 1969-2022 including title release year, age , certification, runtime, genres, production countries, seasons information for tv shows, imdb score, number of votes, total revenue and subscribers.

Data model



The first relationship is between Netflix dataset table and Best Movies Netflix best tv shows table based on the connecting column Content type and Movie Title this creates a relationship with many to one and a single cross-filter direction. This procedure is repeated for all other columns between these tables.

Next relationship is between Netflix annual revenue and Netflix revenue by area based on the connecting column revenue and year makes a one to many and a single cross-filter direction.

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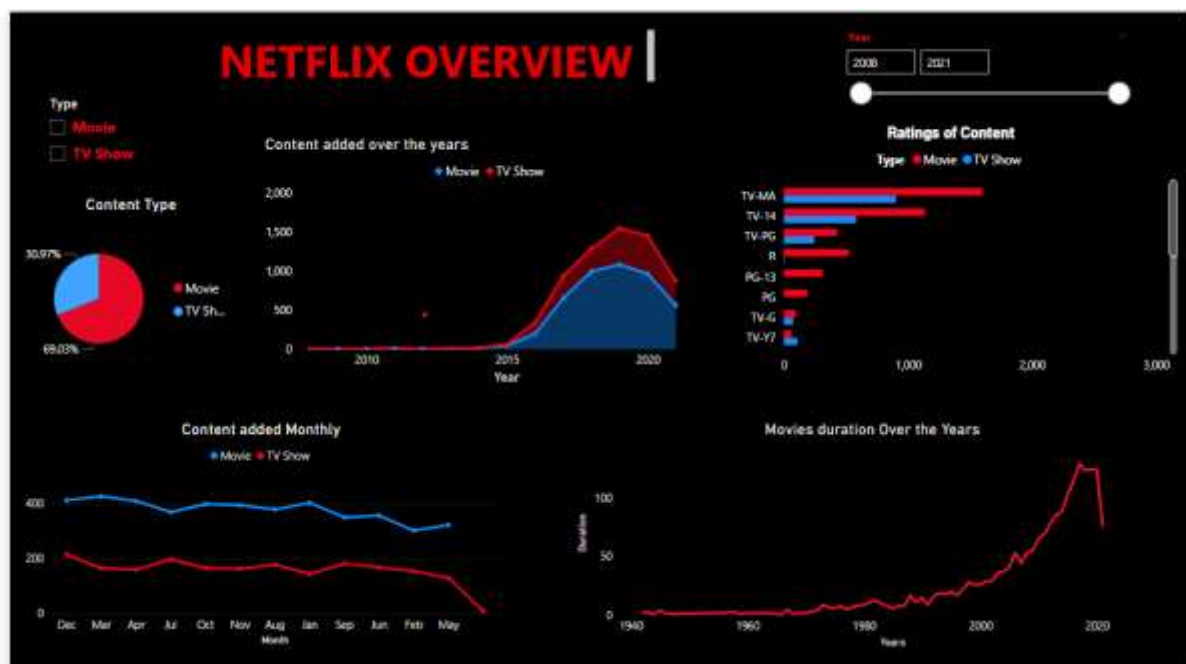
Next relationship is between Netflix annual subscribers and Netflix annual content spend by area based on the connecting column date and year makes a one-to-one relationship

Findings Based on Analysis and Evaluation

Different visualizations were created to answer the data analysis questions and are detailed below

- **Question 1-** What content Netflix is adding over the years & which content holds majorly in Netflix -movies or Tv shows?
- Percentage of movies and tv shows are produced for different age groups?
- Which month, Netflix adding most number of movies and tv shows?
- Change of movie duration length over the years?

The below dashboard shows the visualization of charts used the answer this question



Two-line charts were created on this dashboard -one for monthly trends in total for movies and tv shows and other one shows the yearly trends of movie duration. Two slices were created -one for type of content to select and other one to set an interval for the years from 2008-2021. A play axis is added to see the change in trends across the years. A bar chart represents different Movie rating viewing count and area chart represents type of content added over the years.

Two measure was created using DAX formula for visualization on the dashboard

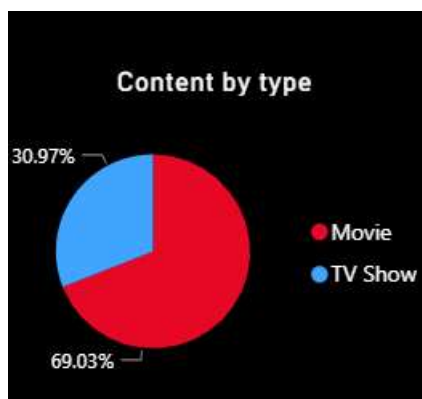
Month = FORMAT('power bi netflix dataset'[date_added],"MMM")

This measure is used to add extra month column from date column to show greater number of movies and tv shows added in which month

Day = FORMAT('power bi netflix dataset'[date_added],"DDD")

This measure is used to add extra month column from date column to show greater number of movies and tv shows added on the day of the week

Content By Type

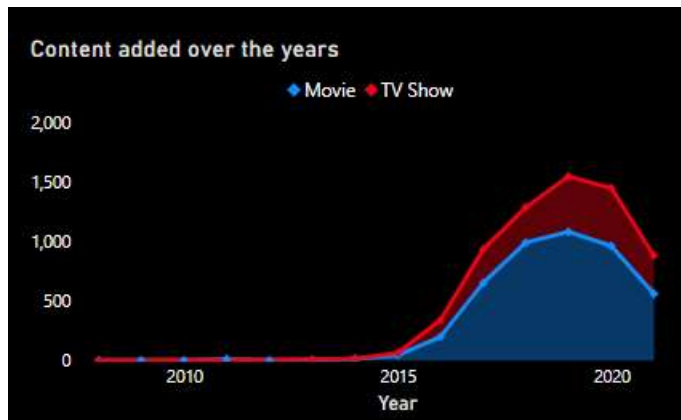


Pie chart represents the quantities of different constituent categories as a proportion of whole. The percentage values of each category add up to 100% and are represented by the angel of the wedge of pie.

This pie chart shows the total percentage of content between movies and tv shows over the years from 2008 to 2011.

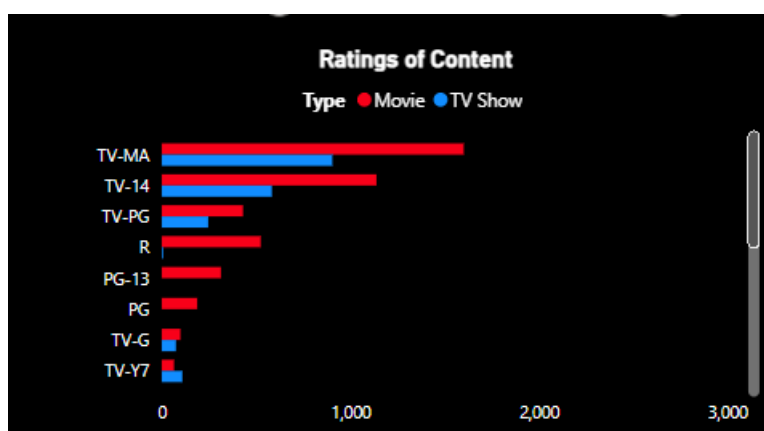
2/3rd of the content on Netflix is movies and remaining 33% of them are tv shows. Two slices are used – one for type of content to show the interaction for charts and other allows to set an interval for the years

Content Added over the years



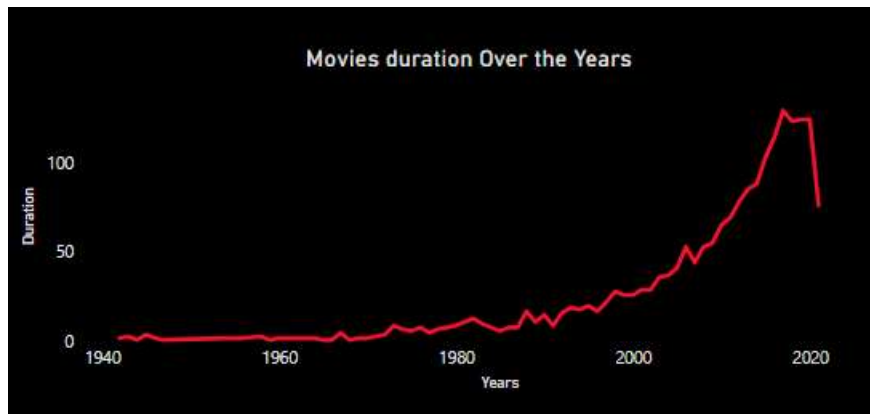
Area chart represents quantitates values for different categories over time to determine the trends and patterns to show how values change and fluctuate over time .

This area chart shows The growth in numbers of movies on Netflix is much higher then tv shows. About 2000 movies were added in both 2018 and 2019. The growth in content started from 2016 . There is decrease in the number of moves and tv shows added in the year 2020 which might be the reason of covid-19. And also there was a decrease in the number of movies added over the years , this shows that Netflix is focusing on adding more tv shows on its platform rather than movies



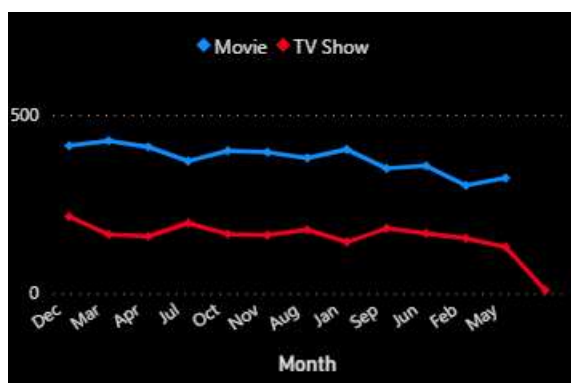
Bar chart represents values against the categories , bar length and height represents quantity , chosen a horizontal presentation for long categorical labels.

This bar chart shows, Around 50% of movies and tv shows are produced for adult audience i..e TV-MA, followed by young adults , older kids. Netflix has only few number of movies and tv shows for teenagers and other age groups.



line represents quantitates values for different categories over time to determine the trends and patterns to show how values change and fluctuate over time.

This line chart shows the yearly trends of movie duration. From 1940 to till 2000, movie duration was very short which is below 50 Min but slowly it started increase from 2001 which goes up to 120 min. this shows how audience preferences over movie duration changing over the years

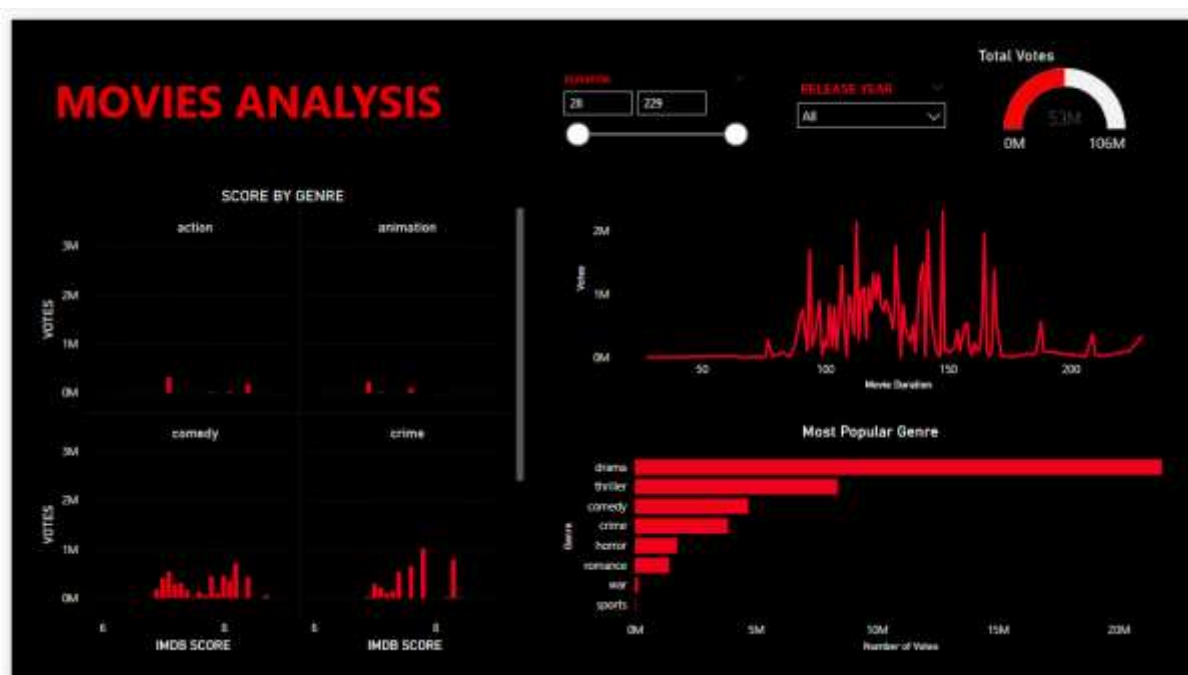


Line chart represents quantitates values for different categories over time to determine the trends and patterns to show how values change and fluctuate over time .

This graph illustrates Over the years from 2008 to 2022 , greater number of movies added in the month of mar December , April and jan while greater number of tv shows added in the month of December July September august.

- **Question 2-** Movies run time preference by larger amount of audience and Most popular movie genre over the years in terms of highest number of votes received and IMDB score ?

The below dashboard shows the visualization of charts used the answer this question



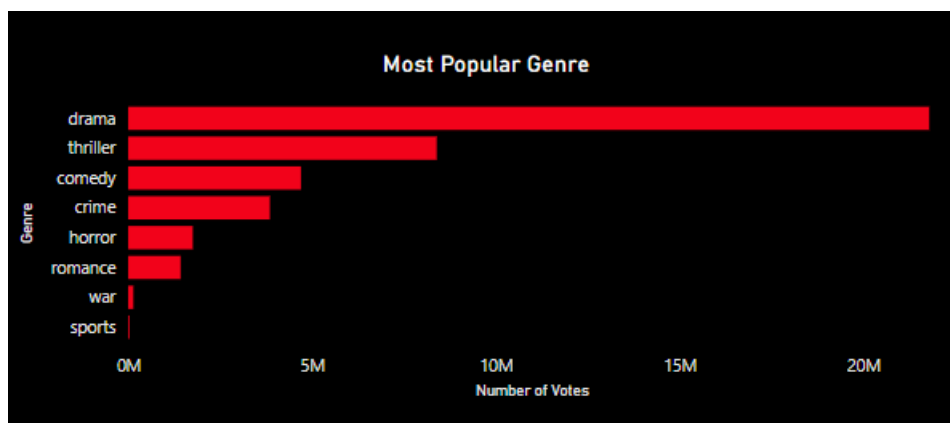
This dashboard has clustered column chart to represents the values against major and minor categories, here more than 3 or 4 bars are cluttered together. There is Bar chart represents values against the categories, bar length and height represent quantity, chosen a horizontal presentation for long categorical labels. Line represents quantitates values for different categories over time to

determine the trends and patterns to show how values change and fluctuate over time. Two slices were created – one to see the duration of movie length and other one to set an interval for release years. A play axis is added to see the change in trends across the years. One KPI gauge used for total number of votes received.

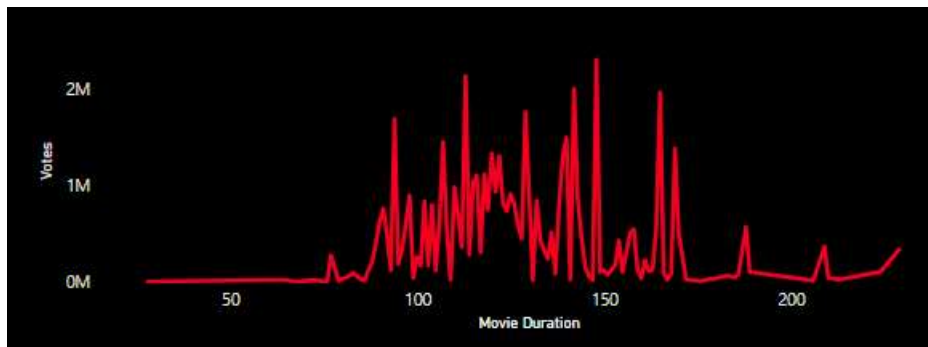
One measure was created using DAX formula for visualization on the dashboard

Total Votes = sum('Best Movies Netflix'[NUMBER_OF_VOTES])

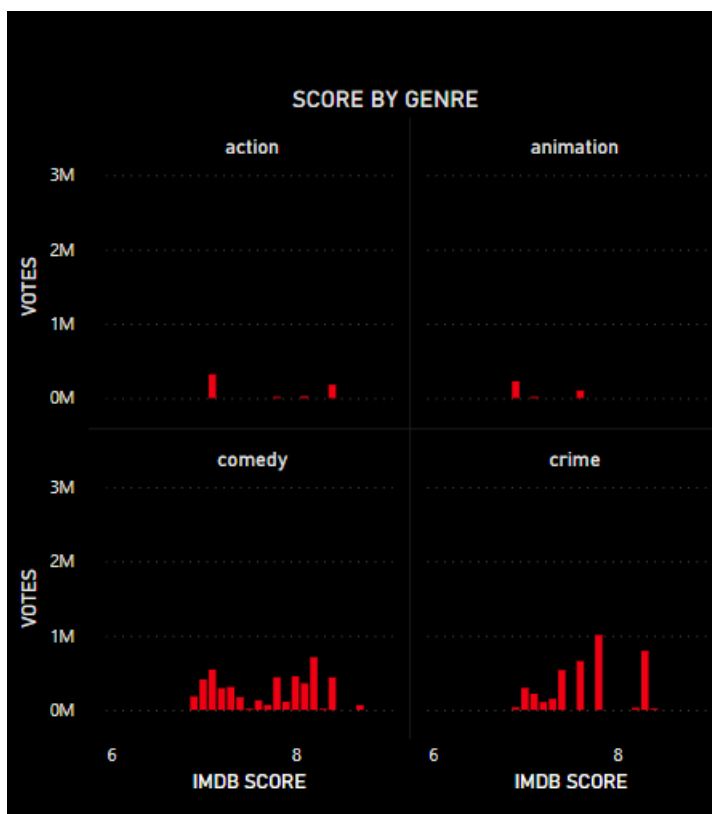
This measure is created to calculate total number of votes received for movies from 1969-2022 in Netflix



This graph illustrates, drama is the most popular genre in terms of votes received from audience followed by thriller and comedy genre. These three genres hold for about 50% of all the movies and tv shows. This value increase to 85% for top 7 genres.



This graph illustrates, Highest number of votes received for movies from audience are among the duration of 90- 170 mins. Considering this fact that, larger amount of audience cannot watch movies which has more than 3 hours long in one sitting.

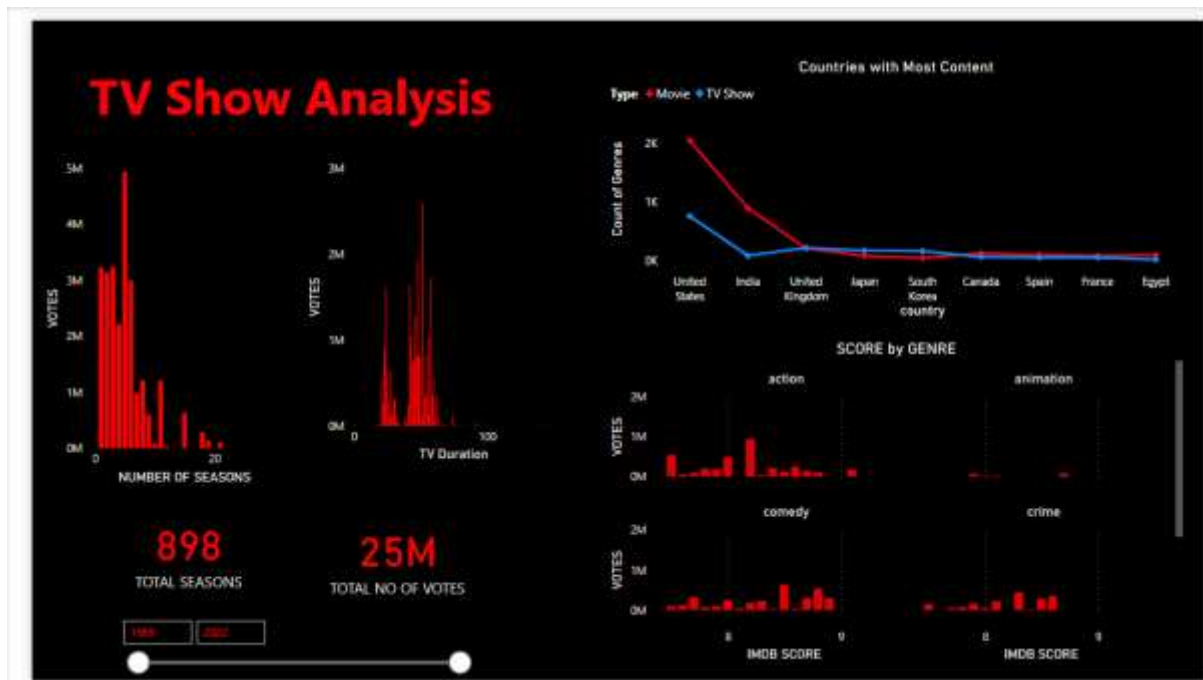


This graph illustrates, The drama, thriller are the most popular genre in terms of no of votes received from audience on IMDB scale followed by comedy and crime genre. These four genres hold for about 70% of all the movies.

Question 3 - Most popular tv show genre over the years in terms of highest number of votes received and IMDB score & Most and least watched seasons for a tv shows by number of votes received ?

- Which countries produced most number of Movies & TV shows in Netflix & TV Shows run time preference by larger amount of audience ?

The below dashboard shows the visualization of charts used the answer this question



This dashboard has clustered column chart to represents the values against major and minor categories, here more than 3 or 4 bars are cluttered together. There are two Bar chart and one line represents values against the categories , bar length and height represents quantity , chosen a horizontal presentation for long categorical labels. line represents quantitates values for different categories over time to determine the trends and patterns to show how values change and fluctuate over time. one slice were created to set an interval for release years. A play axis is added to see the change in trends across the years. Two cards visuals have been added to shows the total number of votes and total number of seasons for tv show.

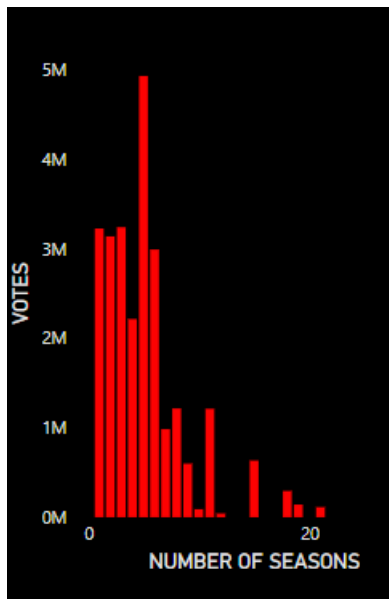
Two measure was created using DAX formula for visualization on the dashboard

TOTAL NO OF VOTES = sum('Best Shows Netflix'[NUMBER_OF_VOTES])

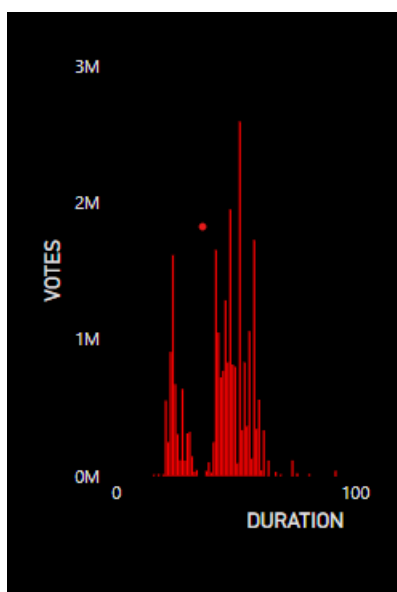
This measure is used to calculate total number of votes received for all the shows in Netflix

TOTAL SEASONS = SUM('Best Shows Netflix'[NUMBER_OF_SEASONS])

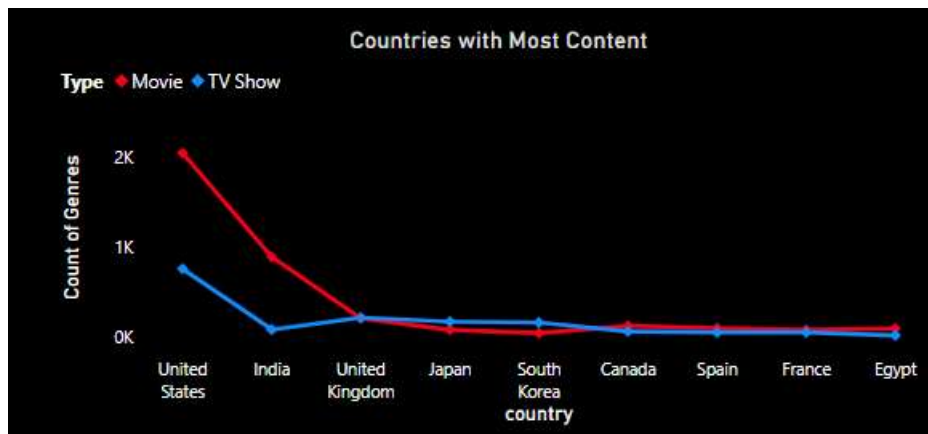
This measure is used to calculate total number of seasons for all the shows in Netflix .



This graph illustrates Tv shows with five Seasons is most watched and has highest number of votes received from audience followed by season 1, 3, 2 and 6. after 6 seasons there been gradual decrease in watching the tv show, this shows larger amount of audience cannot watch tv shows which has more than 65-6 seasons.

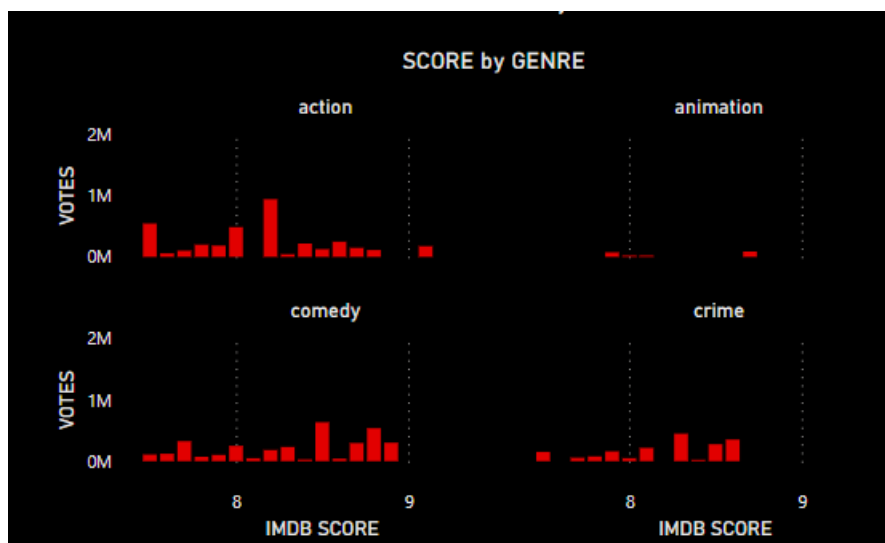


This graph illustrates ,Highest number of votes received for movies from audience are among the duration of 90- 170 mins. Considering this fact that , larger amount of audience cannot watch movies which has more than 3 hours long in one sitting.



This graph illustrates, United sates produced highest number of tv shows & Movies Produced followed by India, United Kingdom and Japan.

This countries holds 80% of Movies and TV shows.



This graph illustrates, the drama, comedy, sci-fi are the most popular tv show genre in terms of no of votes received from audience on IMDB scale followed by thriller and action genre. These five genres hold for about 70% of all the movies.

Question 4- Monthly and yearly Revenue regenerated by subscription type of different countries & Netflix growth and downfall of subscribers over the years?



This dashboard has clustered column chart to represents the values against major and minor categories, here more than 3 or 4 bars are cluttered together. There are one Bar chart and one line and one area chart represents values against the categories, bar length and height represents quantity, chosen a horizontal presentation for long categorical labels. line represents quantitates values for different categories over time to determine the trends and patterns to show how values change and fluctuate over time. two slices were created to see the different subscription types, and other one to differentiate the gender male and female.

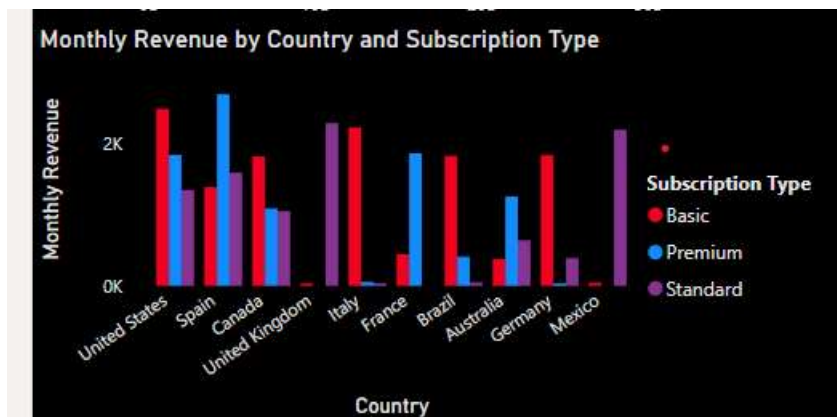
Two Measure was created with DAX Formulas

One measure is to show the total subscribers from 2011 to 2022 for Netflix

And other is to show total Revenue from 2011 to 2022

Total Subscribers = SUM('Netflix annual subscribers 2011'[Subscribers])

Total Revenue = SUM('Netflix annual revenue 2011 to'[Revenue (\$bn)])



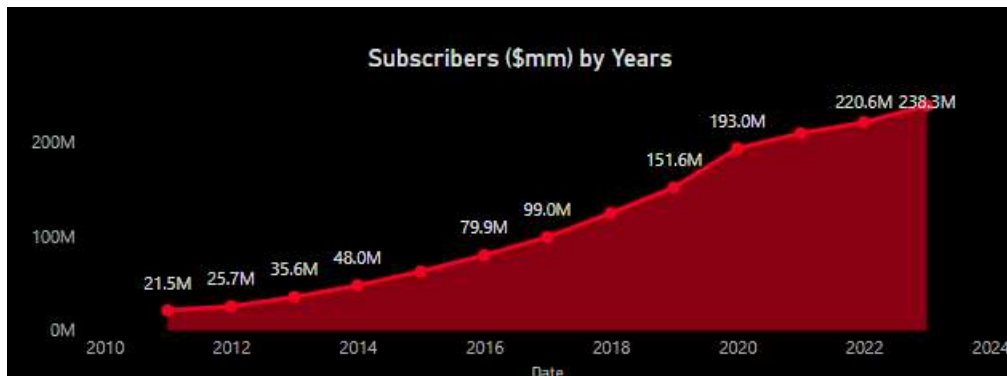
This graph illustrates United states and Italy has highest revenue generated by monthly basis for basic subscription type followed by Germany , Brazil , Canada ,while Spain has highest revenue generated in a month for premium subscription type, followed by France and united states,

And lastly united kingdom and Mexico has highest revenue generated in a month for standard subscription type followed by Spain and united states.

United states , united kingdom, Spain hold major revenue generated for Netflix online streaming service in a month for each subscription type.



This graph illustrates Over last 2.5 years, from 2018 Q1 to 2020 Q2 , united states and Canada , Europe and middle east Africa generated revenue over 1bn while Latin America and Asia pacific countries shown a stable revenue over the last 2 years .



This graph illustrates Netflix growth of subscriber started steadily over the years till 2018, but from 2019-2022 , Netflix added 1bn new subscribers in total which is the tremendous growth for Netflix . covid-19 might be the reason to start adding new subscribers.

Key Findings

The following are the findings from the the business intelligence reports analysis of the above-mentioned business questions

- 2/3rd of content on Netflix is movies and remaining are tv shows
- Growth in adding number of movies is more on Netflix then Tv shows over the years
- United sates produced more number of movies and tv shows over the years than other countries
- Netflix produce large of number of movies and tv shows for adult audience
- December month is the most popular month for adding more number of movies and Tv shows
- 100-130 movie duration is most watched run time preference by larger amount of audience
- Drama is the most popular genre for movies and tv shows compared to other genres in terms of highest number of votes received on IMDB scale
- Tv show with Seasons 5 is most watched in terms of highest number of votes received from audience on IMDB scale
- United sates have highest revenue growth for Netflix over the years
- 2019-2022 years added up to 1 bn subscribers in total.

Recommendations

- Although Netflix hold highest % of movies but there has been gradually decreases in adding movies from 2020-2022 so Netflix should focus on adding more number of movies of different genres to avoid losing subscribers
- Only United states and India and United Kingdom added most of the movies and tv shows in Netflix, it should bring more movies and tv shows from different countries to make culture diversity and improve audience preference recommendation system.
- Movie and tv show runtime getting shorter over the years, Netflix should go with the larger amount of audience run time preference to have better viewing experience.
- Drama was the most popular genre with highest number of votes received in Netflix, with audience preferences changing over time, Netflix should bring other genres with good content to increase the userbase and not to stick with few genres.
- Only few countries having more accessible to Netflix streaming services like united sates, India and United Kingdom, to increase the more revenue and subscribers, Netflix should implement more accessible options of its streaming service to different parts of the world.

Conclusion

In conclusion, Netflix Movies & Tv Shows analysis Provided insightful information how audience votes and score impacts movies and tv shows ratings over the years, how movie duration time is changing over time. This research provides light on the various elements driving the popularity of content by carefully examining Number of votes received for each genre on IMDB scale and category preferences for Audience. The project emphasizes the value of data-driven decision-making in content strategy optimization by utilizing Microsoft Power BI for visualization. The results show that ongoing analysis is essential for maximizing viewer engagement and adjusting to changing viewer preferences. This initiative not only deepens our understanding about Netflix Movies and TV shows but also lays the groundwork for new discoveries, improved strategies, and well-informed choices for the producer's and movie production team to take

more informed decisions about current audience preferences over Movies and Tv Shows.