ASSESSMENT COVERSHEET

Attach this coversheet as the cover of your submission. All sections must be completed.

Section A: Submission Details

Programme	:	BACHELOR IN INFORMATION TECHNOLOGY (HONOURS) (INTERNET OF THINGS)
Course Code & Name	:	IIB 40103 DATA VISUALIZATION
Course Lecturer(s)	:	Ts. DIYANA BT AB KADIR
Submission Title	:	ANALYSIS REPORT
Deadline	:	Day 6 Month JANUARY Year 2025 Time 10 AM
Penalties	:	• 5% will be deducted per day to a maximum of four (4) working days, after which the submission will **not** be accepted. • Plagiarised work is an Academic Offence in University Rules & Regulations and will be penalised accordingly.

Section B: Academic Integrity

Tick (√) each box below if you agree:

- [x] We have read and understood the UniKL's policy on Plagiarism in University Rules & Regulations.
- [x] This submission is my own, unless indicated with proper referencing.
- [x] This submission has not been previously submitted or published.
- [x] This submission follows the requirements stated in the course.

Section C: Submission Receipt

(must be filled in manually)

Office Receipt of Submission

Date & Time of Submission (stamp)	Student Name(s)	Student ID(s)
5/1/2025 6:00 PM	AFIQ HAZIM BIN AZADDIN MUHAMMAD HAZIQ AZFAR BIN ABDUL RAHIM MUHAMMAD AFHAM BIN AYUZANI	52224122132 52224122273 52224121112

Student Receipt of Submission

This is your submission receipt, the only accepted evidence that you have submitted your work. After this is stamped by the appointed staff & filled in, cut along the dotted lines above & retain this for your record.

Date & Time of Submission (stamp)	Course Code	Submission Title	Student ID(s) & Signature(s)
5/1/2025 6:00 PM	IIB40103	ANALYSIS REPORT	52224122132 **AFIQ** 52224122273 **HAZIQ** 52224121112 **AFHAM**

UNIVERSITI KUALA LUMPUR
ASSESSMENT BRIEF

COURSE DETAILS	
INSTITUTE	MIIT
COURSE NAME	DATA VISUALIZATION
COURSE CODE	IIB 40103
COURSE LEADER	Ts. DIYANA BT AB KADIR
LECTURER	Ts. DIYANA BT AB KADIR
SEMESTER & YEAR	OCTOBER 2024

ASSESSMENT DETAILS	
TITLE/NAME	ANALYSIS REPORT
WEIGHTING	30 %
DATE/DEADLINE	6 JANUARY 2025
COURSE LEARNING OUTCOME(S)	CLO2 : Use of the results of the data analytics for service design, marketing and institutional reputation management (C4, PLO4)
INSTRUCTIONS	In this assignment, you are going to work in a group of max. 3 members. Search for an interesting dataset available online (kaggle, IEEE dataport etc). Study and analyse the dataset, then prepare an analysis report and an interactive dashboard. Use the result of data analytics to propose some recommendations to the respective organizations. Your analysis report should contains the following details: **1. Report Title** **2. Introduction** Introduce your dataset. You may include information such as below: • Who collected the data? Who funded the project? • List important publications associated with the dataset if available. • What are the contents of the dataset? **3. Research questions** Set the research question for your analysis. List all questions that you want to seek answer from the dataset. **4. Findings elaboration** Explain your findings by: • Answering research questions • Elaboration must come with chart visualization

	5. Conclusion and Recommendation Conclude the exercise and provide some recommendation / feedbacks. You may include information such as below: • Highlight beneficial recommendation / suggestion • Highlight the organization that will be interested with your findings • List of references
DELIVERABLES	• Submit your dashboard in a Tableau workbook packaged format: **.twbx** to VLE. • Submit **TWO** copies of analysis report (softcopy & hardcopy). • Do not forget to attach the assessment brief.

UNIVERSITI KUALA LUMPUR KAMPUS KOTA MALAYSIAN INSTITUTE OF INFORMATION TECHNOLOGY

DATA VISUALIZATION

IIB40103

ANALYSIS REPORT:

“Understanding Netflix Content Trends Through Data Visualization"

Prepared By:

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Prepared For:

Ts. Diyana Binti Ab Kadir

Table of Contents

1.0 Introduction

The Netflix Titles dataset provides valuable insights into the streaming platform's extensive catalogue of movies and TV shows. The dataset used in this analysis was sourced from Kaggle provided by **Mahmoud Adel Taya Mohamed**. It includes detailed information about each title, such as the genre, release year, country of origin, date added, rating, duration and the descriptions. This dataset is crucial for understanding the content landscape of Netflix, offering an in-depth look at the platform's content strategy and the changing preferences of global audiences over time.

By analysing the dataset, one can identify trends in content creation, examine the diversity of genres, and understand how Netflix curates its offerings across different regions. The inclusion of the "*released_year"* field makes it particularly useful for examining temporal trends in the entertainment industry, offering a window into the evolution of Netflix's content portfolio and its alignment with shifting viewer demands.

For business analysts, marketers, and content creators, the Netflix Titles dataset serves as a powerful tool for deriving insights on content performance, audience preferences, and market positioning. It also provides a foundation for examining how streaming platforms like Netflix continue to shape the future of entertainment.

2.0 Dataset Contents

This data is collected by Mahmoud Adel Taya Mohamed from Kaggle. Contents of this dataset are as follows:

Table 2.1 Contents of Netflix Titles Dataset

No.	Attribute	Detail
1.	**Show ID**	A unique identifier for each show
2.	**Type**	Specifies the type of the content - Movie, TV Show
3.	**Title**	Title of the content
4.	**Director**	Name of the content's director
5.	**Cast**	List of People who are part of the content's star cast
6.	**Country**	The country base of the content
7.	**Date Added**	Date on which the specific content was added on Netflix
8.	**Release Year**	Date on which the specific content was released
9.	**Rating**	Rating of the content on Netflix
10.	**Duration**	Total time duration of the show or movie
11.	**Listed In**	The external listing categories the content falls under
12.	**Description**	Description of the show

3.0 Research Questions

The primary objective of this analysis is to gain insights on understanding Netflix content trends through data visualization. By using Tableau, research questions can be visualized, making the analysis more comprehensive and impactful.

1. How has the number of TV shows and movies added to Netflix changed over the years?

2. What are the most common genres available on Netflix?

3. What is the proportion of movies versus TV shows in Netflix’s content library?

4. What are the most common age ratings for Netflix content?

5. Which release year contains the largest number of titles in the dataset?

6. Which country has the most movies & TV shows produced?

4.0 Findings Elaboration

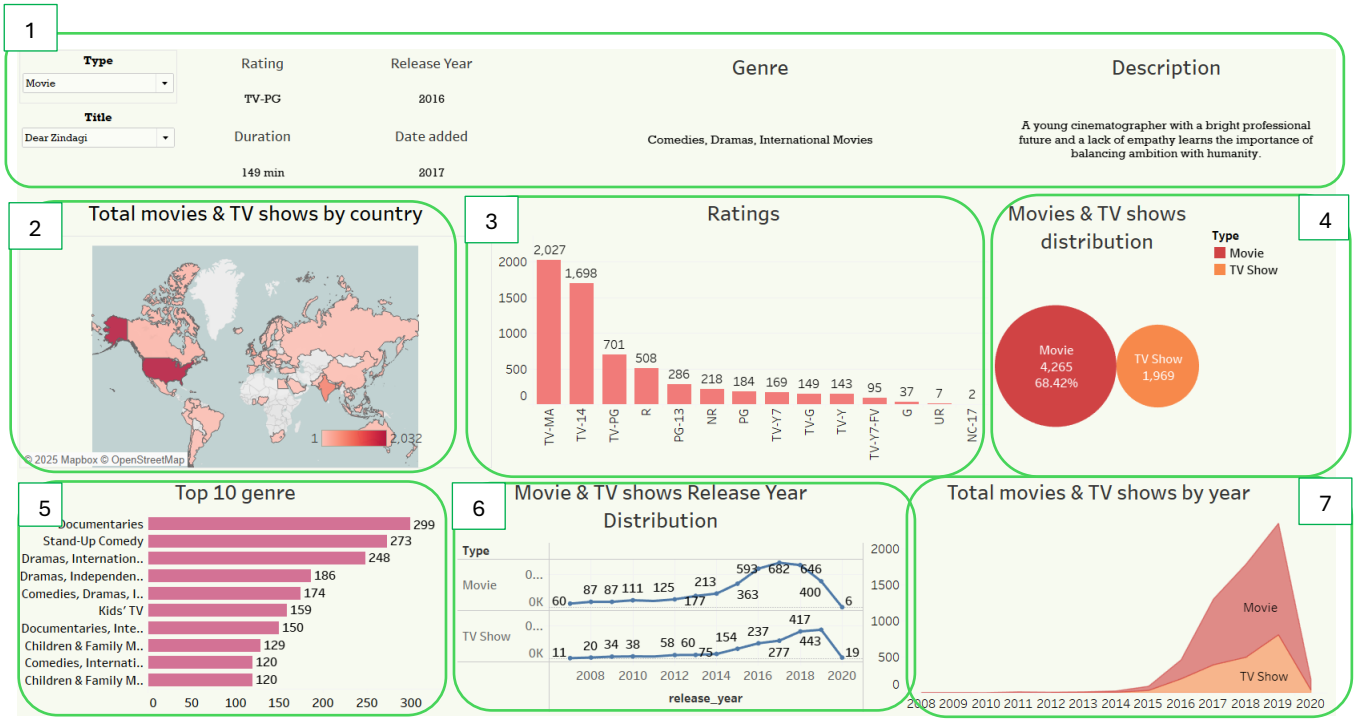

Figure 4.1 Overall Dashboard for Netflix Titles

As shown in Figure 4.1, we created an overall dashboard for each of analysis gathered from the dataset. By referring the numbering from the Figure, the brief dashboard breakdown are as follows:

Table 4.1 Dashboard breakdown

No.	Type	Functionality
1.	Descriptive Table	Shows individual records with their complete attributes in a structured format.
2.	Geographical Map	Shows the total number of movies and TV shows by country, highlighting where Netflix content is predominantly produced.
3.	Horizontal Bar chart	Provides insights into the maturity level focus of Netflix's offerings.
4.	Pie Chart	Displays the proportion of movies and TV shows in the entire content library.
5.	Vertical bar chart	A bar chart shows the most popular genres on Netflix.
6.	Dual Axis Line Graph	Informs decisions related to historical content growth patterns.
7.	Area Graph	Visualizes the total number of movies and TV shows **stacked by year** to show cumulative growth.

As shown in Figure 4.1, the results of the analysis are presented through an interactive Tableau dashboard, which includes various visualizations. Detailed visualizations are as follows:

4.1 Visualization 1

The number of TV shows and movies added to Netflix changed over the years.

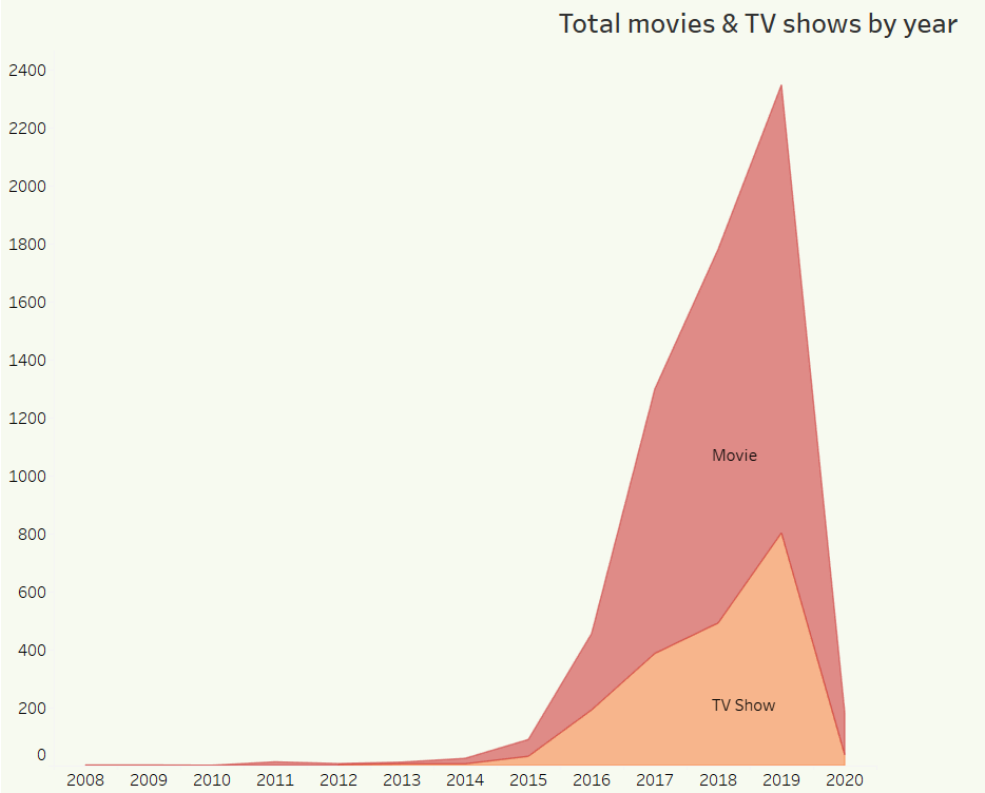

Figure 4.2 Graph Area of Total Movies & TV shows by year

Netflix's content library has seen significant growth over the years, with a marked increase in both movies and TV shows. The dataset reveals that content addition peaked in certain years, such as 2018 or 2019, driven by Netflix's aggressive investment acquiring licensed content based on audience demand. More TV shows have been added in recent years compared to earlier periods, reflecting Netflix's pivot to serialized content. Some years may show fewer additions, which could correlate with external factors like regulatory changes or global events.

4.2 Visualization 2

The most common genres available on Netflix.

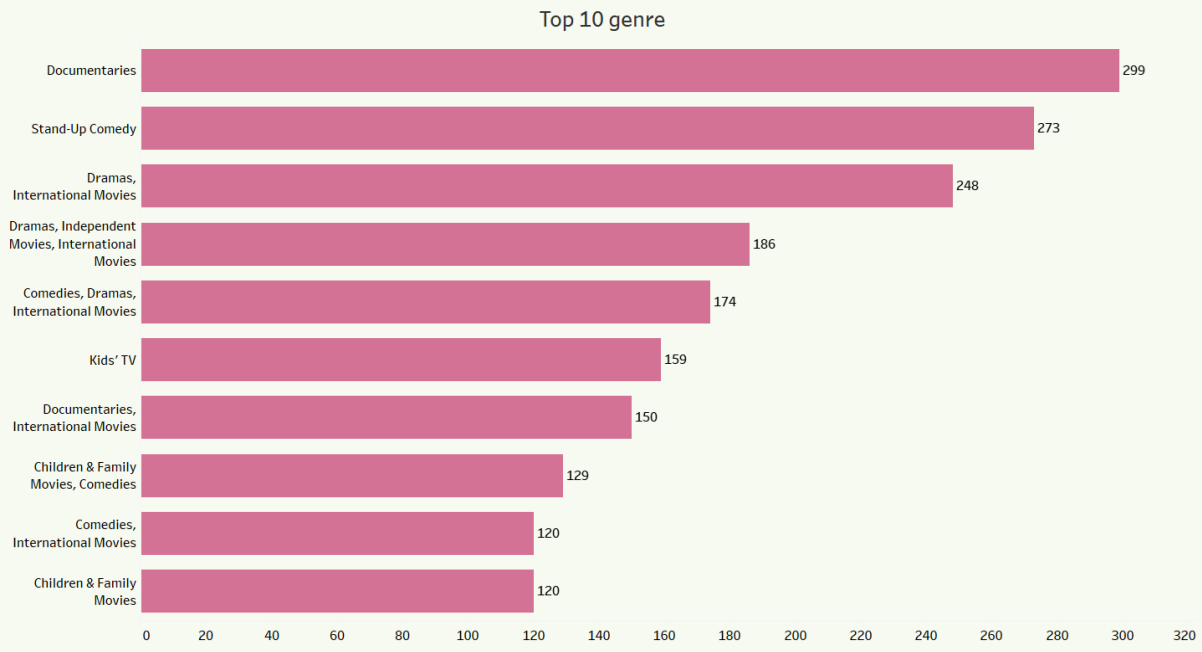

Figure 4.3 Horizontal Bar chart of Distribution of content across different genres

As shown in Figure 4.2, Documentaries are the most represented genre with 299 titles dominating the genre distribution, making it the most frequent type of content on Netflix. This shows that Netflix has invested heavily in documentaries, which attract a wide range of audiences interested in real-world topics and non-fiction storytelling. The predominance of documentaries and international content highlights Netflix's commitment to diverse storytelling and global market expansion. The popularity of stand-up comedy specials reveals Netflix's competitive edge in securing exclusivity deals with popular comedians.

4.3 Visualization 3

Proportion of movies versus TV shows in Netflix's content library.

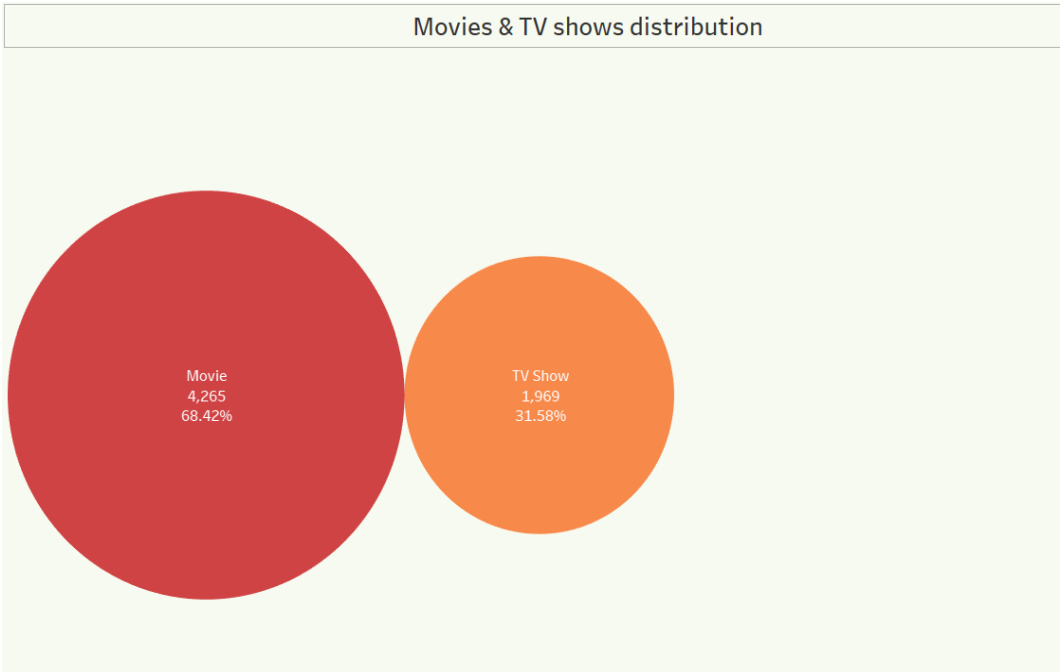

Figure 4.4 Bubble chart of movies & TV shows in Netflix

In Figure 4.3, Movies dominate the content on Netflix, comprising 4,265 titles or 68.42% of the total content. This indicates a strong focus on films within Netflix's catalogue, likely because movies are easier to license or produce as single pieces of content compared to multi-episode series. Besides, that, TV Shows account for 1,969 titles, making up 31.58% of the total library. Despite representing a smaller proportion, TV shows are crucial for user engagement due to their multi-episode format, which encourages marathon movie watching behaviour. Analysing on content strategy side, Netflix's emphasis on movies suggests a wide selection for casual viewing. However, TV shows, although fewer, are strategic for retaining subscribers with long-form content.

4.4 Visualization 4

The most common age ratings for Netflix content

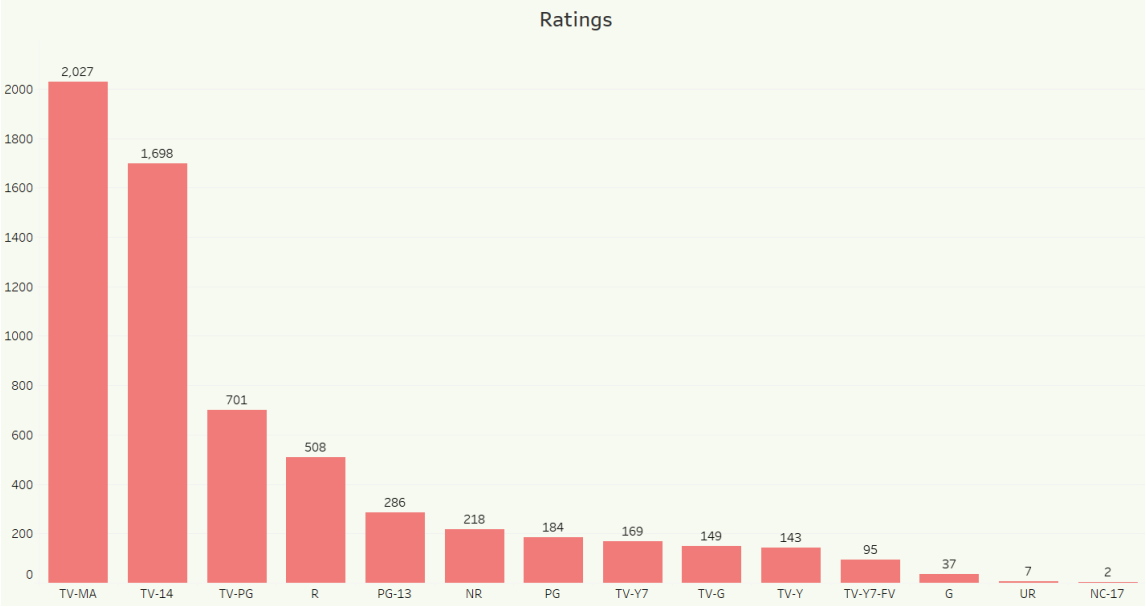

Figure 4.5 Bar chart Number of movies based on ratings

The visualization shown in Figure 4.4 states that Netflix's content is heavily weighted toward mature audiences, with TV-MA and TV-14 ratings making up the majority of the content. In terms of Adult Content Dominance which includes TV-MA (2,027 titles) and TV-14 (1,698 titles) together account for the majority of content. This suggests Netflix primarily targets adult and young adult audiences. Nevertheless, Netflix is initiating a clear rating strategy which maintains a clear focus on mature content while still offering options for all age groups. Netflix also appears to avoid extremely restrictive ratings (NC-17) due to offer more age group to be able to stream movies.

4.5 Visualization 5

Number of titles released each year.

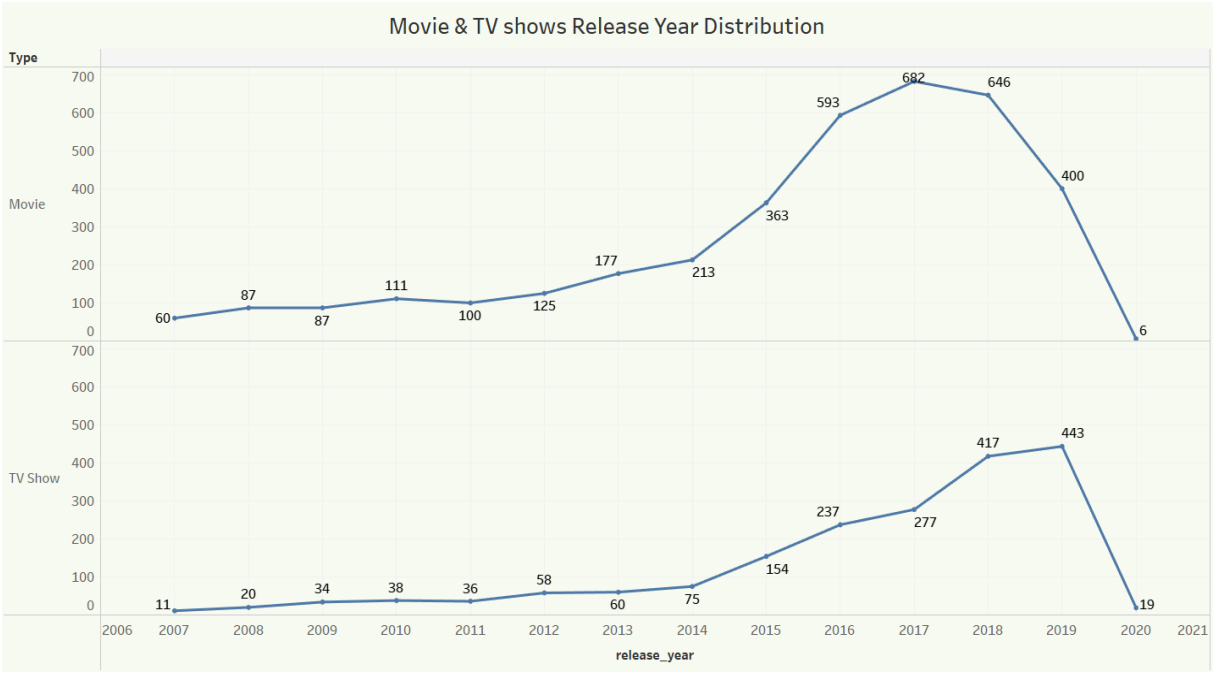

Figure 4.6 Dual Axis line chart release year distribution of movies and TV shows on Netflix from 2006 to 2021

In movie Release trends, the line graph demonstrates a sharp Increase from 2015 to 2018 which states a significant rise is observed between 2016 (363 titles) and 2018 (682 titles). This period corresponds to Netflix's increased investment in original content and aggressive expansion of its movie catalogue. The number of movie releases peaked in 2018. However, it started to decline, with 646 movies in 2019 and only 6 movies listed for 2021. This drop could be due to data availability limits rather than an actual reduction in production.

In TV show Release trends, its line graph shows a substantial Increase from 2014 to 2018. The number of TV shows started rising rapidly after 2014, with a dramatic growth peaking at 443 TV shows in 2019. However, it started declining in 2020 and 2021. Like movies, there is a steep reduction in 2020 and 2021. Only 19 TV shows are recorded for 2021. This may be affected by delayed production schedules or incomplete data.

4.6 Visualization 6

Country which has the most movies & TV shows produced.

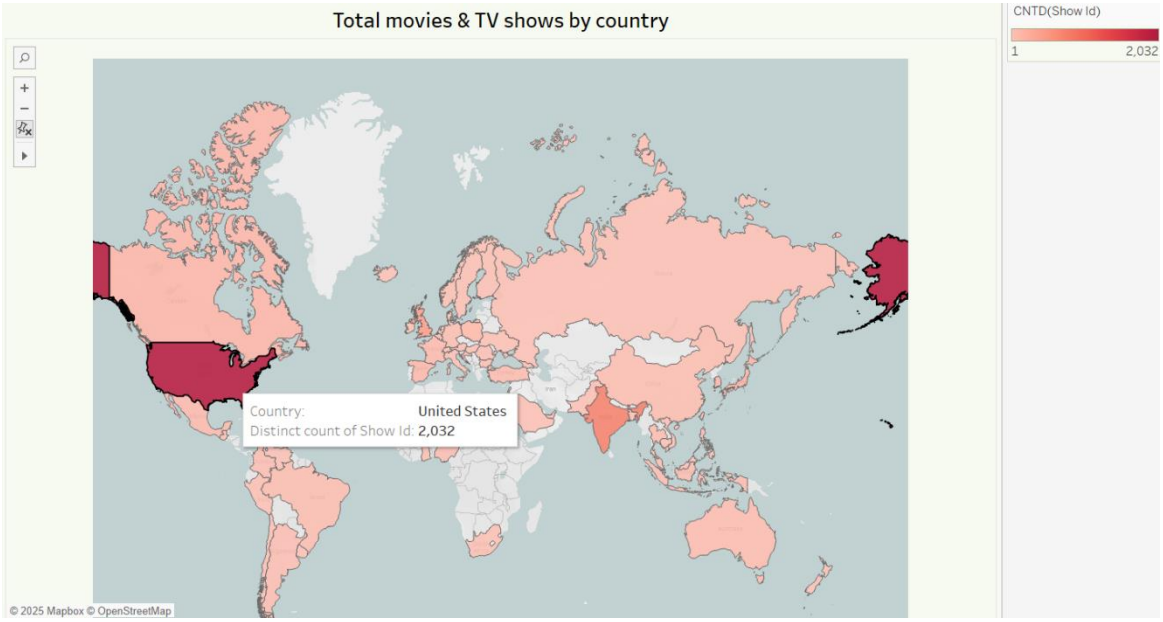

Figure 4.7 Map visualization for distribution of movies and TV shows available on Netflix by country.

From Figure 4.6, The colour intensity represents the number of titles originating from each country, with darker shades indicating a higher count. The United States has the highest number of titles, with 2,032 distinct shows. This aligns with Netflix's origin as a U.S.-based company and its extensive investment in American media and original productions. However, some regions, particularly parts of Africa, South America, and Southeast Asia, show lighter shades, indicating fewer titles. This could be due to limited local production partnerships and licensing constraints for regional content.

Hence, we can conclude that Netflix's push to localize content and invest in original productions in various countries like South Korea, India or Japan has contributed to diversified offerings. The heavier concentration in North America and Europe aligns with Netflix's initial growth markets, while the increasing representation from Asia shows its strategic expansion into high-demand regions. Differences in the number of titles across regions also highlight the complexities of regional licensing agreements.

5.0 Conclusion & Recommendations

5.1 Conclusion

Our analysis of Netflix's content distribution highlights several key insights into the platform's content strategy and growth trends:

1. **Dominance of Movies:**
   Movies make up a significantly larger portion of Netflix's catalog (68.42%) compared to TV shows (31.58%). This highlights a content library heavily weighted toward feature films.

2. **Recent Growth in Content:**
   A significant increase in both movies and TV shows occurred between 2015 and 2019, with a peak in 2018. The decline after 2019 may reflect a shift in strategy, pandemic-related production delays, or a shift toward quality over quantity.

3. **Geographical Distribution:**
   The United States is the largest content contributor with 2,032 distinct titles, followed by countries like India, the UK, and Japan. However, many regions, particularly in Africa and South America, are underrepresented.

5.2 Recommendations

Based on our analysis, we suggest the following strategies each for Netflix Organization and Individuals:

Table 5.1 Recommendations for Netflix Organization.

No.	Recommendations	Description
1.	Diversify Content by Genre	Invest in underrepresented genres, especially niche markets or emerging trends like sci-fi, fantasy, or regional cinema, to capture untapped audience segments.
2.	Optimize Content Production by Country	Increase investment in local-language and culturally diverse content from other high-growth regions, such as India, South Korea, and Latin America, to boost global appeal and attract more international subscribers.

3.	Balance TV Shows and Movies	Focus on high-quality original series, as serialized content often drives longer viewer retention and binge-watching behaviours.
4.	Expand Age-Appropriate Content	Develop more family-friendly and children's content to attract and retain households with younger viewers, enhancing Netflix's profile as a family-oriented platform.
5.	Revise Release Year Trends	Use strategies from recent years to identify which genres and types of content from these peak years performed best. Consider sequels, spin-offs, or related content for popular releases to drive engagement.
6.	Improve Recommendations and Content Discovery	Enhance the personalized recommendation engine, integrating insights on emerging genres, lesser-viewed titles, and regional content to improve content discovery.

Table 5.2 Recommendations for Individuals.

No.	**Recommendations**	**Description**
2.	Explore Diverse Genres	Use Netflix's curated recommendations to discover top-rated documentaries, stand-up comedies, and international dramas to enjoy a richer viewing experience.
2.	Utilize Search Filters	Use genre, age rating, and release year filters to narrow down choices and discover content aligned with personal preferences.
3.	Leverage Regional Content for Language Learning and Culture	Watch content from top-producing countries like South Korean dramas, Indian cinema to gain cultural insights and expand language skills.
4.	Follow Trends and Highly Rated Titles	Consumers should keep track of trending titles and award-winning shows, often highlighted on Netflix's homepage or curated lists.
5.	Set Age-Appropriate Content Restrictions	Use Netflix's parental controls to filter content based on age suitability and prevent inappropriate viewing.
6.	Improve Recommendations and Content Discovery	Enhance the personalized recommendation engine, integrating insights on emerging genres, lesser-viewed titles, and regional content to improve content discovery.

6.0 References

- Mahmoud Adel Taya Mohamed. (2021). *Netflix_titles in* *https://www.kaggle.com/datasets/mahmoudtaya/netflix-titles/data*

- Vadloori, K. B., & Sanghishetty, S. M. (2021). Exploratory and Sentiment Analysis of Netflix Data. *International Journal of Engineering Research & Technology (IJERT)*, *10*(09).

- Roig, A., Clares-Gavilán, J., & Sánchez-Navarro, J. (2021). Netflix fictional feature film originals: An analysis of release strategies. *Communication and Society*, *34*(2). https://doi.org/10.15581/003.34.2.125-139

RUBRIC FOR ANALYSIS REPORT

COURSE CODE	IIB 40103	**TOTAL MARKS (40 MARKS)**
COURSE NAME	DATA VISUALIZATION	
COURSE SEMESTER/ YEAR	OCTOBER 2024	
STUDENT NAME	AFIQ HAZIM BIN AZADDIN MUHAMAD HAZIQ AZFAR BIN ABDUL RAHIM MUHAMMAD AFHAM BIN AYUZANI	
STUDENT ID	52224122132 52224122273 52224121112	
ASSESSMENT DATE	20 DECEMBER 2024	
ASSESSMENT DUE	6 JANUARY 2025 10 AM	
NAME OF COURSE LECTURER(S)	Ts. DIYANA BT AB KADIR	

NO	*CRITERIA*	*WEIGHTAGE*	*Excellent*	*Very good*	*Satisfactory*	*Needs Improvement*	*Unsatisfactory*	*TOTAL MARKS*
			5	4	3	2	1	
1	**Introduction** Elaboration about the dataset	1						
2	**Research question** Clarity on the research questions Quality of the research questions	1						

3	**Findings** Elaboration on the answers of the research questions Graph/ visualization attached to answers	2						
4	**Conclusion** The recommendation given has potential to be implemented List of references included	2						
5	**Dashboard** Interactive and interesting dashboard produced	2						
							TOTAL (40 MARKS)	

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