About the project

With cable TV slowly declining, streaming services are becoming more popular. Netflix is a widely used streaming service for movies and TV shows that earns a majority of their revenue through their subscription plans. This analysis looks at the revenue trend and the subscription trend for Netflix from the years 2018 to 2019. By understanding the revenue trend and subscription trend, we will be able to find methods to boost marketing efforts.

About the dataset

Background

This dataset is based on 2 datasets: revenue from the years 2018 to 2019 and total subscriptions from the years 2018 to 2019. The first dataset provides information about the region, year, quarter, and total revenue. The second dataset provides information about the region, year, quarter, and number of subscriptions*.

* Netflix has 3 subscription plans their customers can choose from: Basic, Standard, and Premium. This data set does not differentiate the number of subscriptions by the plans.

Business Questions

1. What is the revenue and subscription trend over the last 2 years (2018 – 2019)?
2. Which region has the highest retention rate?
3. Which region earned the most revenue and gained the most subscriptions from the year 2018 to 2019?
4. Which region currently earned the most revenue and has the most subscriptions?
5. What steps can be taken to generate more revenue?

Key Insights

1. Over the last 2 years (2018 – 2019), revenue has been increasing. In 2019, Netflix increased the total amount of revenue generated by 24.03%. Netflix also saw an increase in the total number of subscriptions by 16.66%.

2. The Asia-Pacific region has the highest retention rate with 154.04%; however, it is important to note that all regions have a retention rate over 100%.

3. In the year 2019, the U.S. and Canada earned the most revenue, and the EMEA (Europe, Middle East, and Africa) gained the most subscriptions. However, the Asia-Pacific experienced the most growth in both the number of subscriptions (34.66%) and the amount of revenue (33.81%) generated.

4. The U.S. and Canada generated the most revenue and have the most subscriptions in the year 2019.

5. The Asia-Pacific is the smallest market in terms of the number of subscriptions but experienced the largest growth in subscriptions over the past year compared to other regions, increasing the number of subscribers by 34.66%. Therefore, it may be worth understanding the demographics and the genre of TV shows and movies shown to retain the current customers. It may be beneficial to expand the genre of TV shows and movies to target an even more diverse demographic population to increase the number of subscriptions, leading to more revenue being generated.

   The U.S & Canada generated the most revenue over 1 year despite having the smallest subscription growth of 4.29%. Since the revenue growth was not proportional compared to the number of subscriptions, as seen in other regions, it may be worth looking at data that represents the number of subscription plans in order to understand how the U.S & Canada was able to experience a large revenue growth. This information may be beneficial in allowing us to implement market changes in other regions.

Techniques Used for Analysis

1. Basic SQL Functions (SELECT, WHERE)
2. Aggregate Functions (SUM)
3. Window Functions (PARTITION BY, LAG)
4. INNER JOIN, GROUP BY, ROUND
5. CTE

Detailed Analysis

Data Analysis

1. What is the revenue and subscription trend over the last 2 years (2018 – 2019)?

In order to identify the revenue and subscription trend, I joined the 2 tables, using the default JOIN so that values that match from both tables will be shown. Next, I created 4 additional columns that will show the difference and growth in the total amount of revenue and subscriptions gained or lost from the previous row by creating a CTE.

In the first part of the CTE, I calculated the difference in the overall amount of revenue earned and subscriptions gained from the previous quarter. However, because the revenue was split based on the region, year, and quarter, I needed to first combine the revenue by the year and quarter using SUM and GROUP BY. Then, I subtracted the current row from the previous row using LAG followed by PARTITION BY and ORDER BY to calculate the differences across all the quarters. I did the same for the subscription dataset as well.

In the second part of the CTE, I created a table that will show the difference and in addition, calculated the growth between the quarters and year. This was done by dividing the newly made columns that showed the amount of revenue and number of subscriptions gained/lost to the amount of revenue or subscription from the current row, rounded to the nearest hundredth place using ROUND.

I then imported the dataset to Power Bi and created 2 line graphs to show the trend from 2018 to 2019, split based on quarter.

From the graphs, I found an increasing trend in both revenue and subscription over the past 2 years. Revenue increased 24.03% from the year 2018 to the year 2019, generating a cumulative $5.4 billion. The number of subscriptions also increased by 16.66%, compared to last year. Netflix had 167.09 million subscriptions by the end of the year 2019.

2. Which region has the highest retention rate?

There are 4 regions that are observed: Asia-Pacific, EMEA (Europe, Middle East, Africa), Latin America, and the U.S. and Canada. From these 4 regions, the retention rate (percentage of users who continued to use a product over time) was calculated. The retention rate was calculated by dividing the number of current active users in the current period by the total number of users from the previous period. Since I wanted to find the retention rate for the year 2019, I compared it to the total number of active users from the year 2018.

The analysis was done similarly to the first question by creating a CTE. In the first part of the CTE, I created 2 additional columns. The first to show the previous year's total subscriptions using the LAG and PARTITION BY functions, and the second to show the difference between the two years. In the second part of the CTE, I calculated the retention rate and used the function ROUND to find the percentage to the nearest hundredth.

In Power BI, I used a bar graph to compare the retention rate, split by each region.
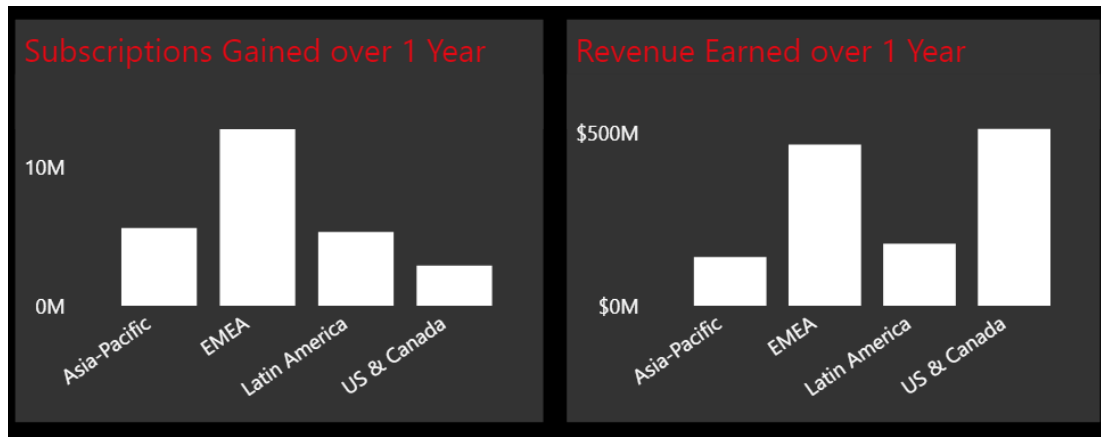
The Asia-Pacific has the highest retention rate with 153.03%. The U.S. and Canada have the lowest with a retention rate of 104.49%. However, it is important to note that all the regions have a retention rate of over 100%, meaning that Netflix continued to increase the total number of subscriptions in all 4 regions without losing any from 2018 to 2019.

3. Which region earned the most revenue and gained the most subscriptions from the year 2018 to 2019?

In order to gain an insight on which region has generated the most revenue and gained the most subscriptions from 2018 to 2019, I created a query that calculated 4 things: revenue gained, the percentage of revenue growth, subscriptions gained, and the percentage of subscription growth. I calculated these by subtracting the revenue from the previous row by using LAG() and used PARTITION BY to split the calculations based on the region. This allows us to compare how much revenue each region gained/lost from the previous year. I labeled this column as "RevGained" by aliasing the code to show the amount of revenue gained. The same method was used to compare the total number of subscriptions, and I labeled this column as "SubGained." To calculate the percentage of revenue and subscription growth, I divided the 2 columns, "RevGained" and "SubGained" by the previous values that displayed the revenue and subscriptions under the columns labeled "RevInitial" and "SubInitial," which were created by using the LAG() function.

After uploading the code into Power BI, I created 2 bar graphs to compare the total subscriptions from the year 2018 to 2019, split by each region and to compare the total revenue from the year 2018 to 2019, split by each region. I also created a table to show the subscription growth and revenue growth over the past year.

Subscriptions Gained over 1 Year

(Bar chart showing: Asia-Pacific, EMEA, Latin America, US & Canada; y-axis 0M to 10M)

Revenue Earned over 1 Year

(Bar chart showing: Asia-Pacific, EMEA, Latin America, US & Canada; y-axis $0M to $500M)

Subscription and Revenue Growth over the Past Year

Area	Subscription Growth	Revenue Growth
Asia-Pacific	34.66%	33.81%
EMEA	26.96%	29.81%
Latin America	17.00%	24.02%
US & Canada	4.29%	19.12%

In the year 2019, the U.S. and Canada earned the most revenue, and the EMEA (Europe, Middle East, and Africa) gained the most subscriptions. However, the Asia-Pacific experienced the most growth in both the number of subscriptions (34.66%) and the amount of revenue (33.81%) generated.

4. Which region generated the most total revenue and has the most number of subscriptions?

I used the previous query to gain an understanding for which region has earned the most revenue and subscriptions in the year 2019. In Power B, I created 2 bar graphs to compare the 4 regions to each other.
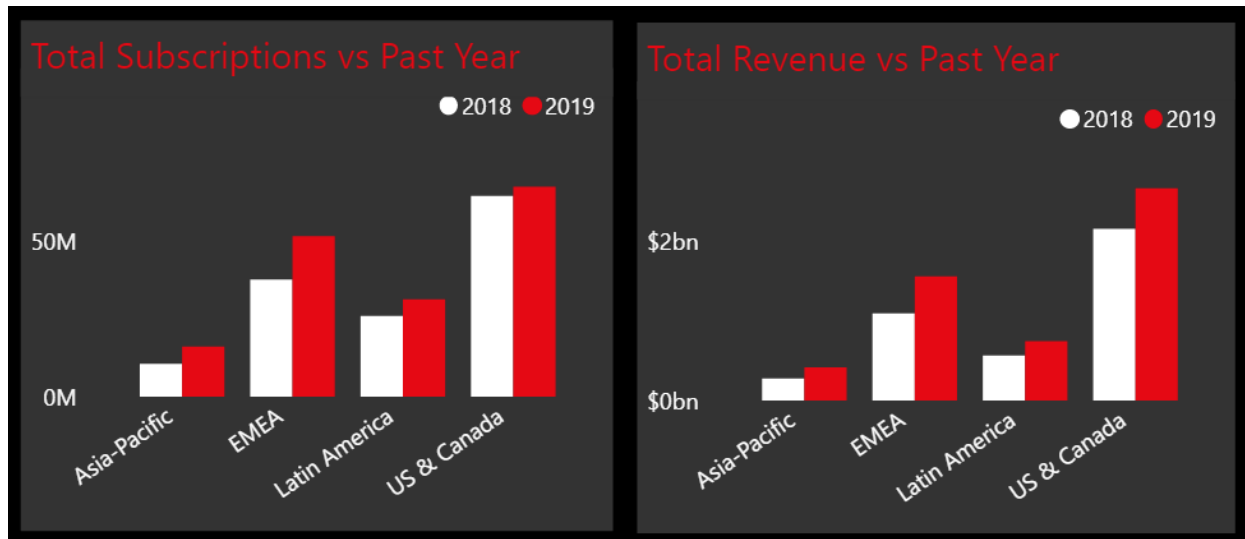
The U.S. and Canada generated the most revenue and have the most number of subscriptions.

5. What steps can be taken to generate more revenue?

Netflix is a streaming platform that generates most of its revenue through subscriptions. From the years 2018 to 2019, it has experienced a positive growth in revenue and subscriptions

The Asia-Pacific experienced the largest subscription growth in comparison to the other 3 regions. The Asia-Pacific experienced a 34.66% increase in the number of subscriptions. Since, Netflix earns most of its revenue through their subscription plan and because the Asia-Pacific is the smallest market, it will be good to understand what led to the large growth by analyzing data that displays the demographics and the genre of the TV shows and movies that the customers from this region enjoy watching. Then, it may be worth investing and catering the streaming service to provide a greater range of TV shows and movies to retain the current customers. It may also be worth expanding the genre of TV shows and movies shown on Netflix to target an even more diverse demographic population to increase the number of subscriptions, leading to more revenue being generated. This can also be done towards other regions as well.

It is interesting to note that the U.S & Canada generated the most revenue over 1 year despite having the smallest subscription growth of 4.29%. This may be due to 2 reasons. First, the U.S & Canada already have a large subscription pool, so despite the subscription growth being marginal, the total number of subscriptions is still larger than other regions. Second, the U.S & Canada may have a larger percentage of customers with more expensive subscription plans. It may also be a combination of both. However, because the revenue growth was not as

proportional compared to the number of subscriptions, as seen in other regions, it may be worth to look at data that represents the number of subscription plans in order to understand how the U.S & Canada was able to experience a large revenue growth. This information may be beneficial in allowing us to implement market changes in other regions.