

# Netflix Revenue in Covid-19 Period

Effect on Netflix Company Global Revenue  
Before, During and After Covid-19 Virus

# Review

Netflix is one of the world's leading entertainment services in over 190 countries enjoying TV series, films and games across a wide variety of genres and languages.

Members can play, pause and resume watching as much as they want, anytime, anywhere, and can change their plans at any time.

Netflix started in 1997 as a DVD-rental-by-mail firm, and spent the first five years struggling to get to a sustainable model that was cash flow positive. They began streaming in the US in 2007, and internationally in 2010. Netflix's first original series debuted in 2013. They became global in 2016, nearly twenty years after starting Netflix.

Lately, Netflix is struggling to show meaningful growth given a weak economy, increasingly aggressive competition, and an apparently saturated U.S. market for streaming.

## Sources:

<https://about.netflix.com/en>

<https://ir.netflix.net/ir-overview/profile/default.aspx>

<https://www.worldometers.info/coronavirus/>

<https://www.kaggle.com/datasets/josephassaker/covid19-global-dataset>

<https://www.demandsage.com/netflix-subscribers/>

[https://www.crunchbase.com/organization/netflix/company\\_financials](https://www.crunchbase.com/organization/netflix/company_financials)

<https://www.businessoffapps.com/data/netflix-statistics/>

<https://www.statista.com/topics/842/netflix/#topicOverview>

[https://www.calcalist.co.il/world\\_news/article/bjekmcwdn](https://www.calcalist.co.il/world_news/article/bjekmcwdn)

<https://truelist.co/blog/netflix-statistics/>

# Scope Of Work

We have been assigned **Ad hoc Analysis** for the Netflix Company revenue and subscribers.

Furthermore, we aim to portray some of the leading influences on the company's revenue and subscribers such as Covid-19 Virus and its leading competitors.

**Date range:** 2022/12- 2018/08

**Countries:** Only countries which Netflix is available in.

We are targeting the sales and revenue operation units.

Due to inherent limitations, such as data availability and time constraints, we focused solely on gathering information about Netflix and the impact of the COVID-19 pandemic.

We did not collect data on subscribers and trends from Netflix's competitors. Therefore, we cannot account for any events or developments at competing platforms, such as Disney's special sale, that may have influenced Netflix.

# Research Questions

We have been assigned to create an ad hoc analysis of Netflix revenue and subscribers to find out the trend changes as a result of Covid-19 and the competition Netflix deals with:

- What are the main trends of revenue and subscribers number and market cap during the years 2018-2022?
- How has the Covid-19 pandemic outbreak affected Netflix revenue and subscribers number ?
  - Has the revenue before the outbreak of the Covid-19 remained the same across the three years of the pandemic?
  - Has the number of subscribers reduced or grown?
- How was the company's pricing strategy affected through the years 2018-2022?
- How Netflix revenue, subscribers number and pricing have been changed in comparison to its leading competitors during the years 2019-2022?

# Data List

Original File Name	Sql Table / Python Result File Name	Record Count	Record Count After Transformation
Competition.xlsx	competition.py	24	25
Competitors.xlsx	competitors.py	7	8
CovidCountryData.xlsx	covid_country_data.py	227	226
CovidDailyData.xlsx	covid_daily_data.py	184.788	599
GlobalStreamingRevenue.xlsx	global_streaming_revenue.py	5	5
NetflixCountries.xlsx	netflix_countries.py	227	213
NetflixMarketCa.xlsx	netflix-market-cap.py	21	21

# Data List

Original File Name	SQL Table / Python Result File Name	Record Count	Record Count After Transformation
NetflixPlanPrices.xlsx	netflix-plan-prices.py	4	52
NetflixRevenueSubscribers.csv	netflix-revenue-subscribers.py	81	80
Regions.csv	regions.py	4	4

# KPI & Measures

- The number of **subscribers per quarter** - the growth trend resulting from the pandemic.
- The increase in **plan prices** is a result of the growing number of subscribers.
- Examine the trend changes of **market competitors** over a given period.
- The year **revenue** report will show the growing trend changes as a result of a large number of people staying at home due to the pandemic.

# Data Review - Summary

We have built a database containing 10 tables, the largest of which contains around 200K records.

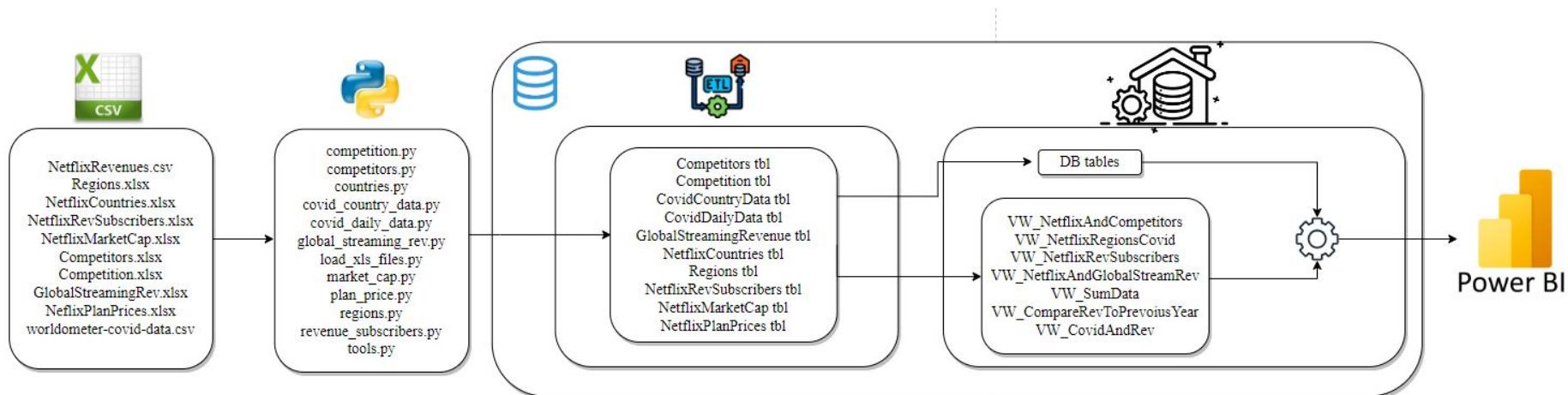
## Assumptions:

- The number of subscribers is given in millions.
- The revenues are given in billions.
- The prices are given in U.S. dollars and show US prices only (prices vary significantly between countries over the world <https://vpnwiki.com/en/netflix-subscription-prices>) .

## Filters on the data:

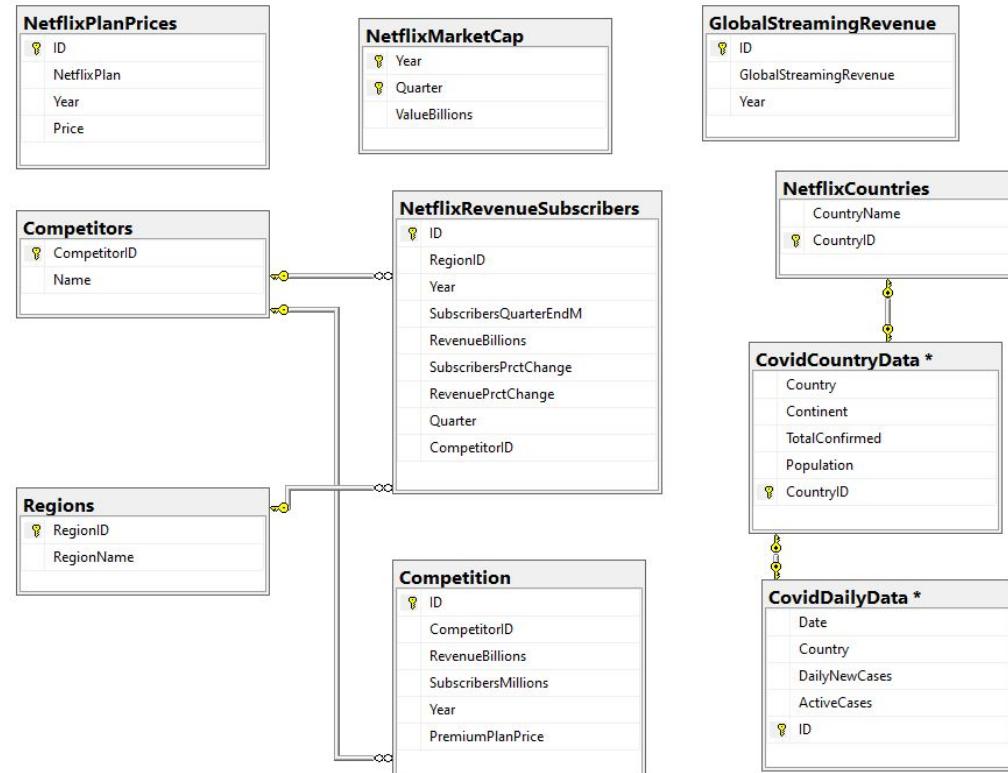
- We have focused on the data between years 2018 and 2022
- We have focused on the premium plan prices per year only

# Data Flow High Level



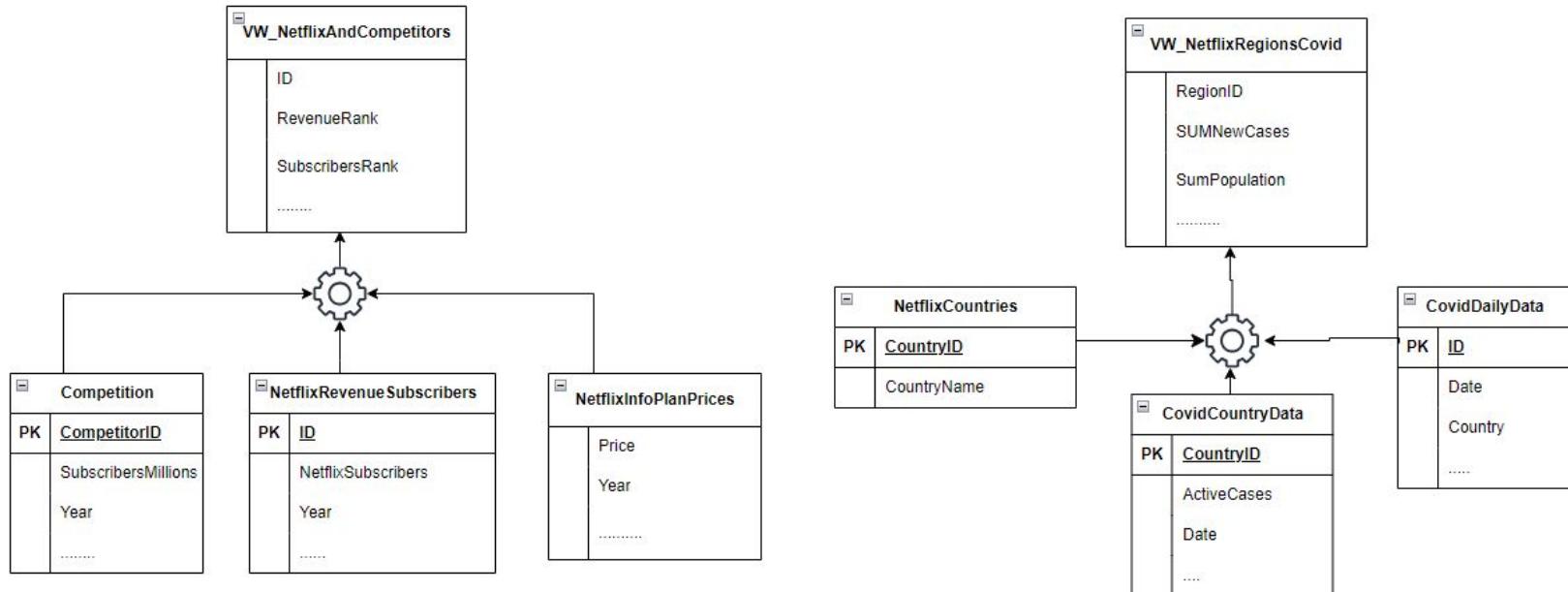
# Data Review

Final tables ERD:



# Data Review

## Views



# Netflix Revenues and Subscribers Analyses

# Descriptive Statistics- Netflix Revenue and Subscribers

Region Name	MinYear	MaxYear	Average Revenue (Billions)	Min Revenue (Billions)	MaxRevenue (Billions)	STDRevenue (Billions)	Avg Subscribers (Millions)	Min Subscribers (Millions)	Max Subscribers (Millions)	STD Subscribers (Millions)
Asia Pacific	2018	2022	0.58	0.199	0.916	0.26	22.16	7.394	38.023	10.18
EMEA (Europe, Middle East and Africa)	2018	2022	1.75	0.189	2.561	0.7	57.3	29.339	76.729	16.07
Latin America	2018	2022	0.79	0.54	1.030	0.16	33.55	21.26	41.699	6.6
US & Canada	2018	2022	2.84	1.976	3.601	0.54	70.07	60.909	75.215	4.79

# Descriptive Statistics- Netflix Revenue and Subscribers SQL Query

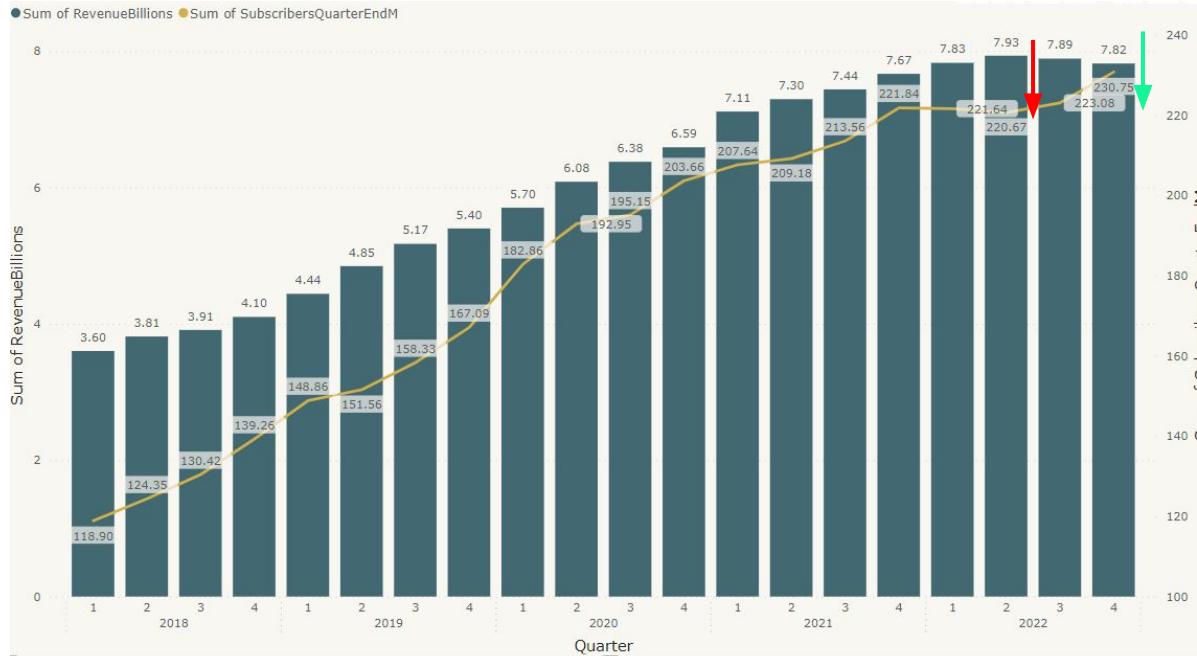
```
SELECT      R.RegionName
            ,MIN(NRS.Year)  as MinYear
            ,MAX(NRS.Year)  as MaxYear
            ,ROUND(AVG(NRS.RevenueBillions), 2)  as AverageRevenue
            ,MIN(NRS.RevenueBillions)  as MinRevenue
            ,MAX(NRS.RevenueBillions)  as MaxRevenue
            ,ROUND(STDEV(NRS.RevenueBillions), 2)  as STDRevenue
            ,ROUND(AVG(NRS.SubscribersQuarterEndM), 2)  as AverageSubscribers
            ,MIN(NRS.SubscribersQuarterEndM)  as MinSubscribers
            ,MAX(NRS.SubscribersQuarterEndM)  as MaxSubscribers
            ,ROUND(STDEV(NRS.SubscribersQuarterEndM),2)  as STDSubscribers
FROM        NetflixRevenueSubscribers NRS
JOIN        Regions R
          ON NRS.RegionID=R.RegionID
GROUP BY    R.RegionName
```

# Descriptive Statistics- Netflix Market Capital

MinYear	Max Year	Average Value	MinValue	Max Revenue	STDValue
2018	2023	170	90	270	53.58

```
SELECT      Min(Year) as MinYear  
            ,MAX(Year) as MaxYear  
            ,ROUND(AVG(ValueBillions), 2) as AverageValue  
            ,MIN(ValueBillions) as MinValue  
            ,MAX(ValueBillions) as MaxValue  
            ,ROUND(STDEV(ValueBillions), 2) as STDValue  
FROM        NetflixMarketCap
```

# Netflix Revenue and Subscribers Totals by Quarter and Year



31.47

Max of Netflix Year Revenue (2022)

15.43

Min of Netflix Year Revenue (2018)

139.26

Min of Year Subscribers (2018)

230.75

Max of Year Subscribers (2022)

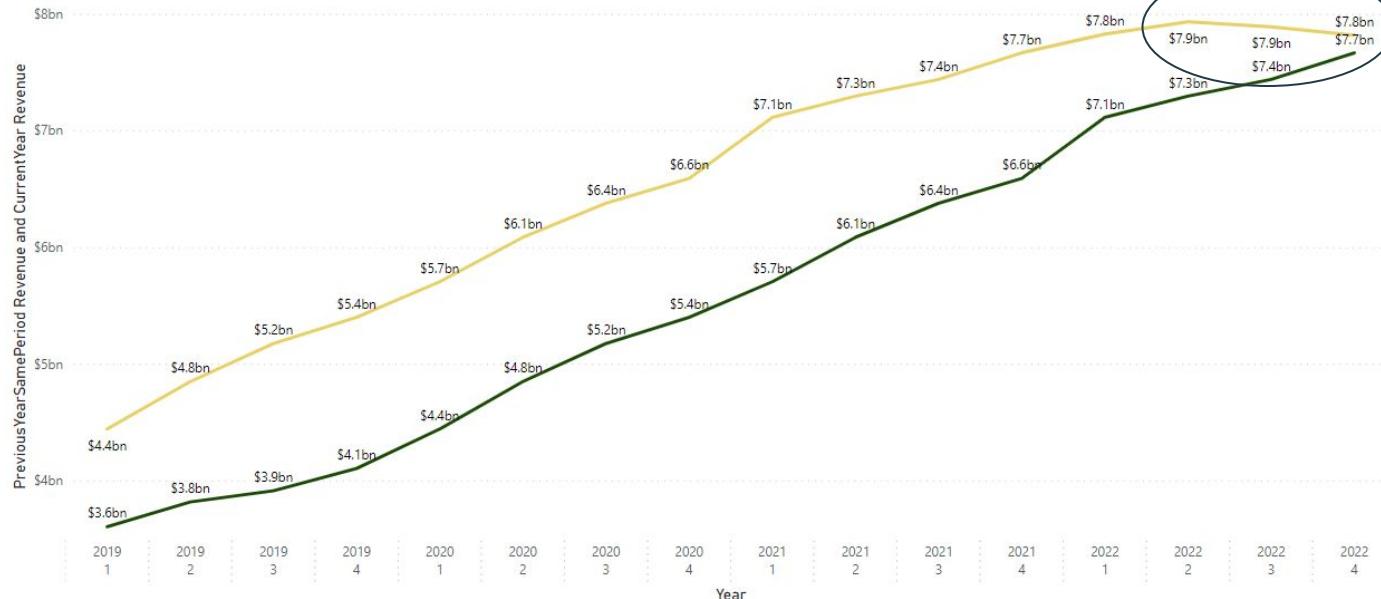
- Netflix showed long term revenue growth until Q3 2022, where the revenue growth tendency became negative.

Source:<https://www.theguardian.com/media/2022/jul/19/netflix-slump-earnings-call-second-quarter-2022>

# Netflix Revenue Totals by Previous Year Same Period vs Current Year

PreviousYearSamePeriod vs. CurrentYear Revenues by Year

● PreviousYearSamePeriod Revenue ● CurrentYear Revenue



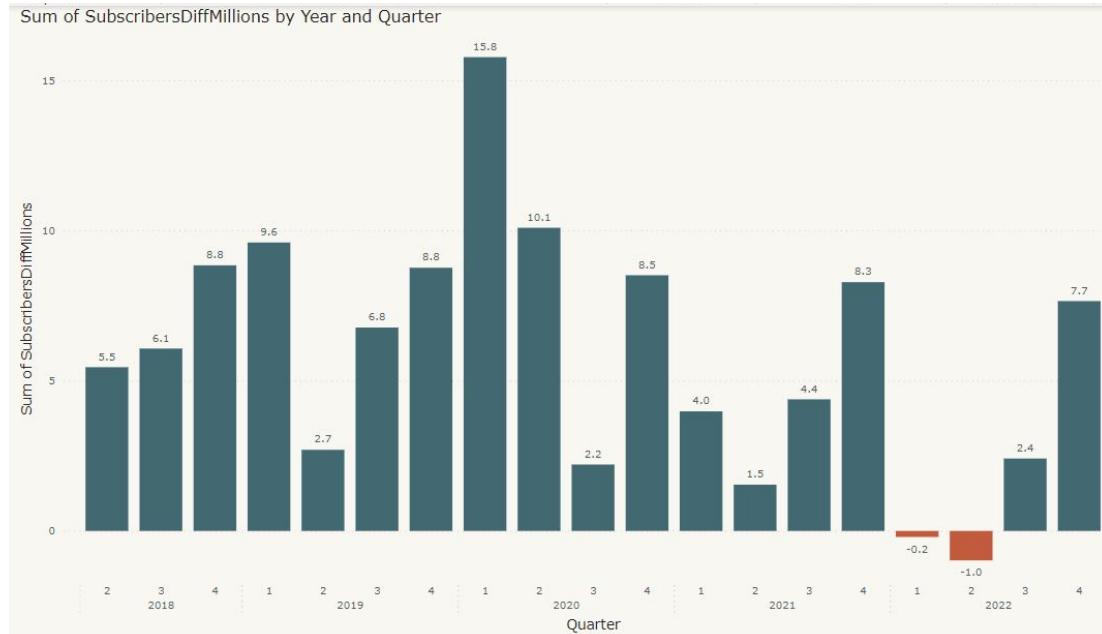
We can observe the trend changes of Current Year Revenue (yellow) compared to the Previous Year Same Period (green).

It can be summarized, that although the company experienced a **reduction in revenue growth** in the Q3 and Q4 of 2022, the tendency was still positive in comparison to previous year.

# Query

```
WITH Totals AS
(
SELECT Year
      ,Quarter
      ,SUM(RevenueBillions) * 1000000000 AS TotalRevenue
FROM   NetflixRevenueSubscribers
GROUP BY Year
      ,Quarter
)
, PreviousQuarter AS
(
SELECT *
      ,LAG(TotalRevenue) OVER (ORDER BY Year, Quarter ASC) PreviousQuarterRevenue
FROM   Totals
)
SELECT a.Year
      ,a.Quarter
      ,ROUND(a.TotalRevenue, 2) TotalRevenue
      ,ROUND(a.PreviousQuarterRevenue, 2) PreviousQuarterRevenue
      ,ROUND(b.TotalRevenue, 2) AS YTD
FROM   PreviousQuarter a
LEFT JOIN PreviousQuarter b
      ON b.Quarter = a.Quarter
      AND b.Year = a.Year - 1
```

# Netflix Subscribers Change by Quarter and Year

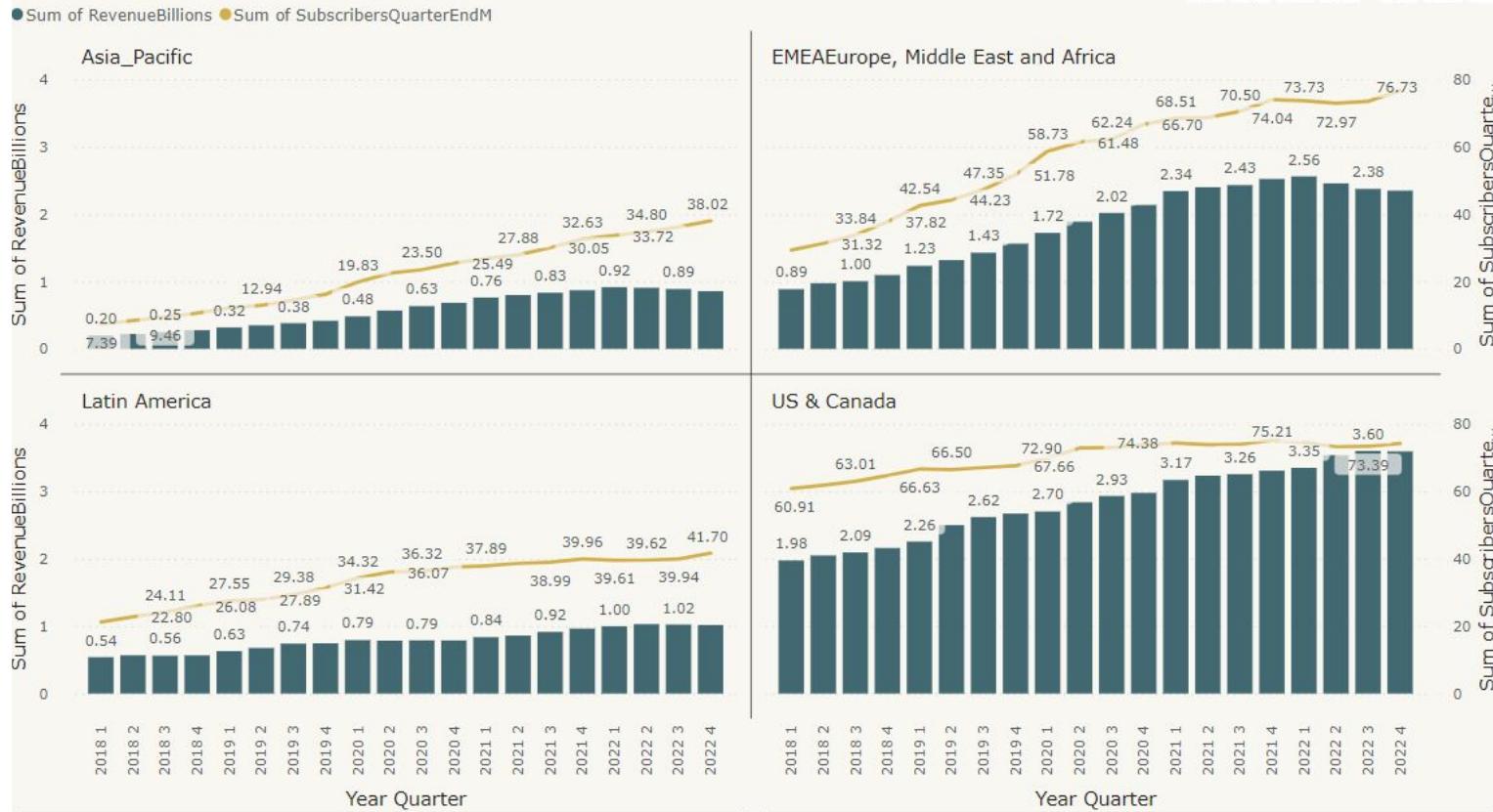


- A constant growth in subscribers until Q1 2022, where Netflix lost 200K subscribers and almost 1M in Q2 2022. The growth tendency in subscribers turned positive only in Q3 2022, maybe due to the release of a cheaper plan with adds.

# Netflix Subscribers Change by Quarter and Year - SQL Query

```
;WITH CTE AS
(
SELECT      Year
            ,Quarter
            ,RegionID
            ,SubscribersQuarterEndM
            ,LAG(SubscribersQuarterEndM) OVER (PARTITION BY RegionID ORDER BY Year, Quarter) AS PreviousQuarterSubscribers
FROM        NetflixRevenueSubscribers
)
SELECT      *
            ,ROUND(SubscribersQuarterEndM - PreviousQuarterSubscribers, 2) AS SubscribersDiffMillions
FROM        CTE
```

# Netflix Revenue and Subscribers Totals by Region

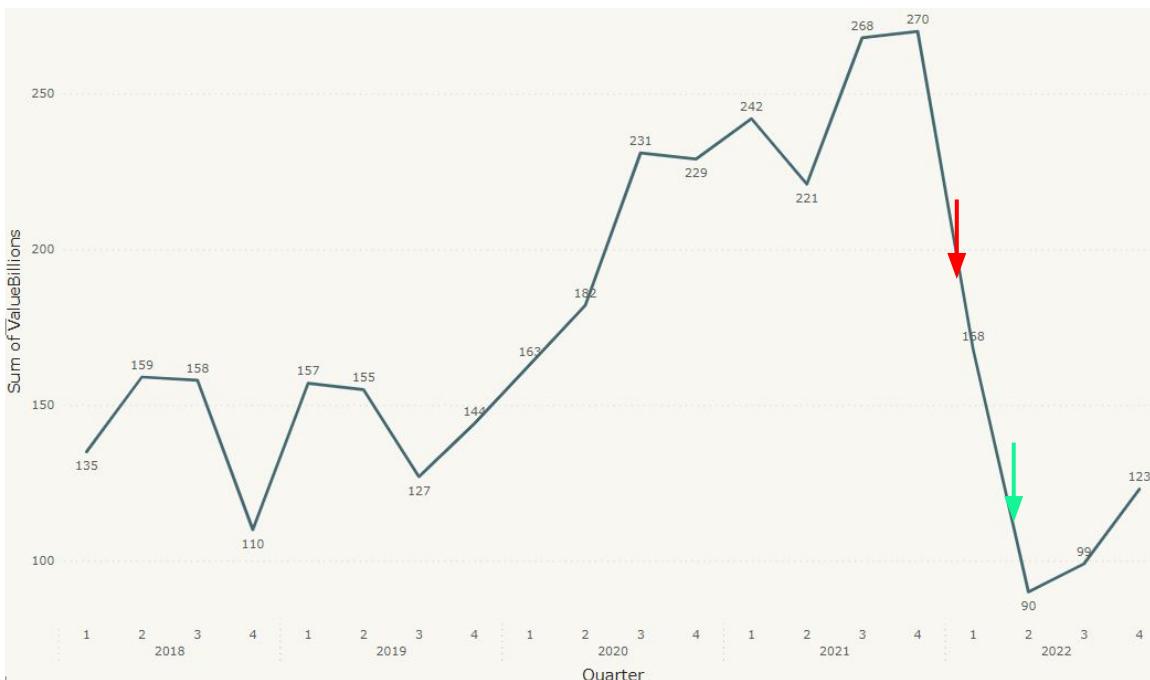


# Netflix Revenue and Subscribers Totals by Region

- We can see that the US & Canada Market is saturated and the growth is slowing down.
- The most promising Netflix market, for now, is Asia Pacific region (Australia and Asian countries).
- According to the press, indeed Netflix is to increase Asia content spending.

Source: <https://variety.com/2023/tv/news/netflix-content-spending-asia-pacific-1235543665/>

# Netflix Market Cap by Quarter and Year



- The meteoric growth of Netflix market cap during the COVID-19 Pandemic suddenly turned over at the first quarter of 2022 and escalated in Q2 2022, when Netflix has lost two thirds of its value in comparison to its peak at Q4 2021 .
- The most prominent Netflix change in the first two quarters of 2022 was the subscribers abandonment, which corresponds to the drastic market cap collapse.
- This, with combination with the weak economy and dollar rate changes can explain current data.

Source:

<https://edition.cnn.com/2023/01/11/investing/netflix-stock-rebound/index.html>

# Summary

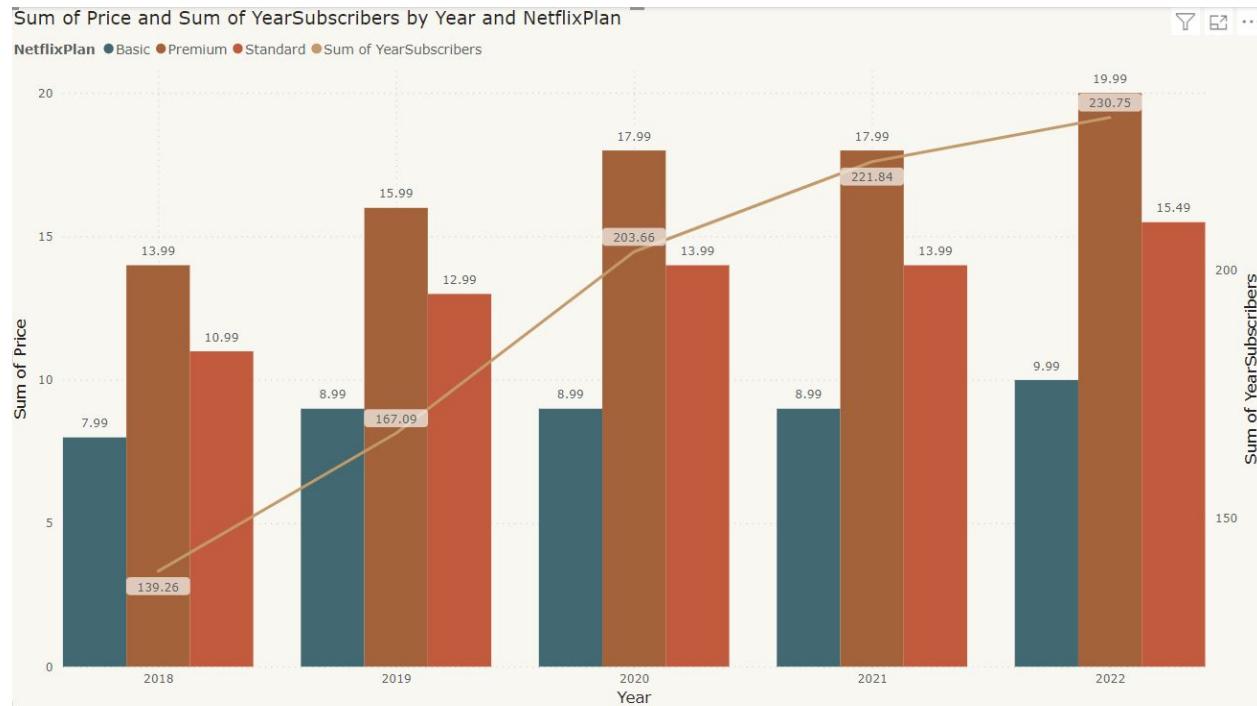
- As said earlier, Netflix is struggling to show meaningful growth given a weak economy, increasingly aggressive competition, and an apparently saturated U.S. market for streaming.
- The company, which lost 200,000 subscribers in the first year-ago quarter, returned to subscriber growth in the second half of 2022 but its pace of additions has slowed dramatically, forcing it to think of ways to squeeze out revenue from the 100 million people who use the service without paying for it. The streaming giant has cracked down in some countries on password-sharing, or streaming Netflix by non-members who don't belong to the same household

Sources:

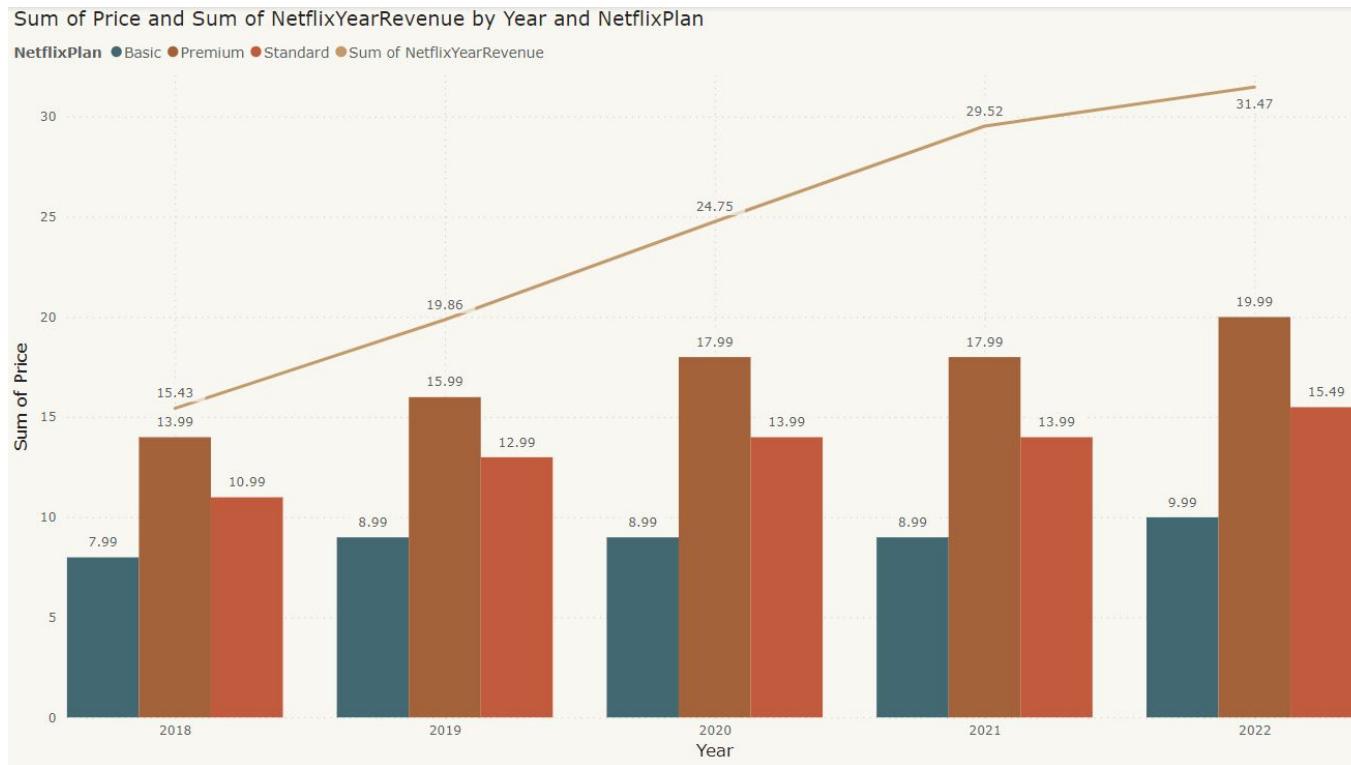
- <https://www.barrons.com/articles/netflix-earnings-preview-advertising-password-sharing-16b3e861?mod=bol-social-tw>
- <https://www.theglobeandmail.com/business/technology/article-netflix-set-to-report-first-quarter-results-a-mid-investor-scrutiny/>

# Netflix Pricing Strategy

# Netflix Pricing Strategy (in US dollars) and Subscribers (in Millions) By Year



# Netflix Pricing Strategy (in US dollars) and Revenue (in Billions) By Year



# Netflix Pricing Strategy Summary

- There is a constant raise in Netflix plan prices over the years.
- Netflix has been criticized due to its high prices and constant price raises.
- It seems that the number of subscribers has been, at least partially, influenced by the price raise in the beginning of 2022.

**It has been reported that approximately 600 K subscribers of US & Canada abandoned Netflix due the raise**

Source:

<https://www.makeuseof.com/why-netflix-is-losing-subscribers/>

- Another reason for a slowing down in growth can be the account sharing possibility, which netflix is about to cancel.

# Competition Analysis

# Global Streaming Market

- The global video streaming market size was valued at USD 82.3 billion (estimation varies) in 2022 and is expected to expand at a compound annual growth rate (CAGR) of 21.5% from 2023 to 2030.
- Innovations such as blockchain technology and Artificial Intelligence (AI) are used to improve video quality.
- In May 2016, AI technology was implemented by Netflix to create a superior personalized experience for its subscribed consumers.
- The OTT (Over the Top) segment accounted for the largest revenue share in 2022, with over 42.92% of the market share. This is owing to the factor that OTT-based solutions offer film and TV content through internet without users' subscription to traditional cable or pay-TV services.

Source:

<https://www.grandviewresearch.com/industry-analysis/video-streaming-market>

# Descriptive Statistics- Global Streaming Revenue (Billions)

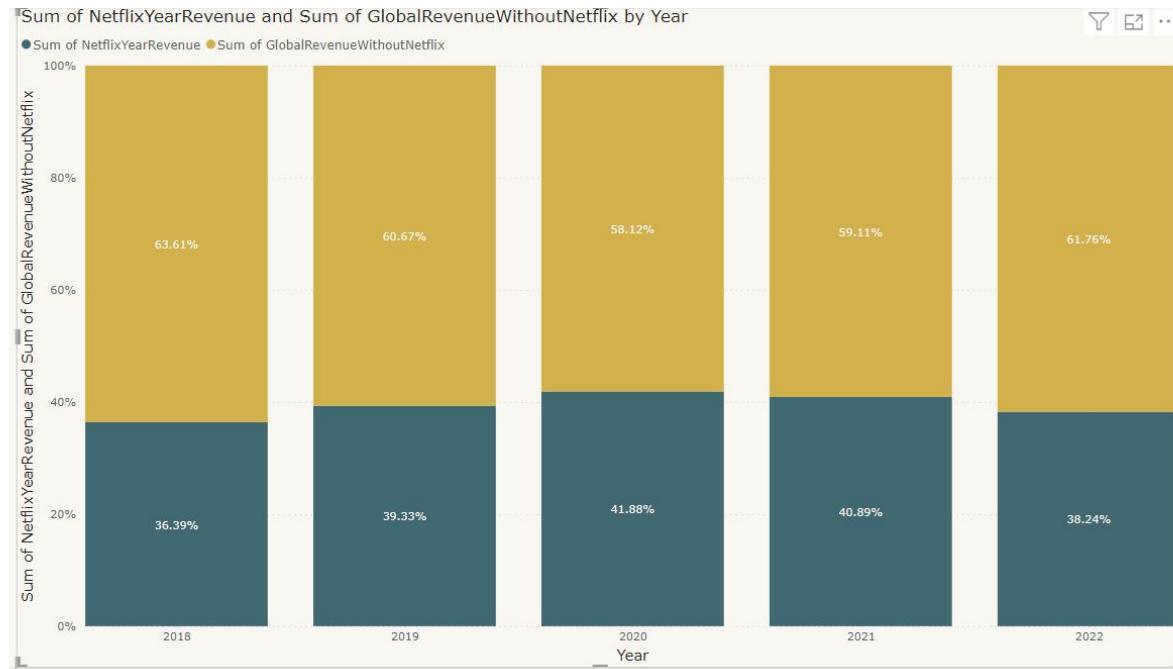
MinYear	MaxYear	Average Global Revenue	MinGlobal Revenue	MaxGlobal Revenue	STDGlobal Revenue
2018	2022	61.3	42.4	82.3	16.11

```
SELECT      Min(Year) as MinYear  
            ,MAX(Year) as MaxYear  
            ,ROUND(AVG(GlobalStreamingRevenue), 2) as AverageGlobalRevenue  
            ,MIN(GlobalStreamingRevenue) as MinGlobalRevenue  
            ,MAX(GlobalStreamingRevenue) as MaxGlobalRevenue  
            ,ROUND(STDEV(GlobalStreamingRevenue), 2) as STDGlobalRevenue  
FROM        GlobalStreamingRevenue
```

# Netflix and Global Streaming Revenue - View

```
CREATE VIEW NetflixAndGlobalRevenue AS
WITH CTE AS
(
    SELECT      Year
                ,ROUND(SUM(RevenueBillions), 2) AS NetflixYearRevenue
        FROM      NetflixRevenueSubscribers
       GROUP BY  Year
)
SELECT      A.Year
            ,A.NetflixYearRevenue
            ,GSR.GlobalStreamingRevenue
            ,ROUND(A.NetflixYearRevenue / GSR.GlobalStreamingRevenue * 100, 2) AS PCTNetflixGlobal
            ,ROUND(GSR.GlobalStreamingRevenue - A.NetflixYearRevenue, 2)   AS GlobalRevenueWithoutNetflix
        FROM      CTE A
       JOIN     GlobalStreamingRevenue GSR
          ON A.Year = GSR.Year
```

# Netflix and Global Streaming Revenue By Years (In Billions)



It can be seen that Netflix is responsible for almost half of the global streaming revenue throughout the years.

# Competition Overview

Netflix used to be the streaming platform with the most users in the US, but that has changed recently. In the latest ranking, Netflix is now in second place with 20% of the market share, coming right behind Amazon Prime Video with 21%. Another impressive growth was that of Paramount+, whose market share increased from 4% to 7%, overtaking Apple TV+.

Right now, this is the market share situation for streaming platforms in the United States:

1. Amazon Prime Video: 21%
2. Netflix: 20%
3. Disney+: 15%
4. HBO Max: 14%
5. Hulu: 11%
6. Paramount+: 7%
7. Apple TV+: 6%
8. Others: 6%

Sources:

<https://macdailynews.com/2023/04/14/apple-tv-holds-steady-with-6-u-s-streaming-market-share-as-netflix-comes-first-place/>

<https://www.feedough.com/the-10-biggest-netflix-competitors/>

<https://businesschronicler.com/competitors/netflix-competitors-analysis/>

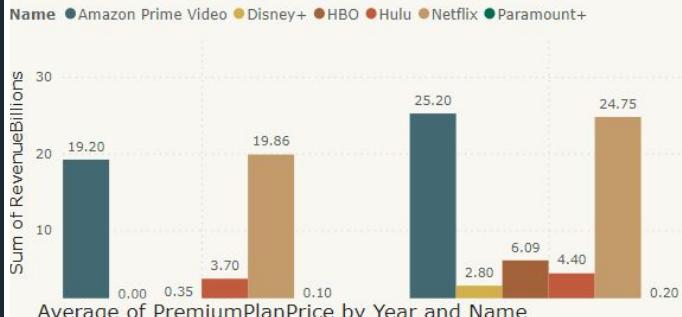
Variety, Forbes, Business of Apps, Techjury

# Competition Descriptive Statistics- SQL Query

```
SELECT      CS.Name  
          ,ROUND(AVG(NC.RevenueBillions), 2) as AvgRevenue  
          ,MIN(NC.RevenueBillions) as MinRevenue  
          ,MAX(NC.RevenueBillions) as MaxRevenue  
          ,ROUND(STDEV(NC.RevenueBillions), 2) as STDRevenue  
          ,ROUND(AVG(NC.SubscribersMillions), 2) as AvgSubscribers  
          ,MIN(NC.SubscribersMillions) as MinSubscribers  
          ,MAX(NC.SubscribersMillions) as MaxSubscribers  
          ,ROUND(STDEV(NC.SubscribersMillions), 2 ) as STDSubscribers  
          ,AVG(NC.PremiumPlanPrice) as AvgPrice  
          ,MIN(NC.PremiumPlanPrice) as MinPrice  
          ,MAX(NC.PremiumPlanPrice) as MaxPrice  
          ,MIN(NC.Year) as MinYear  
          ,MAX(NC.Year) as MaxYear  
FROM        NetflixAndCompetitors NC  
          JOIN Competitors CS  
              ON NC.CompetitorID = CS.CompetitorID  
GROUP BY    CS.Name
```

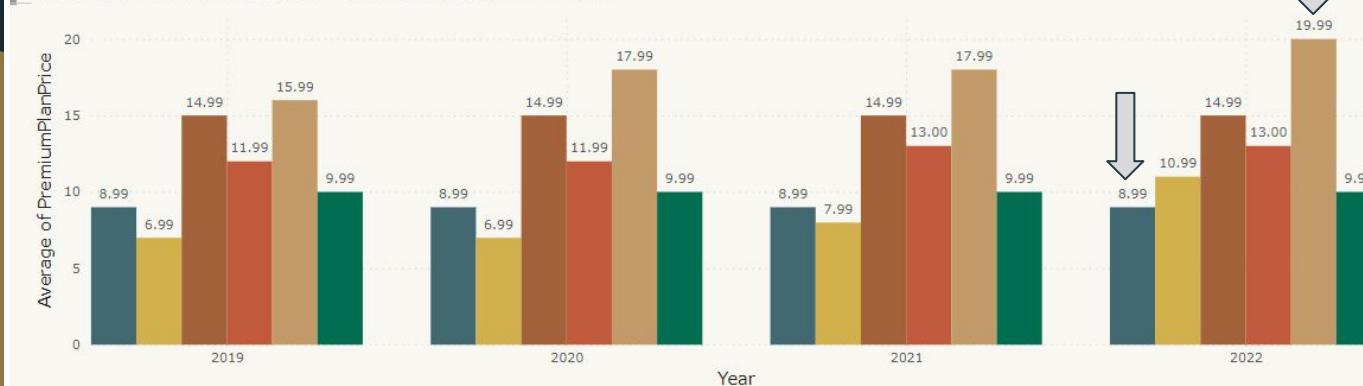
# Competition Pricing and Subscribers

Sum of RevenueBillions by Year and Name



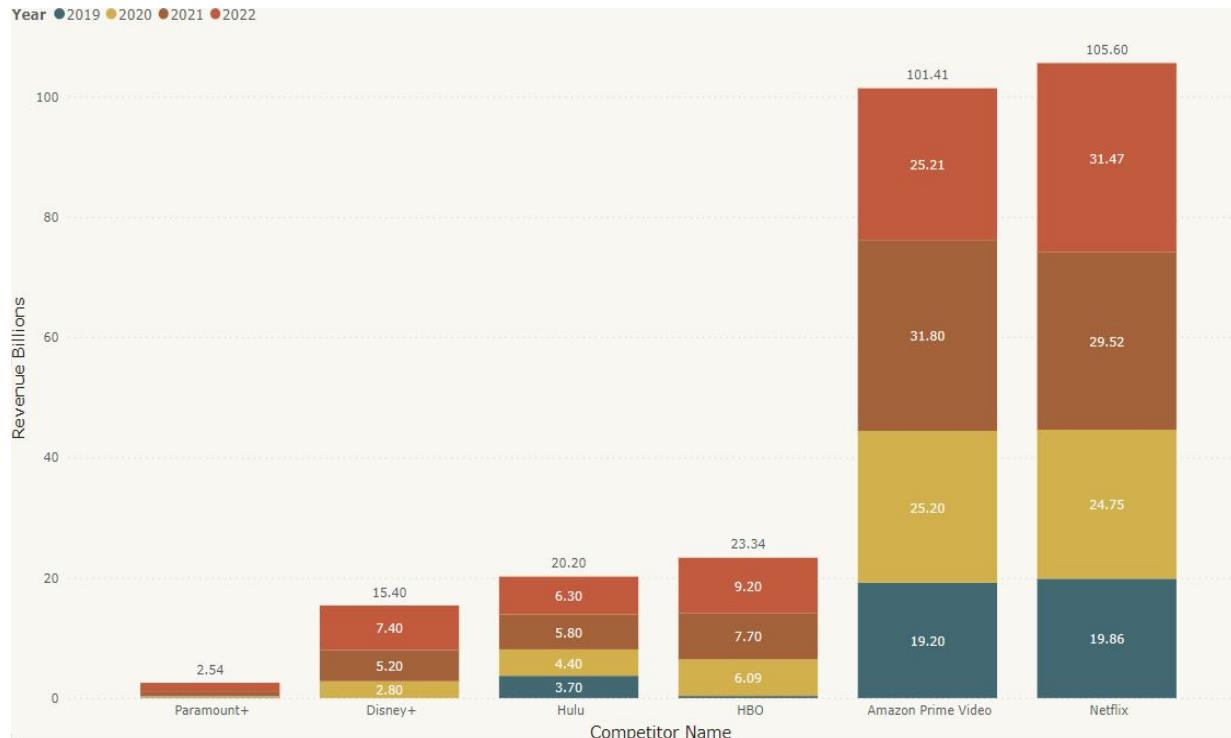
Although Netflix has the highest pricing in the market, it can be seen that it still leads in subscribers numbers.

Average of PremiumPlanPrice by Year and Name



However, it seems that Amazon Prime Video is closely keeping up with Netflix, with the cheapest premium plan price.

# Revenue Analysis - Competition

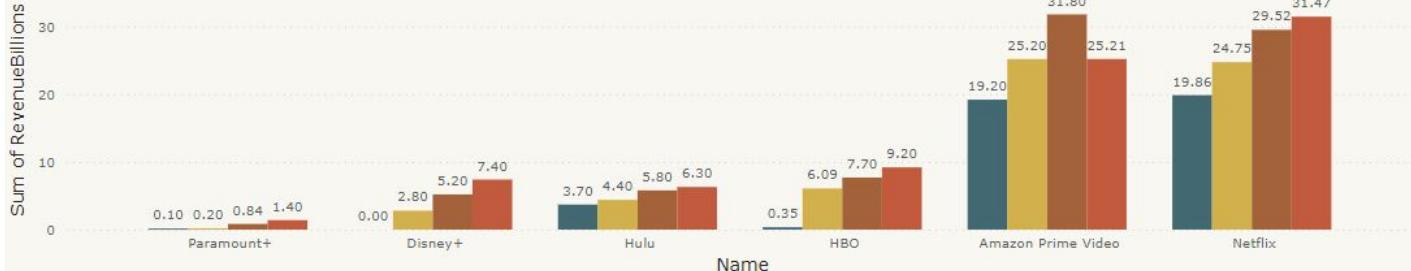


- Today there are over 200 available streaming services
- We chose to focus on Netflix and its leading competitors.
- As we can see, Netflix produces the biggest profits in comparison to its leading competitors, although Amazon Prime Video is a very strong competitor.

# Revenue and Subscribers Analysis - Competition

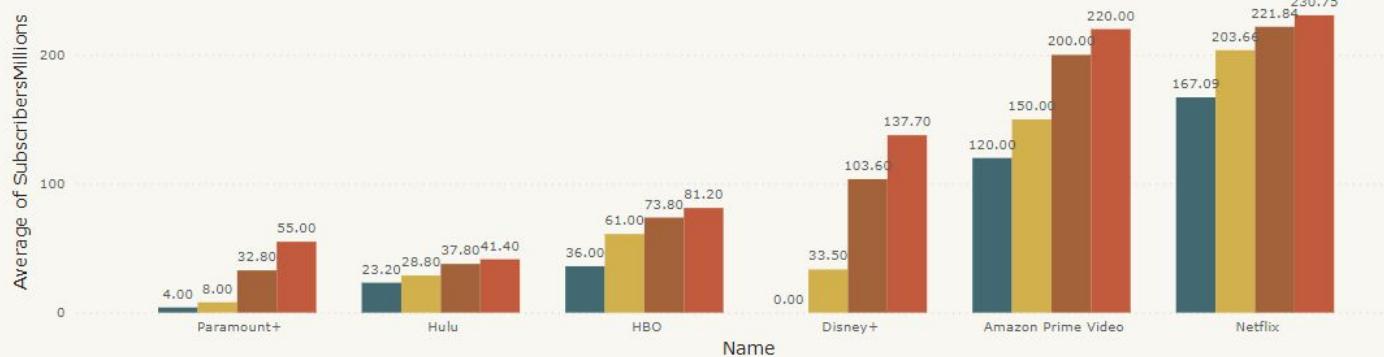
Sum of RevenueBillions by Name and Year

Year ● 2019 ● 2020 ● 2021 ● 2022



Average of SubscribersMillions by Name and Year

Year ● 2019 ● 2020 ● 2021 ● 2022

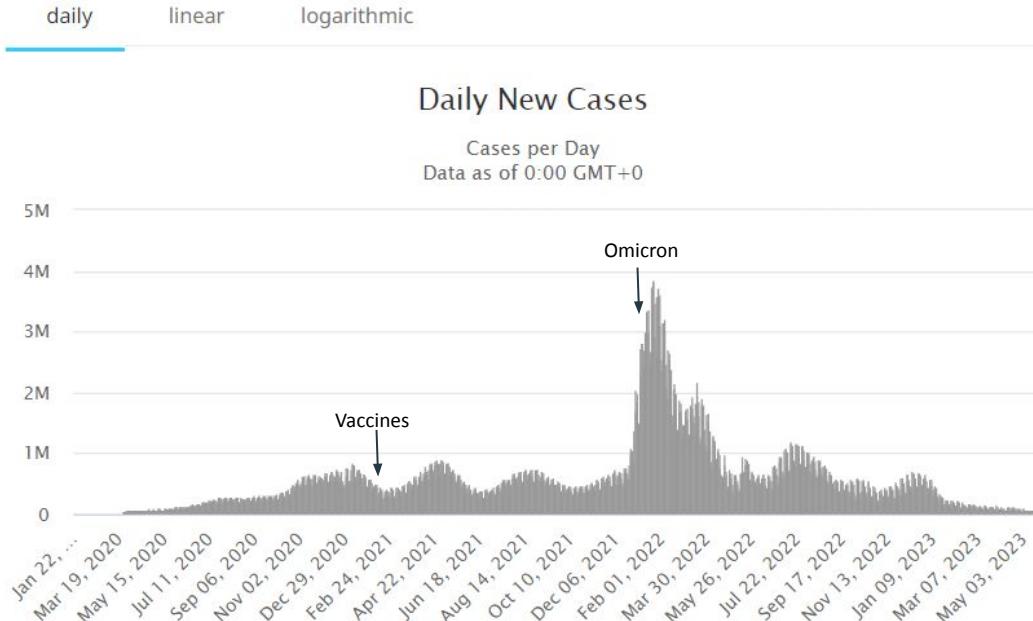


Netflix Revenue is in constant growth through the years. Amazon Prime video had a peak in 2021 but in 2022 it far behind Netflix.

However, the subscribers growth of Amazon Prime Video is more significant.

# COVID-19 Analysis

# COVID-19 Worldwide



- The **COVID-19 pandemic** is a global pandemic of coronavirus disease (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
- WHO (World Health Association) referred to COVID-19 as global pandemic on March 11, 2020
- Worldwide lockdowns were carried out during the two years of the pandemic
- The Omicron wave was more contagious but less lethal due to vaccination and virus type

Sources: <https://www.worldometers.info/coronavirus/>  
[https://en.wikipedia.org/wiki/COVID-19\\_pandemic](https://en.wikipedia.org/wiki/COVID-19_pandemic)

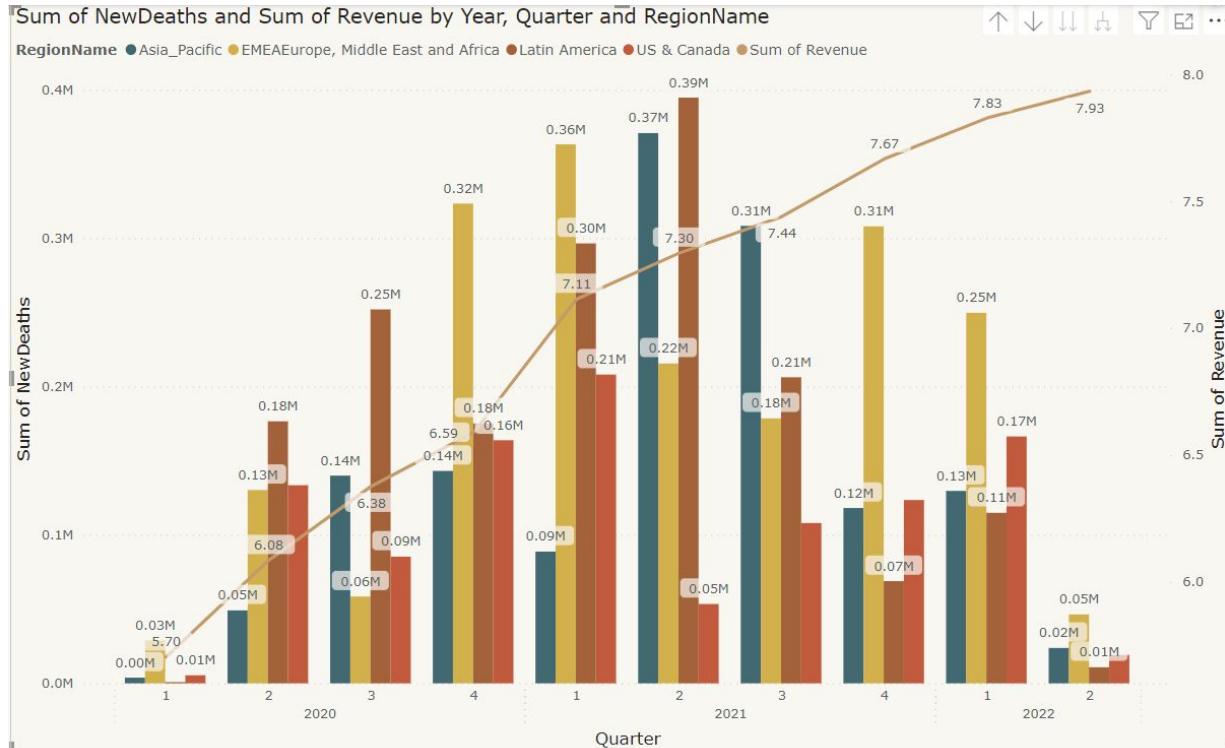
# COVID-19 Analysis

- In order to investigate Covid-19 pandemic influence on Netflix revenue and subscribers tendencies, the current analysis refers to Covid-19 pandemic data only in countries which have Netflix services (or had during the pandemic, such as Russia).
- The data has been analyzed regionally, corresponding the regions which Netflix refers to in its quartile finance reports.
- For the sake of current analysis, Covid-19 country data and Netflix financial data have been placed crosswise using SQL view.

# COVID-19 Analysis- SQL Query

```
CREATE VIEW VW_NetflixRegionsCovid AS
WITH CTE AS
(
    SELECT C.Continent
        ,C.Population
        ,NC.CountryName
        ,CONVERT(VARCHAR(30),CD.Date,3) as DATE
        ,CD.DailyNewCases, CD.ActiveCases, CD.DailyNewDeaths
        ,(CASE WHEN C.Continent = 'Asia' THEN 4
            WHEN C.Continent = 'Australia/Oceania' THEN 4
            WHEN C.Continent = 'Europe' THEN 2
            WHEN C.Continent = 'Africa' THEN 2
            WHEN C.Continent = 'North America' THEN
                CASE WHEN NC.CountryName = 'Greenland' THEN 2
                    WHEN NC.CountryName NOT IN ('USA', 'Canada') THEN 3
                    ELSE 1 END
            WHEN C.Continent = 'South America' THEN 3
            END) as RegionID
    FROM NetflixCountries NC
    JOIN CovidCountryData C ON NC.CountryName=C.Country
    JOIN CovidDailyData CD ON NC.CountryName=CD.Country
)
SELECT RegionID
    ,DATEPART(Quarter, Date) as Quarter
    ,Year(Date) AS Year, SUM(DISTINCT Population) As SumPopulation
    ,SUM(DailyNewCases) as SUMNewCases
    ,SUM(DailyNewDeaths) AS SUMNewDeaths
FROM CTE
GROUP BY RegionID, DATEPART(Quarter, Date), Year(Date)
```

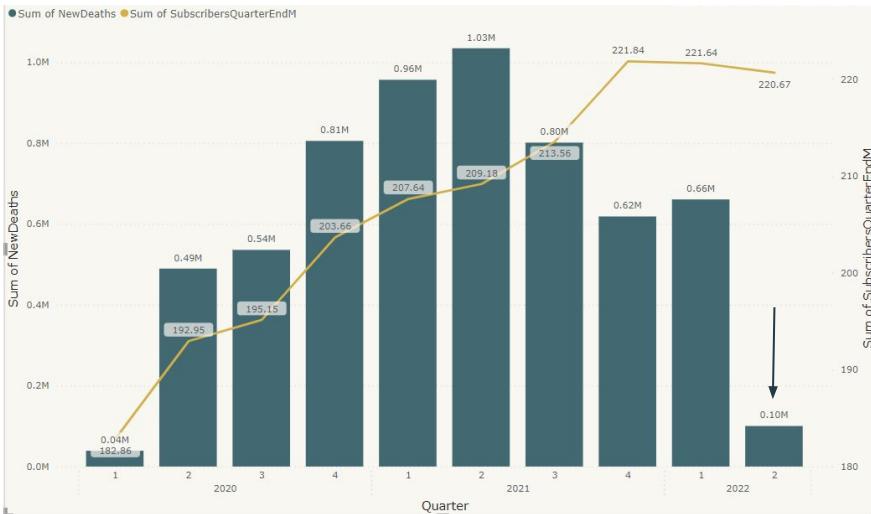
# Revenue (Billions) During Covid-19



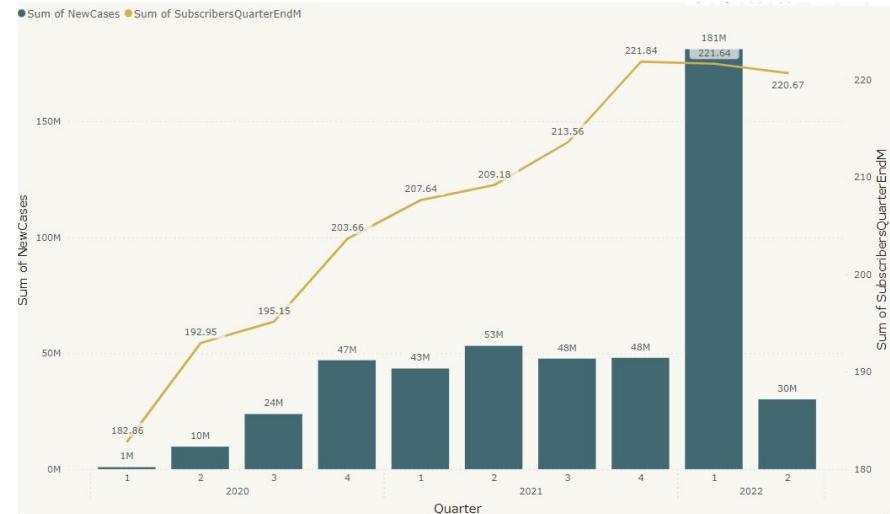
We can see a strong positive tendency of revenue growth as the pandemic lasted.

# Subscribers Numbers (Millions) During Covid-19

Netflix Subscribers Numbers and COVID-19 Severity (Mortality Rate)



Netflix Subscribers Numbers and COVID-19 Severity (Positive Cases)



We've measured the severity of the COVID-19 pandemic using mortality rate (Sum of new death cases for each quarter during the peak of the pandemic) and daily new positive cases.

**We can see a strong positive tendency of subscribers growth as the pandemic worsened.**

# Summary

- Between year 2018 and 2021 Netflix has shown a significant positive growth in revenue and subscribers.
- The most significant growth was during the COVID-19 pandemic, which was described by some sources as “meteoric”.
- This tendency has changed to a negative one in the first quarter of 2022, in comparison to the previous quarter.  
It's important to state that the general tendency stayed positive from year to year.
- Netflix is constantly raising prices, even in the beginning of 2022 when the world experienced vast economic crisis and war in Europe (Ukraine and Russia), which fueled the subscribers loss and market cap collapse.
- Netflix revenue is almost half of global streaming industry revenue .
- Thus, not surprising that although Netflix has the priciest premium plan, it still leads in the subscribers numbers and revenue.
- However, there are some strong competition to deal with, and with the last changes, Netflix has to consider new ways of attracting subscribers in new markets, besides the American and European which are already saturated.