COVID-19 Analysis

Introduction

The purpose of the analysis is to visualize the impact caused by COVID-19 and to compare the statistic among countries that share different social norms and policies in response to the COVID-19 pandemic. Hence, the following nations were selected to represent different social values. The United Kingdom and America represent individualistic societies, Japan and Korea represents collectivistic societies, and Singapore as a collectivistic society with a stronger governmental authority against individuals. The data source is Our World in Data, with time ranges between 1/22/2020 and 2/13/2023.

Technical Approach

With the raw dataset acquired online, I used **MSSQL** to perform data cleaning that includes dropping unwanted columns, handling missing values, and modifying data types.

```
ALTER TABLE Portfolio_Prjoect_COVID19..COVID
ALTER COLUMN female_smokers FLOAT;
ALTER TABLE Portfolio_Prjoect_COVID19..COVID
ALTER COLUMN male_smokers FLOAT;
UPDATE Portfolio_Prjoect_COVID19..COVID
SET total_cases = 0
WHERE total_cases IS NULL
UPDATE Portfolio_Prjoect_COVID19..COVID
SET new_cases = 0
WHERE new_cases IS NULL
```

◀ *Figure 1*

Part of the SQL query that includes modifying data types and handling missing values.

Click here for detail.

After thorough inspection to the dataset, the data is extracted using **SQL** with the results being saved in different tables.

```
SELECT
    location,
    date,
    new_cases,
    new_deaths,
    total_deaths,
    total_cases,
    population,
    (total_cases/population*100) AS infection_rate_percentage,
    (total_deaths/NULLIF(total_cases, 0)*100) AS death_rate_percentage,
    people_fully_vaccinated
FROM Portfolio_Prjoect_COVID19..COVID
WHERE location IN ('United States', 'United Kingdom', 'Singapore', 'Japan', 'South Korea')
ORDER BY 1,2
```

▲ *Figure 2*

One of the SQL queries used to extract data from the table. Click here for detail.

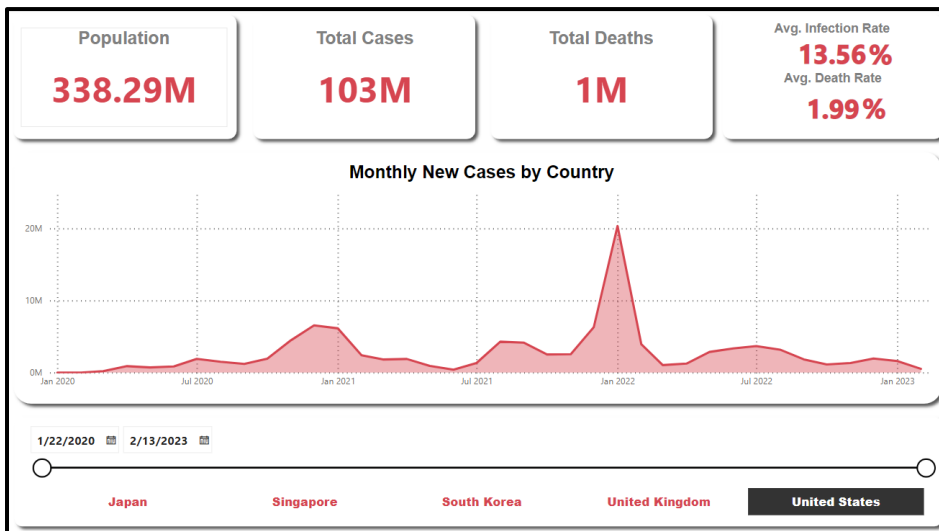After processing the data, I used PowerBI to create dashboards and below are the final results.

◄ *Figure 3*

An overview of numbers and trend of the 5 countries.
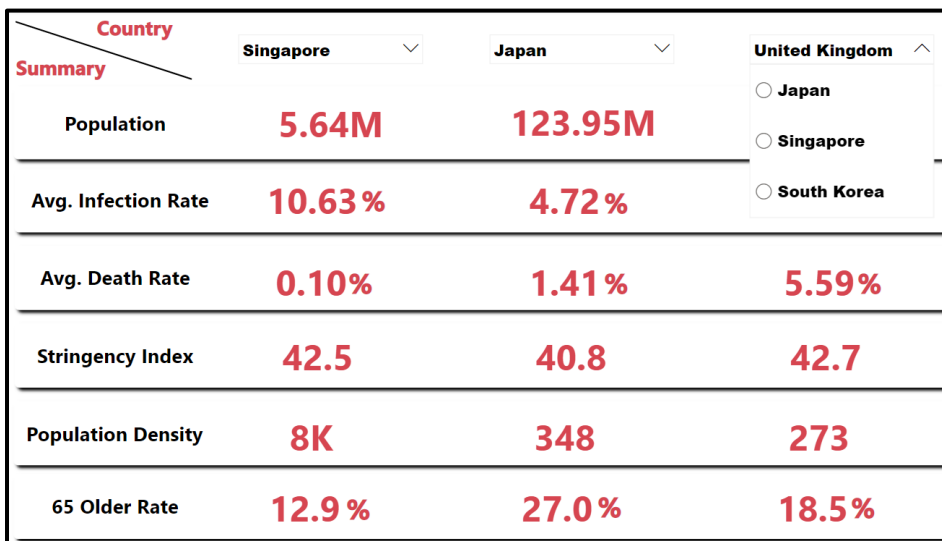
Click here for detail.

◄ *Figure 4*

A dashboard to compare the statistic of the 5 countries.
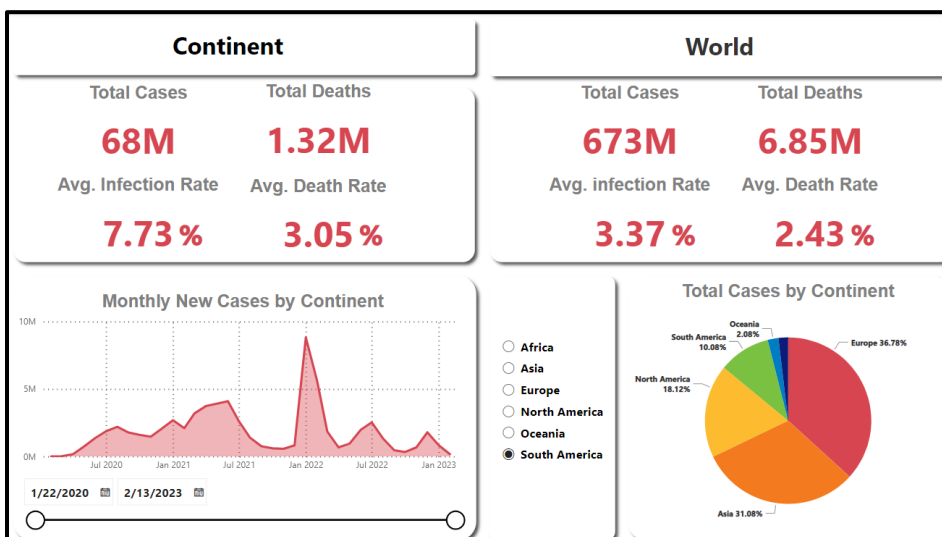
Click here for detail.

◄ *Figure 5*

A dashboard that compares numbers by continent with the world.

Click here for detail.