

Project COVID-19 Vaccinations Trend Analysis using Power Bi

Aim:-

This project aims to analyse data in detail on vaccinated and fully vaccinated people by year and country.

Introduction:-

The main objective of this project is to analyse the data on, COVID-19 Vaccinations. We can find out some important insights by analysing the data,.

Problem Statement:-

- In order to know how many people are full vaccinated by the initial protocol.
- To know the population which has received at least one dose of the vaccine.
- The different vaccines used and their availability to different countries.

Methodology:-

The dataset used is available for the public and which is collected from the respective health departments of the countries and from the WHO. The dataset contains information for the period December 2020 to March 2022.

Step 1: Data Exploration

In order to take any necessary steps we must understand the data we have, which is data exploration and based on our understanding we can go ahead with the appropriate data cleaning steps required

Step 2: Data Importing

To Import the data into Power BI, Let's start with the Get Data option under the home tab. As this is a CSV file, select the Text/CSV option from the drop-down list and then select the file named. After selecting the file, data will be displayed. Click on Load and save data.

Step 2: Data cleaning

I have used Power BI tool to clean and transform the data as per my understanding and I have replaced values, grouped the data and created a new table where it seemed fit.

Step 3: Data Visualization

I have used Power BI tool to visualize the data available to gain meaningful insights and better understand the dataset. I have used different visualizations like bar graphs, line graphs which are available in the tool.

Analysis:

The dataset contains the following columns

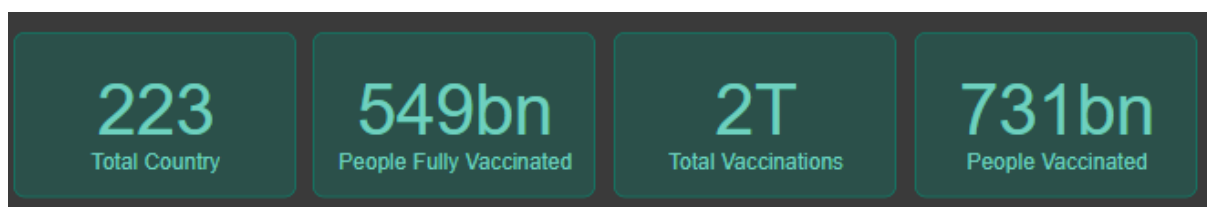
- Country – The name of the countries (223 Countries in total)
- ISO Code – Code initials for the countries
- Date – The date, month and year of the data collected
- Total vaccinations – The total number of vaccinations administered which is nothing but the sum of the doses given on any particular date to the total vaccinations of the previous day.

- People vaccinated – The total number of people who received at least one dose of vaccine. This is also an aggregated column meaning it is the sum of total of the previous day to the vaccinations of the present day.
- People fully vaccinated – The aggregated value of people who received the desired number of doses (min 2 doses and 1 booster dose may or may not be included).
- Daily Vaccinations Raw – gives the raw data collected on vaccinations
- Daily vaccinations – The vaccinations administered on any particular day
- Total vaccinations per 100 – The total vaccinations administered per 100 people which also an aggregated data
- People vaccinated per 100 – The number of people who received at least one dose of vaccine, taking into account for every 100 people
- People fully vaccinated per 100 – For every 100 people how many are fully vaccinated (received min 2 doses)
- Daily vaccinations per million – gives the number of vaccinations administered for every million population on any particular day.
- Vaccines – gives the different vaccines and their manufacturers separated by commas.
- Source name – gives the name of the source from which data is provided.
- Source website – gives the website link from where the data was obtained.

Now we know that what the data set contains to analysis the data.

The card visualization has been used to show different numeric values like total countries, vaccination details and number of people vaccinated.

- In this we can see that there are 223 countries available in the given data set
- There are 549 billion Peoples are Fully Vaccinated all over the world.
- Total Vaccinations available is more than 2 trillion.
- There are 731 billion peoples have been Vaccinated at least 1st Dose or 2nd Dose

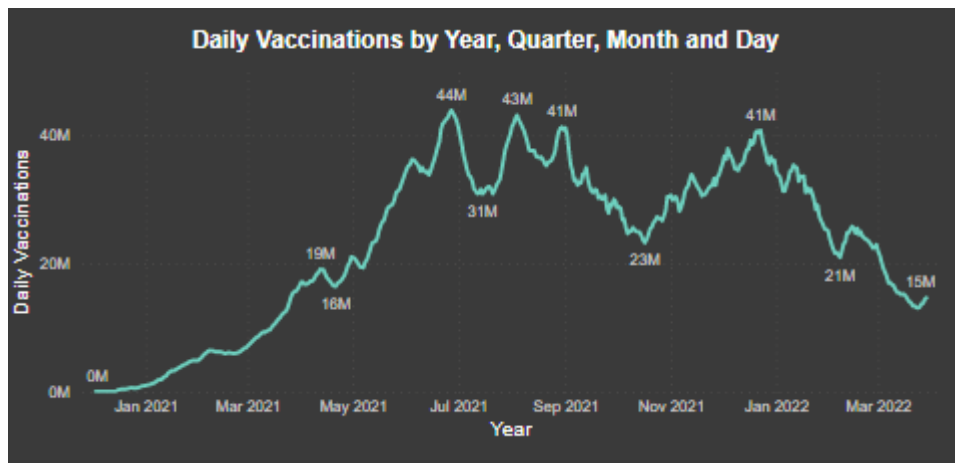


The Slicer is added with Year and the Month. It is used to know how the vaccine process is going on.



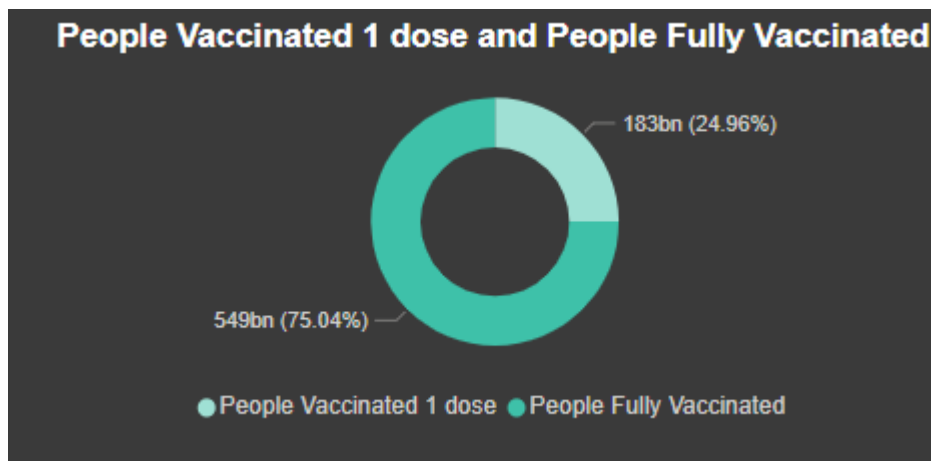
A line graph is used to represent to daily vaccinations versus the date of the record.

- In this line graph we can see the people vaccinated date based on date.
- The Vaccinated ratio is gradually increased from Jan 2021 and it reaches high of 44M on Jun 2021.
- The graph has seen variations in further months where it has dropped to 23 million doses in a day and again seen a raise of 41 million doses. Still around 15 million doses were administered at the end of March 2022.



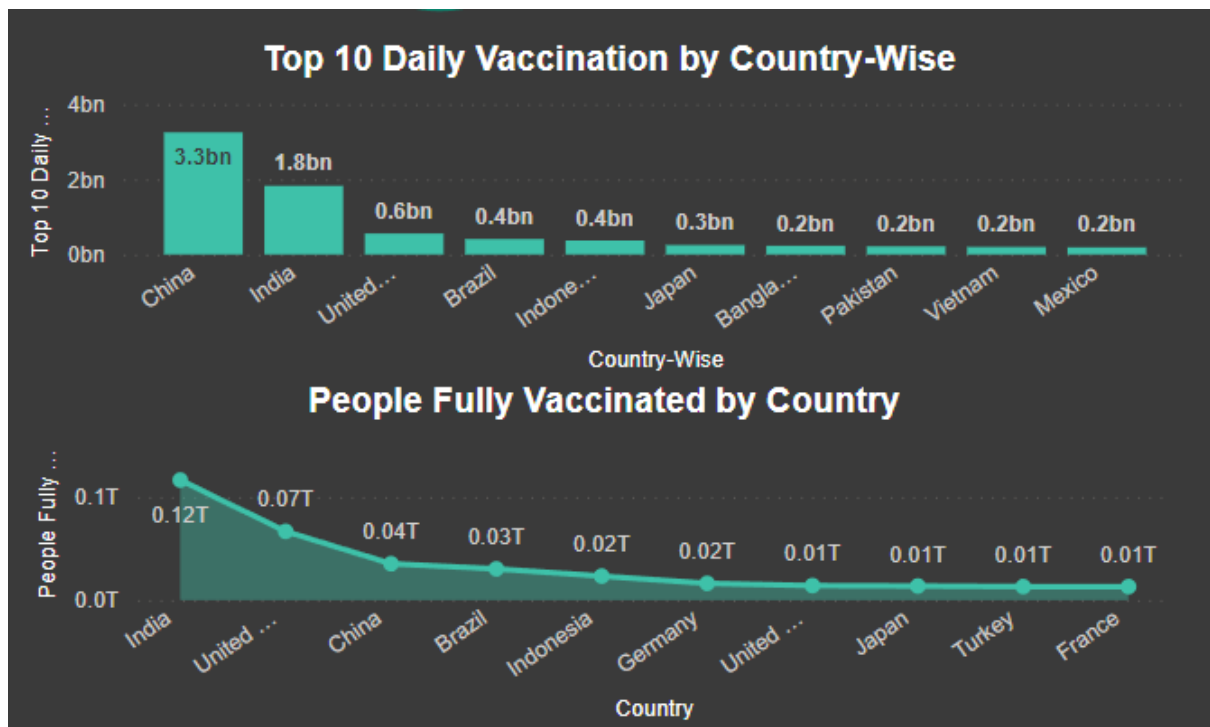
A donut chart has been plotted to represent the People Fully Vaccinated and the People Vaccinated at least one dose.

From the Donut chart we can that 25% of peoples are vaccinated at least one dose and 75% of peoples are fully vaccinated in the world

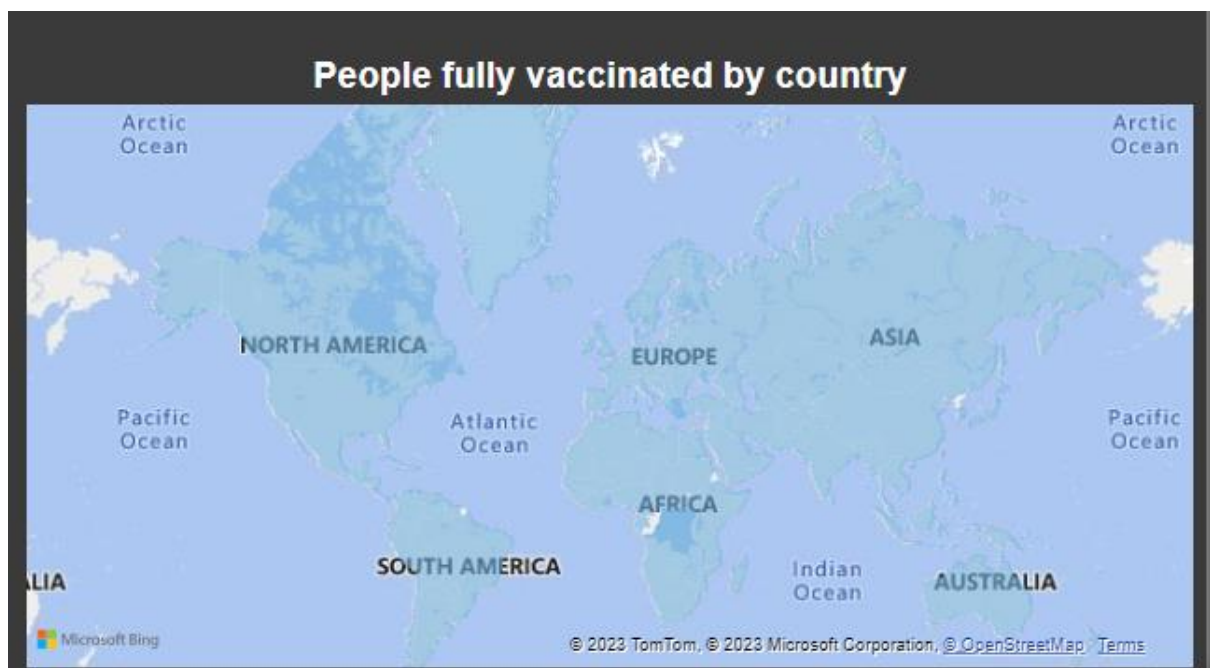


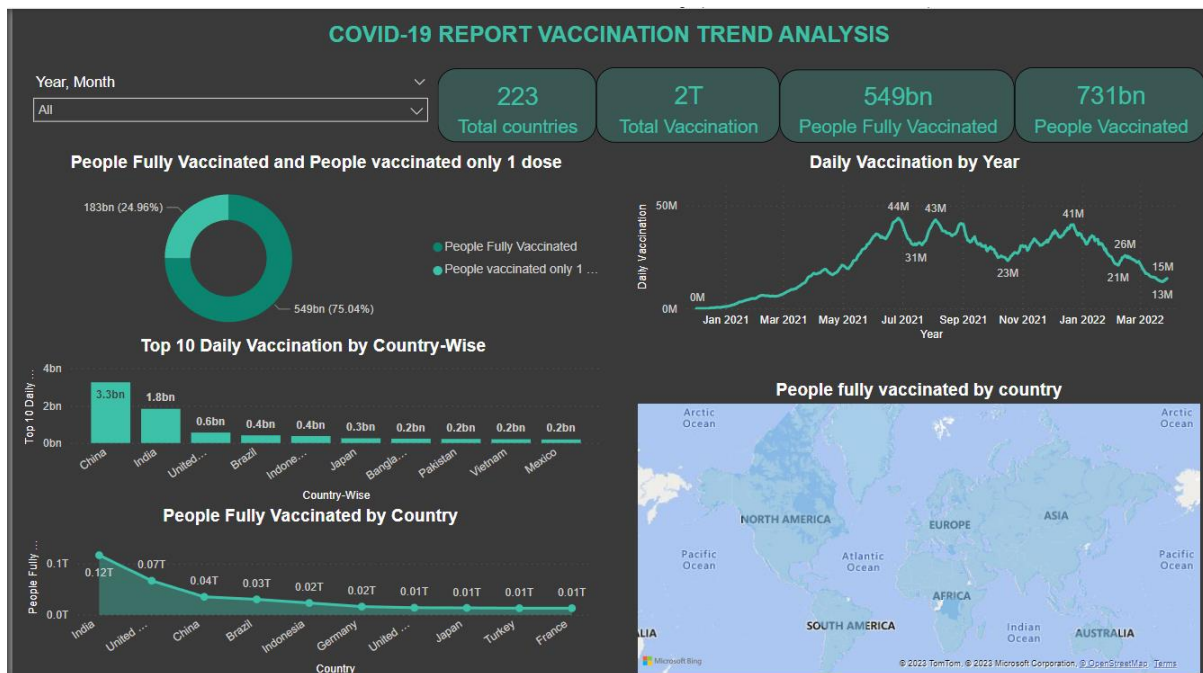
The Country at the Top level of daily vaccination is China and India.

Through the area map we have analysis the top 10 country in which peoples are fully vaccinated.



A map visualization is also shown which gives the population fully vaccinated in different countries and are differentiated based on the colour gradient.





Insights:

The final report provides valuable insights into the vaccination efforts around the world. By analysing the data, it is possible to identify the top 10 countries with the highest rates of fully vaccinated individuals.

The high rate of fully vaccinated showing that people are interested to destroy the deadly virus from the world.

By using the insights gained from this analysis, it is possible to make informed decisions and take effective action to address the challenges posed by COVID-19. So, we can conclude that the analysis of the data has been a valuable and informative process, and it is hoped that the insights gained will be useful in the ongoing efforts to combat the pandemic.

Recommendations:

- We can perform operations with various categories.
- In order to improve the accuracy and usefulness of the data analysis, it is important to ensure that the datasets used are of high quality and are properly cleaned and organized.
- The developed and economically strong countries should help out the under developed and developing countries to improve the vaccination of the people.
- At least 90% of the population should be vaccinated at least once to avoid further problems.

Conclusions:

The results of this analysis reveal that the trend of COVID-19 vaccinations is increasing in many countries. There is evidence that the number of people receiving their first dose of the vaccine is steadily increasing, while the percentage of people receiving their second dose has also been steadily increasing. Additionally, the data shows that the rate of vaccination varies across countries, with some countries having higher rates than others. In general, it appears

that the rollout of the vaccine is progressing well, and that more people are becoming vaccinated on a daily basis.