



COVID-19 Vaccination Data Analysis Report



Phase 2

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1. Introduction:


 This report presents an in-depth analysis of COVID-19 vaccination data using IBM Cognos within a Jupyter Notebook environment. The analysis encompasses crucial steps including data cleaning, exploration, and visualization, aiming to comprehend vaccination patterns across diverse countries.

2. Data Loading and Overview:


 The analysis initiates by loading the dataset: `country_vaccinations.csv`. This dataset includes comprehensive information on total vaccinations, people vaccinated, people fully vaccinated, daily vaccinations, and other pertinent metrics for numerous countries.

3. Data Exploration:


3.1 Summary Statistics  The dataset encompasses 86,213 entries comprising diverse vaccination metrics. Summary statistics were computed to fathom the distribution of vaccination data, incorporating total vaccinations, people vaccinated, people fully vaccinated, daily vaccinations, and their respective percentages per hundred.

3.2 Data Cleaning  Data cleaning procedures involved addressing missing values and excluding entries related to specific regions (England, Scotland, Wales, Northern Ireland), focusing keenly on individual countries.


4. Vaccine Distribution Analysis:

4.1 Vaccine Types  The dataset encapsulates data on 84 unique vaccine combinations. Countries were classified based on the types of vaccines administered. Visualization using Plotly Express was executed to illustrate the distribution of different vaccines across countries.

5. Geospatial Visualization:

 A choropleth map, crafted using Plotly Express, visually represents the distribution of vaccines across countries, categorized by their ISO codes. This map offers a geographical portrayal of administered vaccine types in various nations.

6. Conclusion:

 This analysis illuminates global COVID-19 vaccine distribution, delving into individual countries and their vaccination trends. The utilization of visualization tools like Plotly Express enhances data comprehension, empowering well-informed decision-making processes.

7. Screenshots

End of Report

Note: The analyses and code presented in this report were conducted in a Jupyter Notebook environment utilizing Python programming language, along with diverse libraries including Pandas, Matplotlib, Seaborn, and Plotly Express.