College Name: Jeppiaar Institute Of Technology

College Code: 2106

Department: BE Computer Science Of Engineering

Semester: 5

Course Name: Data Analysis With Cognos -Group 1

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Project Title: COVID-19 Vaccines Analysis

COVID-19 Vaccines Analysis

Datalink: https://www.kaggle.com/datasets/gpreda/covid-world-vaccination-progress

Phase 1:Project Definition and Design Thinking

Project Definition:

The problem is to conduct an in-depth analysis of COVID-19 vaccine data, focusing on vaccine efficacy, distribution, and adverse effects. The goal is to provide insights that aid policymakers and health organizations in optimizing vaccine deployment strategies. This project involves data collection, data preprocessing, exploratory data analysis, statistical analysis, and visualization.

Design Thinking:

1. Data Collection: Collect COVID-19 vaccine data from reputable sources like health organizations, government databases, and research publications.
2. Data Preprocessing: Clean and preprocess the data, handle missing values, and convert categorical features into numerical representations.
3. Exploratory Data Analysis(EDA): Explore the data to understand its characteristics, and identify trends, and outliers.

4. Statistical Analysis: Perform statistical tests to analyze vaccine efficacy, adverse effects, and distribution across different populations.
5. Visualization: Create visualizations (e.g., bar plots, line charts, heatmaps) to present key findings and insights
6. Insights and Recommendations: Provide actionable insights and recommendations based on the analysis to assist policymakers and health organizations.

Problem Statements –

- Which country is using what vaccine
- In which country the vaccination program is more advanced
- Where are vaccinated more people per day? But in terms of percent of the entire population

Insights –

- Country wise vaccine chart
- Specifying country where vaccination program is more advanced
- And also, we analyze the sum of daily vaccinating details per day in terms of percentage.
- Here we analyzed the top 10 fully vaccinated countries in which India tops the list which indicates that people in the country were showing lots of interest in getting vaccinated.
- And we analyze the top 5 vaccinated countries.
- And then analyzed the top 5 daily vaccinating countries.

Data Collection:

The data for this project will be collected from the CSV file. The data file contains the following information:

1. Date
2. Country
3. Country code
4. Vaccination details

Visualization Strategies:

We will use IBM Cognos to create interactive dashboards and reports to visualize the insights extracted from the data. The following are some examples of data visualizations that we may create:

- Line charts showing trend of vaccinated country
- Bar charts showing daily vaccination according to country
- Pie charts showing the vaccinated countries
- Map chart showing the top 5 country

Recommendations –

- We should collect day-to-day reports and we should update our records daily to get more accurate details.
- So that we can move forward with more vaccination to the right country that needs the most.

Conclusions –In this dataset, we came to know that the vaccination process in every country was going at a good pace which indicates we can have control of this disease very soon all over the world.