LIVE API DATA INTEGRATION: REAL TIME DASHBOARD WITH PYTHON AND POWER BI.

This project focuses on developing a live, interactive dashboard that presents key global indicators such as health, education, employment, and other critical socio-economic metrics. The data is sourced from a publicly available API that is regularly updated with the latest information. Using Python, a script is developed to automatically fetch and process this data for analysis, ensuring that the dataset remains current and accurate without requiring any manual downloads or updates.

The Python script is directly connected to Power BI, enabling a live data connection. Through this integration, the Power BI dashboard refreshes automatically whenever new data becomes available. As a result, users are not required to perform any manual refresh actions, making the system efficient and reliable for continuous monitoring. The dashboard presents insights through intuitive visualizations such as charts and graphs, allowing users to easily explore trends and patterns across countries and regions.

Once the connection is established, the dashboard will be designed to address the following analytical objectives:

1. Understand the overall economic and social landscape

To establish a clear baseline of the countries under analysis, the project aims to evaluate key average economic and development indicators. Specifically, the analysis seeks to determine:

1. The average GDP per capita, reflecting individual economic well-being.

2. The average trade value, indicating the level of international trade activity.

3. The average health expenditure as a percentage of GDP, highlighting national health investment priorities.

4. The average GDP growth rate, representing overall economic momentum.

5. The proportion of total land area classified as forest, which influences land use, agriculture, and natural resource policies.

These metrics provide essential contextual understanding before progressing to more in-depth analyses.

2. Compare health spending patterns across regions

This objective involves comparing average health expenditure (as a percentage of GDP) across different world regions to identify which regions invest more or less in healthcare. This comparison will help highlight regional disparities and may indicate broader differences in health outcomes or policy priorities.

3. Analyze trends in key socio-economic indicators over time

This analysis examines how critical indicators—such as forest area, mobile subscriptions, internet subscriptions, GDP, renewable energy usage, and unemployment—have evolved over time. These trend insights will help determine whether countries are progressing positively or negatively along their development trajectories.

4. Evaluate the impact of internet access on immunization awareness

This objective assesses whether increased internet penetration is associated with higher immunization rates. The analysis aims to determine whether digital connectivity plays a role in improving access to health information and enhancing public awareness regarding immunization.

5. Assess the role of internet access in reducing unemployment

Another key focus is the economic impact of internet expansion. Specifically, the analysis investigates whether increasing internet penetration has contributed to a reduction in unemployment levels.

6. Identify underperforming countries in poverty reduction efforts

To highlight areas where development interventions are most urgently required, this analysis identifies the bottom 10 countries that have shown the least progress in reducing poverty over time. This insight can support policymakers, NGOs, and donors in prioritizing resources and strategies for countries facing the greatest challenges.

7. Identify top-performing countries in poverty reduction efforts

Conversely, this objective identifies the top 10 countries that have made the most significant progress in reducing poverty over the years. Studying these success stories can provide valuable lessons and best practices for other countries.

8. Examine interrelationships among health indicators

To support improved health outcomes, this analysis explores the relationships between key health indicators such as health expenditure, life expectancy, immunization rates, child mortality, and disease burden. Identifying strong or weak correlations will help inform more integrated and effective health strategies.

9. Investigate the relationship between government health spending and life expectancy

Finally, the project examines whether increased government expenditure on health is associated with improvements in life expectancy using trend line analysis. This assessment helps determine whether higher spending is an effective driver of better population health or whether additional factors must be addressed alongside financial investment.