



# Power BI Dashboard Report

## Introduction

This report details the Power BI dashboard created to visualize key indicators for five Sustainable Development Goals (SDGs): SDG 3 (Health), SDG 4 (Education), SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), and SDG 13 (Climate Action). These goals are essential for understanding the interconnected nature of social well-being, economic growth, and environmental sustainability.

## Selection of Indicators

### SDG 3: Good Health and Well-being

- Ensure healthy lives and promote well-being for all at all ages. This goal focuses on reducing maternal and infant mortality, combating diseases, and ensuring universal health coverage.

### SDG 4: Quality Education

- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. It emphasizes access to free primary and secondary education, vocational training, and eliminating gender disparities in education.

### SDG 6: Clean Water and Sanitation

- Ensure availability and sustainable management of water and sanitation for all. This includes achieving universal access to safe and affordable drinking water, sanitation, and hygiene, as well as improving water quality and managing water resources sustainably.

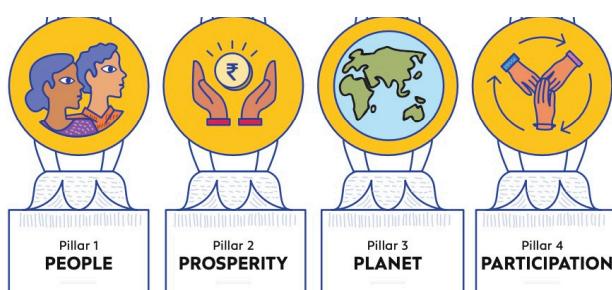
### SDG 8: Decent Work and Economic Growth

- Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. The goal targets higher economic productivity, technological innovation, job creation, and labor rights protection.

### SDG 13: Climate Action

- Take urgent action to combat climate change and its impacts. This goal involves strengthening resilience and adaptive capacity to climate-related hazards, integrating climate change measures into national policies, and improving education and awareness on climate change mitigation.

### 4 P's of Sustainability



# Dashboard Design

## Features

**Trend Analysis:** Tracks progress over time for each indicator.

**Comparative Analysis:** Compares performance across different countries.

**Min, Max, Average Values:** Shows the distribution and performance metrics for each country.

**Interactive Visuals:** Allows users to filter data and view detailed information interactively.

## Key Sections and Visuals

**Country Selection:** Users can select multiple countries to view and compare their performance.

**Indicator Selection:** Users can drill down into specific indicators to see detailed trends and analysis.

**Goal Score Summaries:** Summarizes the total scores for each SDG across all countries.

**Trend Graphs:** Shows the trend of goal scores over time for selected countries and indicators.

Comparative Charts: Displays goal scores by country, enabling a side-by-side comparison.

**Detailed Analysis:** For specific countries, detailed metrics such as maximum, minimum, and average values are displayed for selected indicators.

## Interactive Elements

**Drill-Through by Country:** Allows users to click on a country and see detailed performance on specific indicators.

**Goal Score Trends:** Visualizes how the scores for each SDG have evolved over the years for each country.

**Data Filtering:** Users can filter data by year, country, and specific SDG indicators to tailor the analysis to their needs.

## Usage of Maps

Geographical Visuals: Utilizes maps to provide a geographical context for the data, showing where each country stands in terms of SDG scores.

## Performance Metrics

**Goal Performance Categories:** Visuals are categorized into high, medium, and low performance for quick assessment.

Max, Min, and Average Values: These metrics help in understanding the best, worst, and average performance of countries over the selected period.

## Navigation and Usability

**Clickable Logos and Icons:** Enhances user experience by enabling quick navigation to different sections of the dashboard.

**Clear Visual Design:** Uses consistent colour coding and visual styles to make data interpretation easier.

## **Power Query and Use of Visuals**

I performed several data cleaning and processing steps to ensure the dataset was accurate and user-friendly. I removed any extra and blank columns to streamline the dataset and focus on relevant information.

For the Goal Score sheet, I applied conditional formatting to categorize the scores: scores from 0 to 33 were labeled as 'low,' scores from 33 to 66 as 'medium,' and scores from 66 to 100 as 'high.' This helped in visually distinguishing the performance levels at a glance.

I encountered an issue where indicators, such as "1.1.1," were incorrectly displayed as dates (e.g., "1 Jan 2001"). To correct this, I converted these date-formatted entries back to text, ensuring accurate representation of the indicators.

To enhance the dashboard's functionality, I included a time period slider filter, which allows users to select different time ranges and observe trends over time through a trend analysis graph. Moreover, an indicator slicer was added, enabling users to filter data based on specific indicators, given that one column contained multiple indicator values.

I integrated online visuals into the dashboard for more dynamic and engaging data presentation. These visuals were also utilized for ranking purposes, allowing users to quickly compare and rank performance across different goals and indicators.

These steps collectively improved the data quality and usability of the SDG Dashboard, providing a clear and interactive way to analyze and visualize the progress on various sustainable development goals.

## **Challenges Faced**

Creating the SDG Dashboard presented several challenges. Data cleaning was time-consuming, as it involved removing extra and blank columns to ensure a streamlined dataset. Handling incorrectly formatted indicators, which appeared as dates, required careful conversion back to text. Implementing conditional formatting for Goal Scores and ensuring accurate categorization added complexity. Integrating interactive elements like the time period slider filter and indicator slicer demanded meticulous configuration to ensure functionality. Incorporating online visuals for dynamic presentations and rankings further increased the technical intricacy. Balancing these elements while maintaining a user-friendly interface was a significant challenge.

## Insights Derived from Data

I made Dashboard using all countries.so, here i took only one country in each Goal to show Data insights.

### **1. Trend Analysis and Performance:**

The dashboard tracks the progress of each SDG over time, allowing for the observation of trends. For instance, in India, the trend for health (SDG 3.2.1) shows fluctuations but an overall upward trend in scores, indicating improvements over the years.

Bhutan shows a consistently high performance in economic growth (SDG 8.1.1) with relatively stable and high annual growth rates of real GDP per capita.

### **2. Comparative Analysis:**

Comparative analysis highlights high and low-performing countries. For example, Bangladesh has a high score in clean water and sanitation (SDG 6) with a score of 67, indicating better performance compared to other countries.

Nepal demonstrates an exceptional performance in climate action (SDG 13), consistently scoring close to 100, showcasing its significant focus and achievements in this area.

### **3. Distribution and Performance:**

The dashboard shows the distribution of scores across countries for each SDG. This helps identify countries that need more support or have best practices that others can emulate.

For instance, India's performance in education (SDG 4) is high with a score of 83, indicating substantial achievements in education.

### **4. Interactive Visuals and Detailed Views:**

The interactive visuals enable filtering by country and indicator, providing detailed views of specific metrics. For example, in the case of Congo, the indicator for education (SDG 4.1.1) shows improvements in proficiency levels in reading and mathematics over the years, but also highlights periods of decline that need addressing.

### **5. Key Statistics:**

The dashboard presents key statistics like the sum, maximum, minimum, and average values of goal scores, aiding in understanding overall performance. For example, the average goal score trends can help identify whether countries are generally improving or regressing in their SDG targets.

### **6. Insights by Country:**

India shows significant progress in health and education, with fluctuating but generally improving trends in SDG scores.

Congo shows mixed results in education proficiency, indicating areas that require more focused interventions.

Azerbaijan has shown considerable improvements in clean water and sanitation (SDG 6) but with some periods of decline that need attention.