Global Insights Dashboard Documentation

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# Dashboard Overview

**Global Insights** **Dashboard** is a powerful and intuitive data visualization tool that offers a comprehensive view of key indicators, enabling users to explore and compare critical socioeconomic metrics across all countries, years, and even decades. This interactive dashboard provides invaluable insights into the dynamics of GDP, population, life expectancy, fertility, and child mortality rate, facilitating data mining processes to unearth significant information and trends.

Key Features:

* Holistic Data Representation: The dashboard presents a holistic representation of global socioeconomic data, pulling together a vast repository of information from diverse sources and organizing it in a user-friendly manner.
* Multi-Dimensional Comparisons: Users can conduct multi-dimensional comparisons by selecting specific countries, years, or entire decades, allowing them to analyze trends over time and across regions, highlighting patterns and disparities.
* Interactive Visualizations: Rich and interactive visualizations, such as line charts, bar graphs, heatmaps, and scatter plots, bring the data to life, enabling users to comprehend complex relationships and correlations effortlessly.
* Dynamic Filtering and Customization: The dashboard empowers users to dynamically filter and customize the data, allowing for on-the-fly adjustments to focus on specific regions, timeframes, or indicators of interest.
* Insightful Data Mining: Advanced data mining capabilities unlock hidden patterns and trends within the vast dataset, facilitating the discovery of meaningful insights and fostering data-driven decision-making.
* Comparative Analysis: By overlaying different indicators on the same graph or performing side-by-side comparisons, users gain a comprehensive understanding of the interplay between GDP, population, life expectancy, fertility, and child mortality rate, illuminating the socioeconomic landscape.

Life Expectancy Dynamics

The Life Expectancy Dynamics Report offers a captivating and insightful analysis of life expectancy trends across various regions worldwide. Through interactive and visually appealing data visualizations, this report provides a comprehensive understanding of life expectancy dynamics, empowering users to explore and compare vital metrics at both regional and country-specific levels.

The Life Expectancy Dynamics Report is a valuable resource for anyone seeking to gain a comprehensive understanding of life expectancy variations across regions and countries. By facilitating interactive exploration and comparison, this report plays a crucial role in informing evidence-based policies, research, and initiatives aimed at enhancing global health outcomes and fostering a more equitable future.

The main bar chart presents an overview of life expectancy for different global regions.

Interaction: Users can click on any of the bars representing a region. Upon clicking, the chart dynamically updates to reveal the "Life Expectancy by Country" view for the selected region.

Obraz zawierający tekst, zrzut ekranu, Równolegle, linia

Opis wygenerowany automatycznie

Fertility and Mortality Statistics

The Fertility and Child Mortality Dashboard offers a comprehensive and insightful overview of fertility and child mortality rates across various countries, allowing users to explore key demographic indicators during the specified time frame. Through interactive and visually-rich data visualizations, this dashboard sheds light on the complex relationships between fertility and child mortality rates, empowering users to gain meaningful insights and make informed comparisons.

The dashboard's central feature is a double bar chart that showcases the fertility and child mortality rates for different global regions. This visual representation offers a quick and clear comparison of these crucial demographic measures.

Users can utilize an intuitive filter to select a specific year of interest from a drop-down list. This interactive feature enables users to observe changes in fertility and child mortality rates over time.

Clicking on a region in the double bar chart dynamically generates a new bar chart, "Fertility vs. Mortality by Country," providing a detailed view of fertility and child mortality rates for individual countries within the selected region.

A Key Performance Indicator (KPI) is displayed on the dashboard, highlighting the country with the highest fertility rate for the selected year. This KPI serves as a reference point for comparing fertility rates among other countries.

Obraz zawierający tekst, zrzut ekranu, numer, Równolegle

Opis wygenerowany automatycznie

GDP Statistics

The GDP Statistics Interactive Report presents an engaging and dynamic exploration of GDP growth for various countries, allowing users to visualize and analyze economic performance during the selected year. Through an interactive map view and corresponding bar chart, this report offers a comprehensive understanding of GDP growth and its correlation with population growth, empowering users to uncover valuable insights and trends across the globe.

The main feature of this report is the interactive world map view, which displays the GDP of different countries for the selected year. Each country is color-coded, providing an immediate visual representation of their respective GDP levels.

Users can leverage an intuitive year filter to select a specific year of interest. This interactive feature allows for a dynamic examination of GDP growth trends over time, enabling users to observe economic fluctuations and patterns.

Upon selecting a country from the world map, a detailed table/bar chart named "GDP vs. Population by Year & Country" view is filtered. This view provides an in-depth analysis of the selected country's specific GDP growth performance compared to its population growth.

Obraz zawierający tekst, mapa, zrzut ekranu, numer

Opis wygenerowany automatycznie

GDP & Population by Decade Analysis

The GDP & Population by Decade Analysis Report provides a comprehensive examination of population and GDP dynamics for selected countries over two decades. This interactive report offers valuable insights into how these countries' populations have evolved and how their economic performance, measured by GDP, has changed during the specified period. Through Gantt charts, line charts, and interactive filtering, users can explore and compare average GDP and population trends for different countries, empowering policymakers and stakeholders to make informed decisions in response to demographic and economic changes.

The main view of the report comprises two side-by-side Gantt charts. The first Gantt chart showcases the average GDP for the selected decade, with a marked value representing the previous decade. The second Gantt chart presents the average population for the selected decade, also marked with the value from the previous decade. This visual representation allows users to observe changes in economic and demographic indicators over time.

Users can interact with the report through an intuitive filter list, enabling them to select a specific country and decade of interest. This interactive feature facilitates a detailed analysis of GDP and population trends for the chosen country and time frame.

Users can click on the Gantt chart to reveal additional insights. Upon clicking, a yearly trend line chart is dynamically displayed for the selected decade and the previous decade. This interactive feature enables users to delve deeper into the data and observe year-by-year changes in GDP and population.

Obraz zawierający tekst, zrzut ekranu, Równolegle, linia

Opis wygenerowany automatycznie

GDP vs Population vs Life expectancy by Country Comparison

The GDP vs Population vs Life Expectancy by Country Comparison Report offers a comprehensive head-to-head analysis, comparing key indicators, including GDP, population, and life expectancy, between two selected countries, X and Y. Through this interactive report, users can gain valuable insights into the relative economic strength, demographic trends, and overall health outcomes of the two countries. By presenting data in an intuitive horizontal bar chart format and providing an interactive raw data table with highlight interactions, this report empowers policymakers, investors, and researchers to make informed decisions and implement targeted interventions to address specific areas of improvement.

The main view of the report features a horizontal bar chart that visually compares data for countries X and Y. The chart is divided into three columns of bars, with the first column representing average GDP, the second column representing population, and the third column representing life expectancy. This layout facilitates easy and direct comparisons across the three key indicators.

Users can interact with the report through an intuitive filter list, enabling them to select specific years and multiple countries (X and Y) of interest. This interactive feature facilitates customized comparisons based on the user's preferences.

Below the bar charts, a raw data table provides detailed information on GDP, population, and life expectancy for countries X and Y, organized by the selected year. An interactive highlight interaction is incorporated, so when users click on a bar chart, the corresponding data for the selected country is automatically highlighted in the raw data table.

Obraz zawierający tekst, zrzut ekranu, oprogramowanie, Strona internetowa

Opis wygenerowany automatycznie

# Technical Description

Data source model

Data source used for the dashboard is created on a Excel file with data distributed across sheets. Data from each sheet is used in the data model. Common dimension in this case is a Country table. In the reports, data is related also by using Year value. Bellow is a diagram of a used Data Model in Tableau:

Obraz zawierający tekst, zrzut ekranu, diagram, linia

Opis wygenerowany automatycznie

Variables

Variables used in the dashboard are specified in the table bellow:

|  |  |  |
| --- | --- | --- |
| **Variable name** | **Description** | **Definition** |
| **mortality\_year\_filter** | **True/False filter for selecting year by parameter Year** | **INT([Year])=[year (who!indicators!child!mortality)]** |
| **fertility\_year\_filter** | **True/False filter for selecting year by parameter Year** | **int([Year])=[year (who!indicators!fertility)]** |
| **max\_fertility\_rate\_filter** | **Used to select top fertility rate value in the report** | **[max\_fertility\_rate]=[fertility]** |
| **max\_fertility\_rate** | **Variable used to select Max fertility rate for a Year across all countries** | **{ FIXED [year (who!indicators!fertility)] : max([fertility])}** |
| **gdp\_year\_filter** | **True/False filter for selecting year by parameter Year** | **int([Year])=[year (who!indicators!gdp)]** |
| **total\_gdp\_by\_decade\_year\_filter** | **Variable to select only years for particular decade** | **[year (who!indicators!gdp)]>=[Decade] AND [Decade]+10>[year (who!indicators!gdp)]** |
| **total\_gdp\_by\_previous\_decade\_year\_filter** | **Variable to select only years for previous decade** | **[year (who!indicators!gdp)]<[Decade] AND [Decade]-10<=[year (who!indicators!gdp)]** |
| **gdp\_per\_capita** | **Label for gdp field** | **[gdp]** |
| **life\_exp\_year\_filter** | **True/False filter for selecting year by parameter Year** | **int([Year])=[year]** |
| **population\_year\_filter** | **True/False filter for selecting year by parameter Year** | **int([Year])=[year (who!indicators!population)]** |
| **year\_str** | **String representation for Year value** | **STR([year (who!indicators!population)])** |
| **total\_population\_by\_decade** | **Measure for population for selected decade - used to compare values by decade** | **IIF([year (who!indicators!population)]>=[Decade] AND [Decade]+10>[year (who!indicators!population)],[population],null)** |
| **total\_population\_by\_prev\_decade** | **Measure for population for selected decade - used to compare values by decade** | **IIF([year (who!indicators!population)]<[Decade] AND [Decade]-10<=[year (who!indicators!population)],[population],null)** |
| **top\_n\_country\_check** | **Variable to check how many countries are available within selected region** | **{ FIXED [region] : COUNTD([country\_id])}** |
| **gdp\_population\_year** | **For joining population and GDP values. This method can be used only if we are certain that all the Year values are up to date in both tables** | **[year (who!indicators!gdp)]=[year (who!indicators!population)]** |
| **max\_fertility\_rate\_filter (region)** | **Variable used to select Max fertility rate for region** | **[max\_fertility\_rate (region)]=[fertility]** |
| **population\_lifeex\_year** | **For joining population and GDP values. This method can be used only if we are certain that all the Year values are up to date in both tables** | **[year (who!indicators!population)]=[year]** |
| **avg\_livfe\_expectancy** | **Formatted Average Life Expectancy value** | **AVG(FLOAT([life\_expectancy]))** |
| **max\_fertility\_rate (region)** | **Maximum fertility rate for year and region across all countries** | **{ FIXED [year (who!indicators!fertility)], [region] : max([fertility])}** |
| **top\_n** | **Rank case for catching top 5 and bottom 5 values in the set** | **RANK(AVG([life\_expectancy]),'desc')<=5 OR RANK(AVG([life\_expectancy]),'asc')<=5** |
| **top\_n\_color** | **Rank case for catching top 5 and bottom 5 values in the set and translating that into color. If less than 10 countries ara available, the total number of countries will be devided by 2 example: IF 4 countries ara availabel, the TOP/BOTTOM distribution will be calculated as TOP 2 and BOTTOM 2 (4 countries evided by 2)** | **IIF(RANK(AVG([life\_expectancy]),'desc')<=IIF(ATTR([top\_n\_country\_check]/2)<5,ATTR([top\_n\_country\_check])/2,5) ,'Top 5','Bottom 5')** |
| **total\_gdp** | **GDP per capita multiplied by population** | **[population]\*[gdp]** |
| **Total\_GDP** | **Placeholder for axis in the chart** | **1** |
| **total\_gdp\_by\_decade** | **Measure for GDP for selected decade - used to compare values by decade** | **IIF([year (who!indicators!gdp)]>=[Decade] AND [Decade]+10>[year (who!indicators!gdp)],[total\_gdp],null)** |
| **total\_gdp\_by\_prev\_decade** | **Measure for GDP for selected decade - used to compare values by decade** | **IIF([year (who!indicators!gdp)]<[Decade] AND [Decade]-10<=[year (who!indicators!gdp)],[total\_gdp],null)** |