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Aim:

Design Big Data Dashboard using Tableau on the dataset -Education Sector

Dataset:

<https://www.kaggle.com/datasets/nelqiriyewithana/world-educational-data>

Description:

This dataset offers a panoramic view of education on a global scale , delivering profound insights into the dynamic landscape of education across diverse countries and regions. Spanning a rich tapestry of educational aspects, it encapsulates crucial metrics including out-of-school rates, completion rates, proficiency levels, literacy rates, birth rates, and primary and tertiary education enrollment statistics.

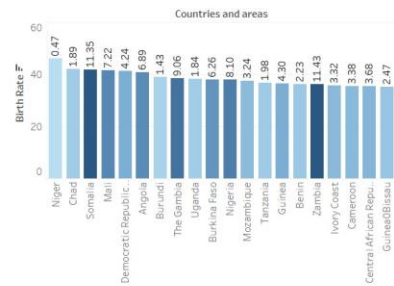
Attributes/Columns:

- Countries and Areas: Name of the countries and areas.
- Latitude: Latitude coordinates of the geographical location.
- Longitude: Longitude coordinates of the geographical location.
- OOSR_Pre0Primary_Age_Male: Out-of-school rate for pre-primary age males.
- OOSR_Pre0Primary_Age_Female: Out-of-school rate for pre-primary age females.
- OOSR_Primary_Age_Male: Out-of-school rate for primary age males.
- OOSR_Primary_Age_Female: Out-of-school rate for primary age females.
- OOSR_Lower_Secondary_Age_Male: Out-of-school rate for lower secondary age males.
- OOSR_Lower_Secondary_Age_Female: Out-of-school rate for lower secondary age females.
- OOSR_Upper_Secondary_Age_Male: Out-of-school rate for upper secondary age males.
- OOSR_Upper_Secondary_Age_Female: Out-of-school rate for upper secondary age females.
- Completion_Rate_Primary_Male: Completion rate for primary education among males.

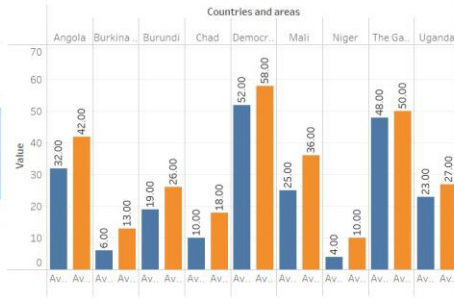
- Completion_Rate_Primary_Female: Completion rate for primary education among females.
- Completion_Rate_Lower_Secondary_Male: Completion rate for lower secondary education among males.
- Completion_Rate_Lower_Secondary_Female: Completion rate for lower secondary education among females.
- Completion_Rate_Upper_Secondary_Male: Completion rate for upper secondary education among males.
- Completion_Rate_Upper_Secondary_Female: Completion rate for upper secondary education among females.
- Grade_2_3_Proficiency_Reading: Proficiency in reading for grade 2-3 students.
- Grade_2_3_Proficiency_Math: Proficiency in math for grade 2-3 students.
- Primary_End_Proficiency_Reading: Proficiency in reading at the end of primary education.
- Primary_End_Proficiency_Math: Proficiency in math at the end of primary education.
- Lower_Secondary_End_Proficiency_Reading: Proficiency in reading at the end of lower secondary education.
- Lower_Secondary_End_Proficiency_Math: Proficiency in math at the end of lower secondary education.
- Youth_15_24_Literacy_Rate_Male: Literacy rate among male youths aged 15-24.
- Youth_15_24_Literacy_Rate_Female: Literacy rate among female youths aged 15-24.
- Birth_Rate: Birth rate in the respective countries/areas.
- Gross_Primary_Education_Enrollment: Gross enrollment in primary education.
- Gross_Tertiary_Education_Enrollment: Gross enrollment in tertiary education.
- Unemployment_Rate: Unemployment rate in the respective countries/areas.

Output / Plots:

Unemployed Rate in countries filtered by Birth Rate



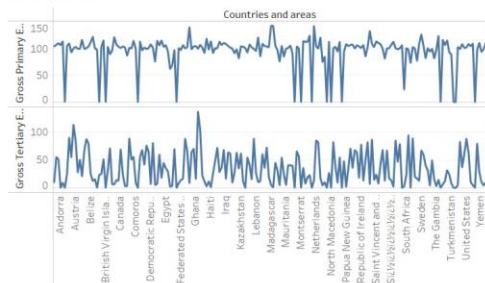
Completion Rate of Lower Secondary



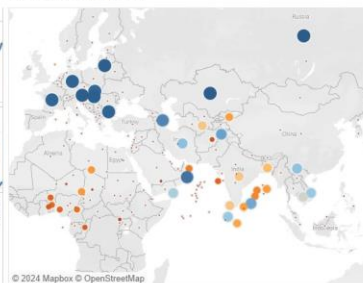
Youth Literacy among males and females in countries with the highest unemployment rate



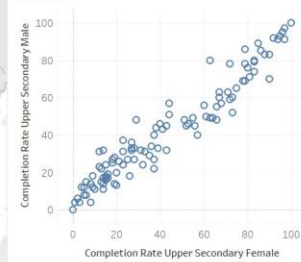
Line Chart of Gross Primary and Gross Tertiary Education Enrollment



Map Showing Proficiency in Reading in various countries



Scatter Plot of Completion rate of Upper Secondary among males and females



The dashboard presents insights into the relationship between educational outcomes, birth rates, unemployment, and literacy rates across different regions, allowing for a comparative view of countries.

Chart Descriptions

1. Unemployed Rate in Countries Filtered by Birth Rate:

- A bar chart showing unemployment rates in countries with the highest birth rates. It highlights the relationship between birth rate and unemployment.

2. Completion Rate of Lower Secondary:

- A bar chart comparing the average completion rates of lower secondary education across selected countries. It shows the disparity in completion rates between countries.

3. Youth Literacy Among Males and Females:

- A dot plot displaying youth literacy rates for males and females in countries with high unemployment rates, highlighting gender differences in literacy.

4. Line Chart of Gross Primary and Gross Tertiary Education Enrollment:

- A line chart with two panels showing gross enrollment rates for primary and tertiary education across various countries. It provides a trend of educational enrollment levels over time.

5. Map Showing Proficiency in Reading in Various Countries:

- A geographical map visualizing reading proficiency levels by country, with color-coded circles indicating different levels of proficiency.

6. Scatter Plot of Completion Rate of Upper Secondary Among Males and Females:

- A scatter plot depicting the correlation between male and female completion rates for upper secondary education. The positive trend suggests a correlation in completion rates between genders.

Conclusion:

In this experiment, we utilized Tableau to visualize and explore a dataset focused on various education indicators across countries. By creating a dashboard with multiple charts, we were able to examine key aspects of the global education landscape, including enrollment rates, literacy, proficiency in math, completion rates, and out-of-school rates for different age groups and genders.