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Aim: To Design Big Data Dashboard using Tableau on dataset -Education sector.

- Basic - Bar chart, Pie chart, Histogram, Time line chart, Scatter plot, Bubble plot
- Advanced - Word chart, Box and whisker plot, Violin plot, Regression plot (linear and nonlinear), 3D chart, Jitter
- Write observations from each chart

Description:

Dataset used is Education Dataset available at

https://www.kaggle.com/datasets/denisadutca/education-indicators-2014-worldwide

Population: The total number of people in a region, affecting educational resource needs.

GDP: The economic strength of a country, influencing education funding and quality.

Percentage of Repeaters in Primary Education: The proportion of students who repeat a grade, indicating potential challenges in learning outcomes.

Out-of-School Children of Primary School Age: The count of children not enrolled in primary school, highlighting education access issues.

Enrolment in Secondary Education: The level of participation in secondary education, showing progression from primary education.

Enrolment in Primary Education: The number of students attending primary school, reflecting accessibility and reach of basic education.

Unemployment: The share of the labor force without jobs, which can influence family support for education.

Life Expectancy at Birth: The average lifespan in a region, linked to overall living conditions and health.

Theoretical Duration of Primary Education: The expected years needed to complete primary education, based on a country's education system.

Dashboard:
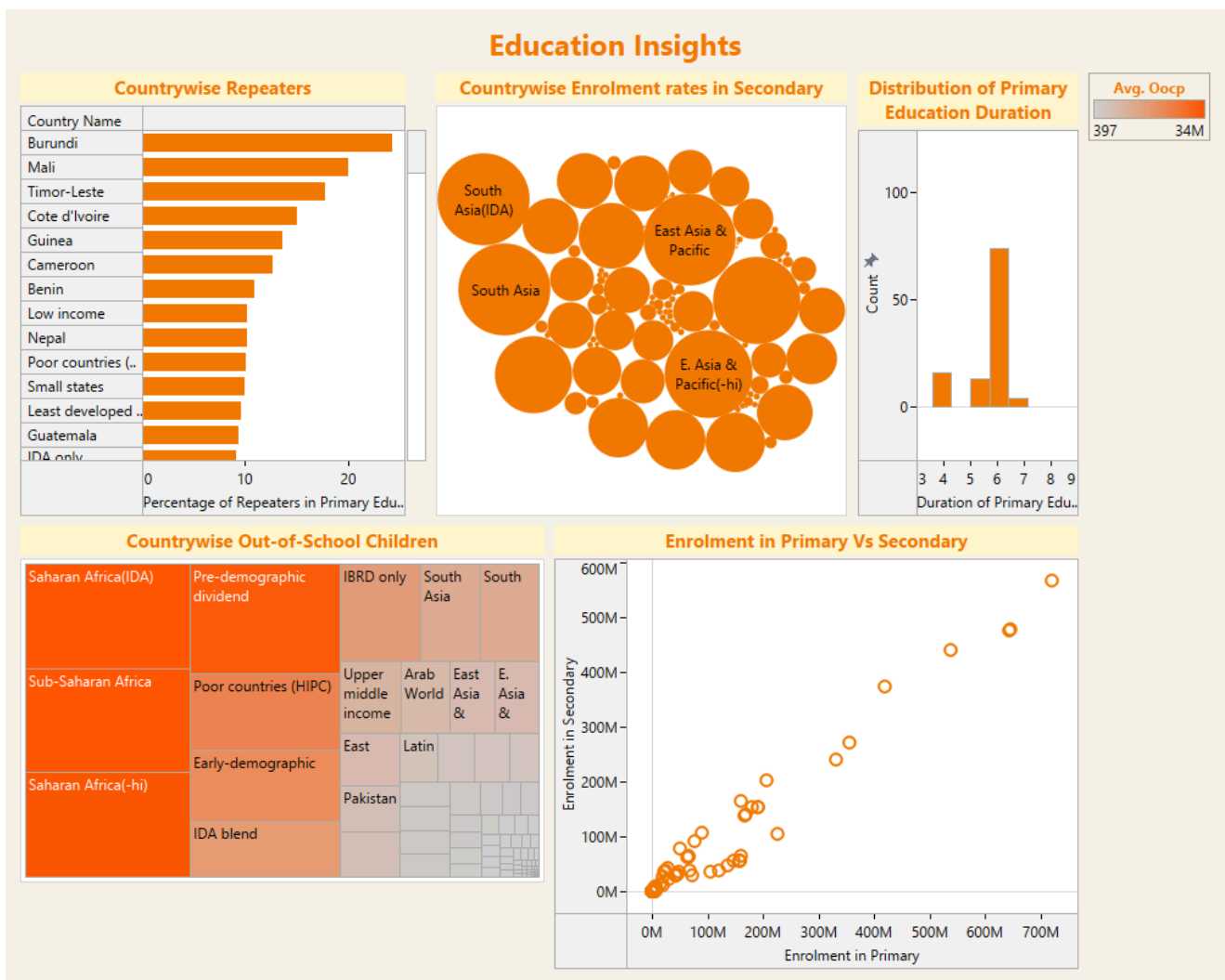
Story: This dashboard provides comprehensive insights into the Education sector across various regions and countries.It shows the percentage of repeaters in primary education, which is highest in Burundi and Mali. It reveals that a large portion of the population in South Asia and East Asia & Pacific regions is enrolled in secondary education, indicating a strong focus on education. Further, it can be observed that the primary education duration in most countries is 6 years, indicating a consistent approach across regions. The scatter plot, displaying a positive correlation between primary and secondary enrolment, suggests that an increase in primary enrolment often leads to a parallel increase in secondary enrolment.The treemap shows the distribution of out-of-school children across different regions and countries.
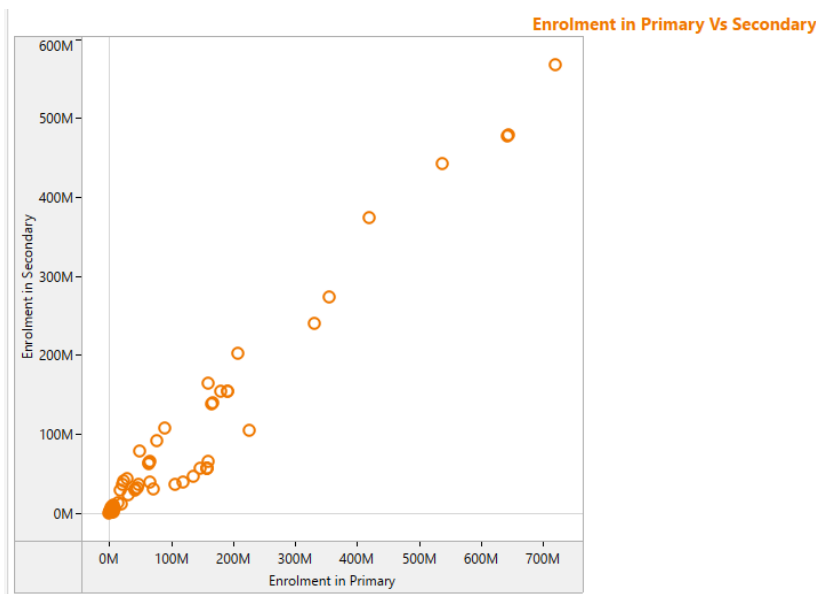
Graphs and Observations:

Bar Chart:
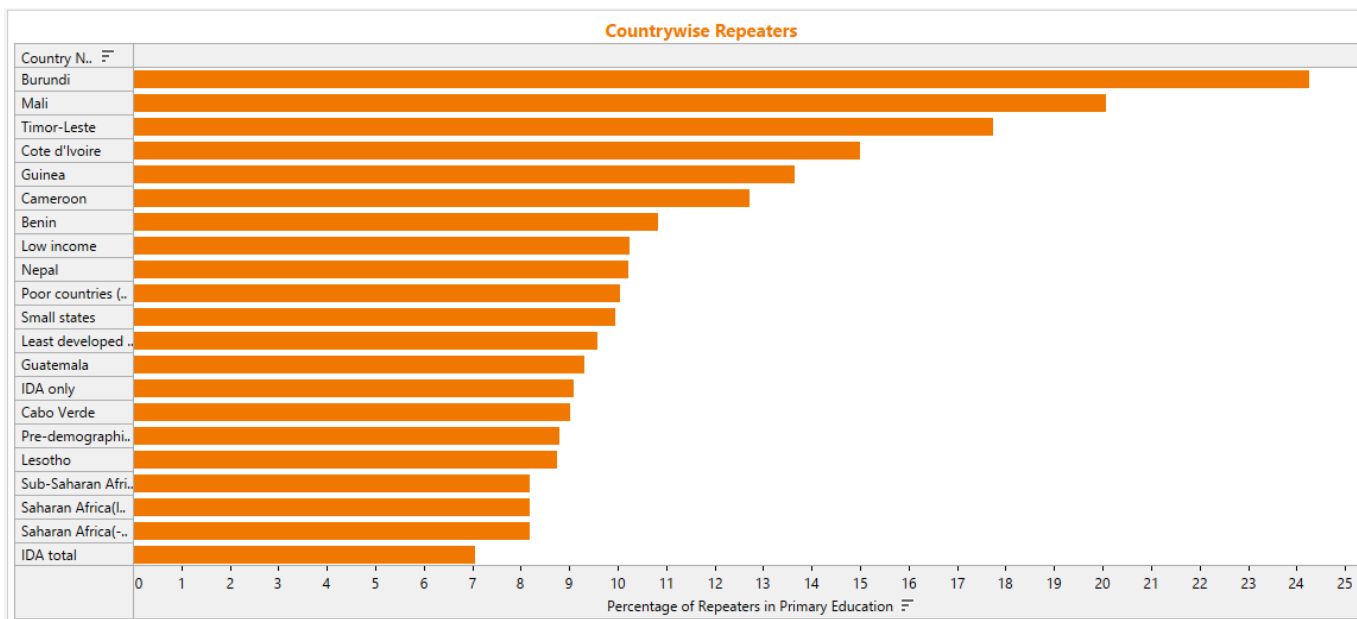
Observation: The bar chart shows the number of repeaters across various countries and regions of the world. Burundi has the highest number of repeaters. This suggests potential challenges in the education system of Burundi.

Scatter Plot:

Observation: The scatter plot shows the relationship between the Primary and Secondary Section enrolments. It indicates a strong positive correlation, suggesting that higher enrollment in primary education generally leads to higher enrollment in secondary education.

TreeMap:

Countrywise Out-of-School Children
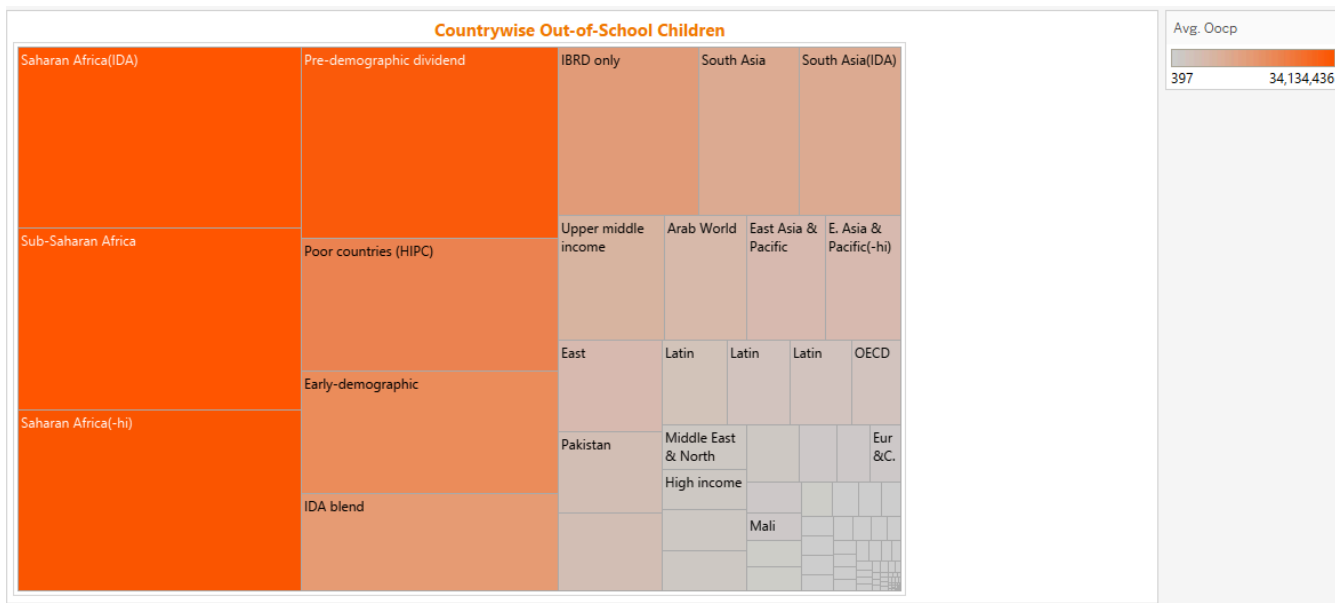
Observation: The treemap shows the distribution of Out-of-School Children across various countries and regions. Saharan Africa and Sub-Saharan Africa have a significant number of out-of-school children, indicating serious gaps in educational access.

Histogram:

Distribution of Primary Education Duration
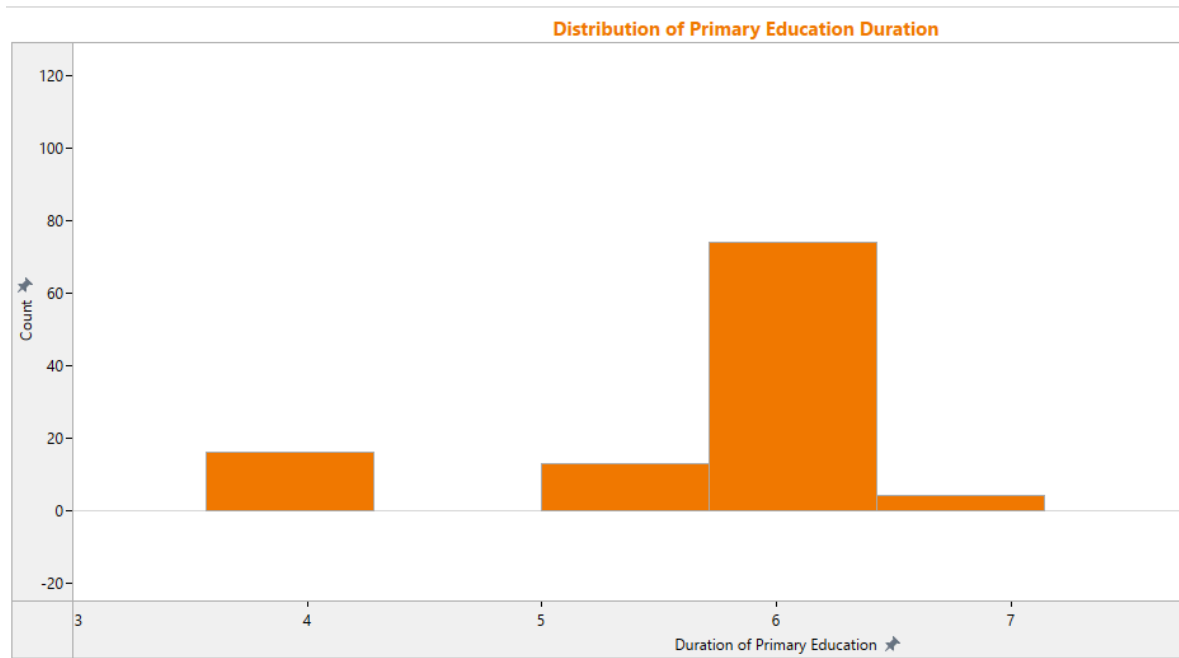
Observation: The histogram shows the distribution of duration of Primary Education in various regions. Most of the countries have their primary education duration as 6 years.

Bubble chart:

Countrywise Enrolment rates in Secondary
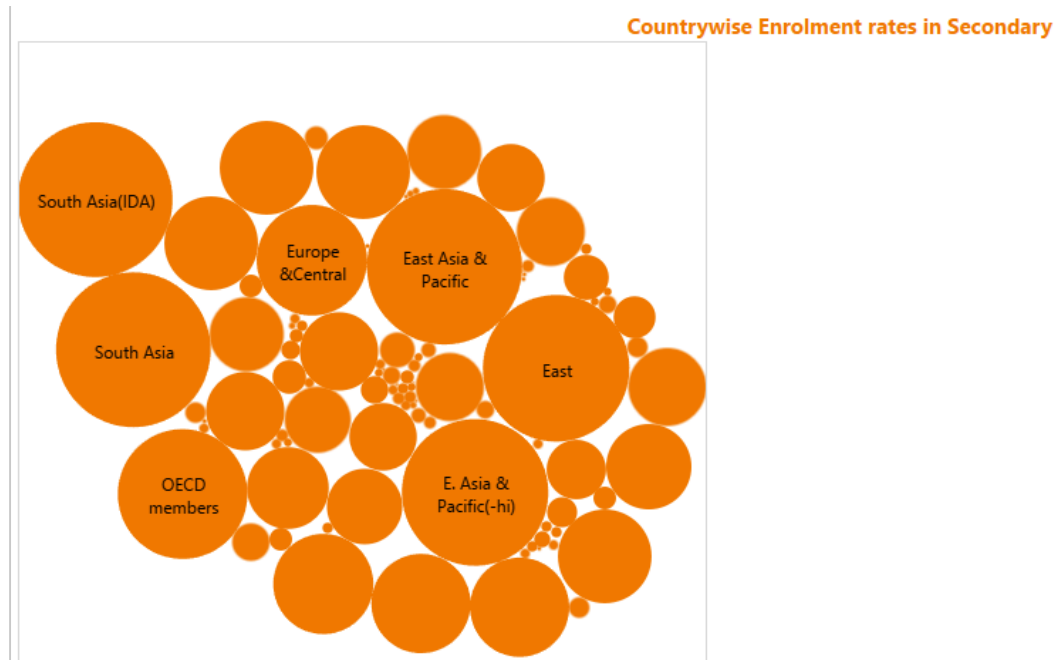
Observation: The bubble chart shows the distribution The size of the circles reflects the proportion of students enrolled in secondary education within each region. South Asia has the highest enrollment rate, followed by East Asia and the Pacific.

Conclusion:

Through this experiment, we got to know about tableau and its powerful capabilities for data visualization. I was able to create a dashboard using the individual graphs plotted on different sheets in tableau.