



Sardar Patel Institute of Technology, Mumbai
(Autonomous Institute Affiliated to University of Mumbai) Bhavan's Campus,
Munshi Nagar, Andheri (West), Mumbai-400058-India Bharatiya Vidya Bhavan's

Experiment 9

Name: Sakshi Lonare
UID: 2021300069

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Aim:

To effectively visualize and analyze large-scale datasets related to women empowerment and gender participation using Tableau, creating interactive and informative dashboards.

Objectives:

- Learn the fundamentals of Tableau and its application in data visualization.
- Create various chart types (basic and advanced) to represent different aspects of women empowerment data.
- Understand the significance of each chart type in conveying insights.

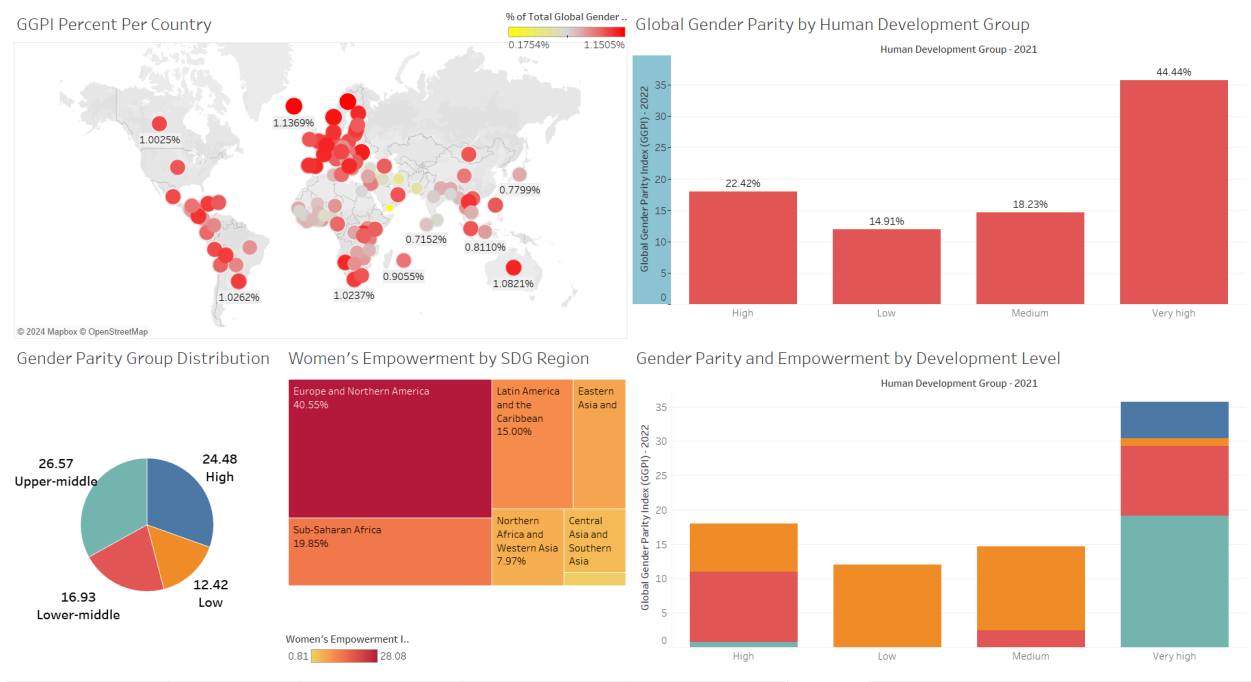
Dataset Description:

Link: <https://www.kaggle.com/datasets/iamsouravbanerjee/women-empowerment-index>

This dataset provides essential information on gender development indicators, facilitating comprehensive analysis and comparison across countries and regions. Here are the key columns included:

- Country: The name of the country or territory included in the dataset.
- Women's Empowerment Index (WEI) - 2022: Quantifies women's empowerment within each country for the year 2022, offering insights into gender dynamics and opportunities for women.
- Women's Empowerment Group - 2022: Categorizes countries based on their performance and status regarding women's empowerment, facilitating comparative analysis.
- Global Gender Parity Index (GGPI) - 2022: Measures gender parity at a global level for the year 2022, indicating the degree of equality between men and women.
- Gender Parity Group - 2022: Classifies countries into groups based on their level of gender parity, aiding in the identification of trends and disparities.
- Human Development Group - 2021: Classifies countries into specific groups based on their Human Development Index (HDI) scores and development levels for the year 2021.
- Sustainable Development Goal regions: Aligns countries with specific regions as defined by the Sustainable Development Goals (SDGs), providing context for development efforts and initiatives.

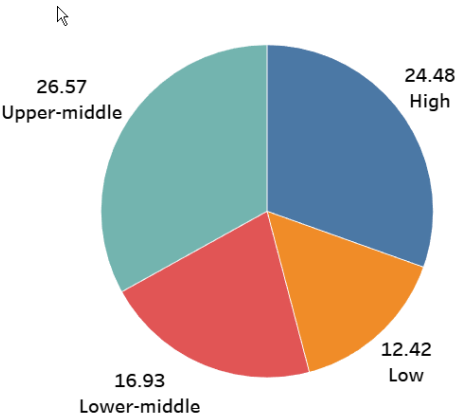
Dashboard:



This dashboard provides an overview of global gender parity, highlighting disparities across regions and development levels. Key insights reveal that gender parity is higher in countries with advanced human development, as shown by the bar chart, while the treemap illustrates varying levels of women’s empowerment across SDG regions. A stacked bar chart further shows that both gender parity and empowerment generally improve with higher development levels. The dashboard underscores the ongoing need for efforts to address gender inequality, especially in regions with lower human development indices.

Observations:

1) Pie chart:

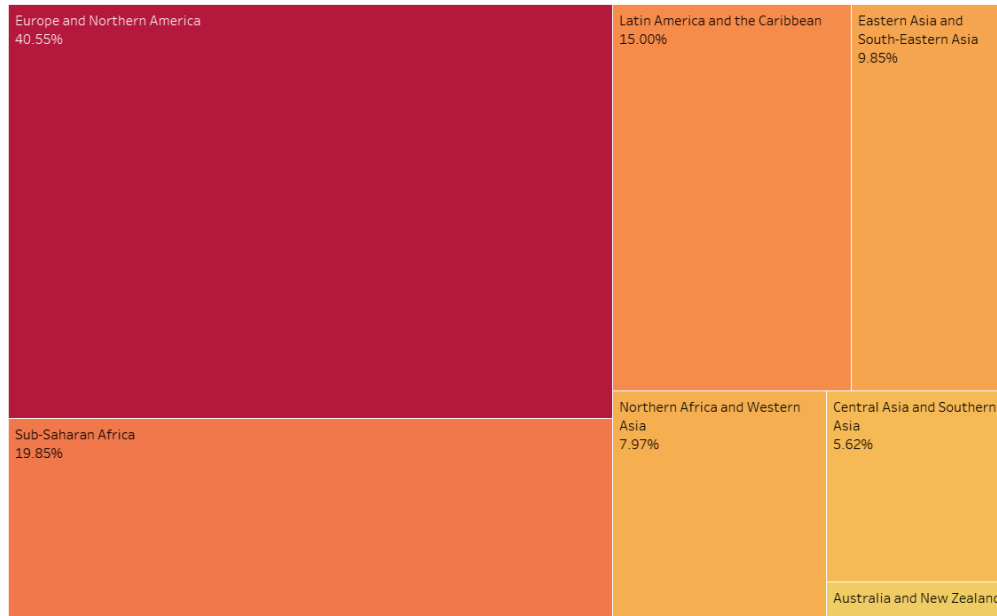


The pie chart shows the distribution of countries across four different Gender Parity Groups.

- The majority of countries fall into the "Upper-middle" and "High" categories.
- There are fewer countries in the "Lower-middle" and "Low" categories.
- The dominance of the "Upper-middle" and "High" categories suggests that globally, there has been progress in addressing gender inequality.

2) Tree Map:

Women's Empowerment by SDG Region



It is important to note that this treemap provides a visual representation of relative proportions of women's empowerment across different regions.

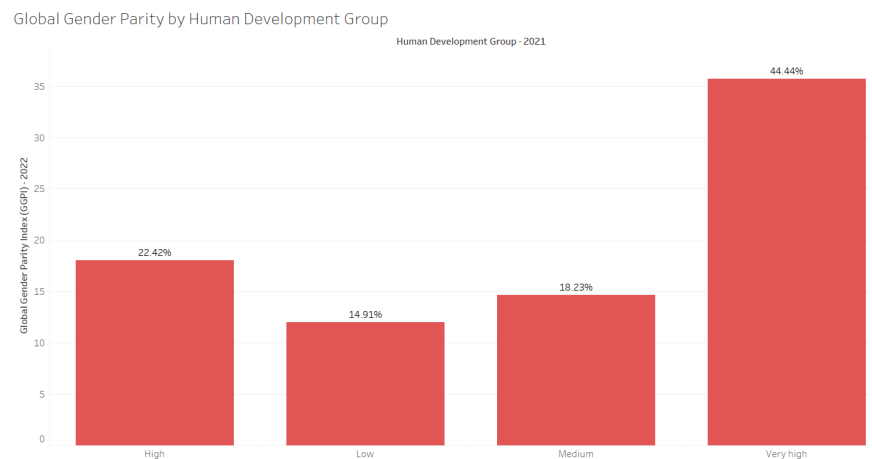
- Europe and Northern America have the largest share of women's empowerment, followed by Sub-Saharan Africa.
- Australia and New Zealand have the smallest share of women's empowerment.
- The larger share of Europe and Northern America suggests that these regions have made significant progress in promoting women's rights and empowerment.

3) Bar Graphs:

Gender Parity and Empowerment by Development Level



- The chart shows the distribution of Global Gender Parity Index (GGPI) across different Human Development Groups.
- The GGPI seems to increase with the level of human development.
- The "Very High" Human Development Group has the highest GGPI, followed by "High," "Medium," and "Low."



- There is a clear positive correlation between Human Development Group and Global Gender Parity Index (GGPI).
- Countries with higher Human Development tend to have higher GGPI scores.
- The significant gap between "Very High" and "High" Human Development Groups suggests that even within high-development countries, there can be significant disparities in gender equality.

Conclusion: Through this lab, I have gained proficiency in using Tableau to create informative and visually appealing dashboards for women empowerment data. I have explored a variety of chart types and learned how to interpret the insights they provide.