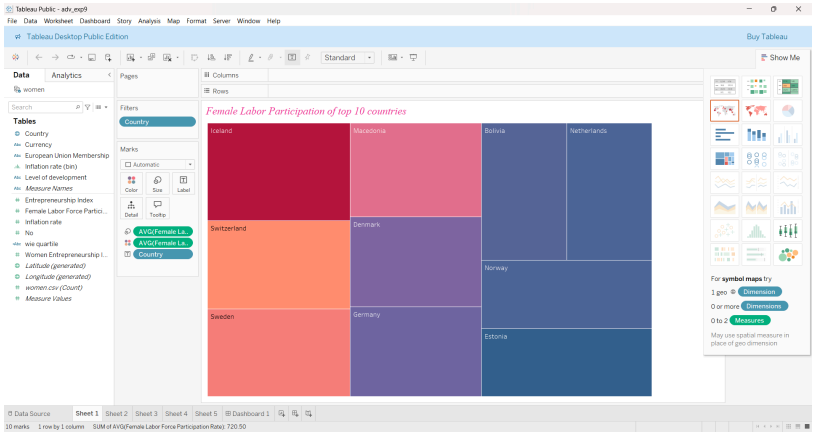
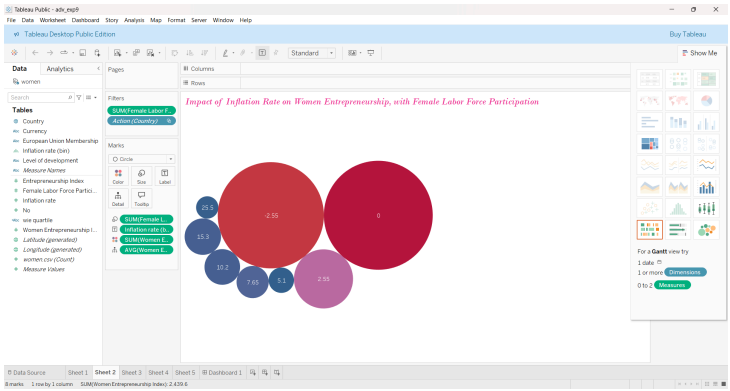
Sardar Patel Institute of Technology
SEM VII:ADVANCE DATA VISUALIZATION.

Name	Smruti Sonekar
UID no.	2021700064
Branch	BE CSE DS (BATCH B)
Experiment no.	9

Topic:	Design Big Data Dashboards using Tableau on the dataset - Women empowerment / Gender participation • 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
Theory:	Link of data set: https://www.kaggle.com/datasets/babyoda/women-entrepreneurship-and-labor-force Dataset Description 1. **No**: A unique identifier or serial number for each country in the dataset, likely used to maintain a consistent ordering. 2. **Country**: The name of each country included in the dataset. 3. **Level of Development**: The classification of each country's development status (e.g., "Developed," "Developing," "Underdeveloped"). This metric typically depends on factors such as income, infrastructure, and human development indices. 4. **European Union Membership**: Indicates whether a country is a member of the European Union, with entries likely as "Yes" or "No." This can provide insights into regional economic integration and potential policy effects on entrepreneurship and labor. 5. **Currency**: The official currency used by each country. This is relevant for comparing economic indicators in countries with different currencies. 6. **Women Entrepreneurship Index**: A measure indicating the level of women's participation and support in entrepreneurial activities. Higher values typically suggest better environments and opportunities for female entrepreneurs. 7. **Entrepreneurship Index**: A measure of general entrepreneurial activity

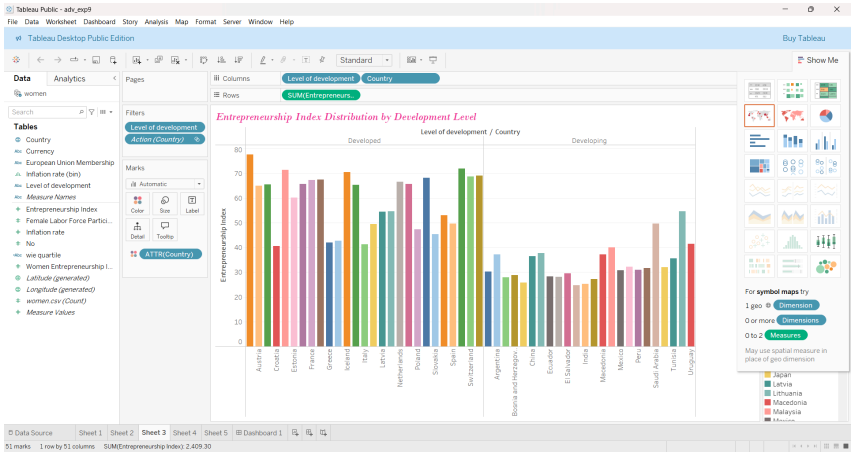
	and environment in each country. It reflects the country's support for entrepreneurship and its entrepreneurial climate. 8. **Inflation Rate**: The percentage rate at which prices for goods and services rise in each country, indicating the level of inflation. This affects purchasing power and can influence entrepreneurship and labor dynamics. 9. **Female Labor Force Participation Rate**: The percentage of women participating in the labor force relative to the total female population of working age. This metric reflects gender equality in the workforce and can be a key indicator of development and economic inclusivity.
Program:	Charts: 1. Treemap (Female Labor Participation of Top 10 Countries) ● **Description**: The treemap displays the Female Labor Force Participation Rate for the top 10 countries with the highest participation rates. Each country is represented as a distinct rectangle, with the size of the rectangle proportional to the participation rate. This allows for a visual comparison of the relative size of labor participation among these countries. ● **Purpose**: This chart helps highlight countries with high female labor participation and visually compare the top performers. Treemaps are particularly effective for comparing categories by size and seeing how different countries contribute to the overall metric.  2. Bubble Chart (Impact of Inflation Rate on Women Entrepreneurship, with Female Labor Force Participation) ● **Description**: This bubble chart explores the relationship between the inflation rate and the Women Entrepreneurship Index, with the size of each bubble representing the Female Labor Force Participation Rate for each country. The X-axis might represent the inflation rate, while the Y-axis represents the Women Entrepreneurship Index. Larger bubbles indicate countries with higher female labor force participation.

- **Purpose**: The chart aims to show how inflation might affect women's entrepreneurship across countries and provides additional insight into female labor force participation rates as a third variable. This multi-dimensional chart is effective for identifying clusters or outliers, helping to spot trends where inflation could positively or negatively impact women's entrepreneurship.



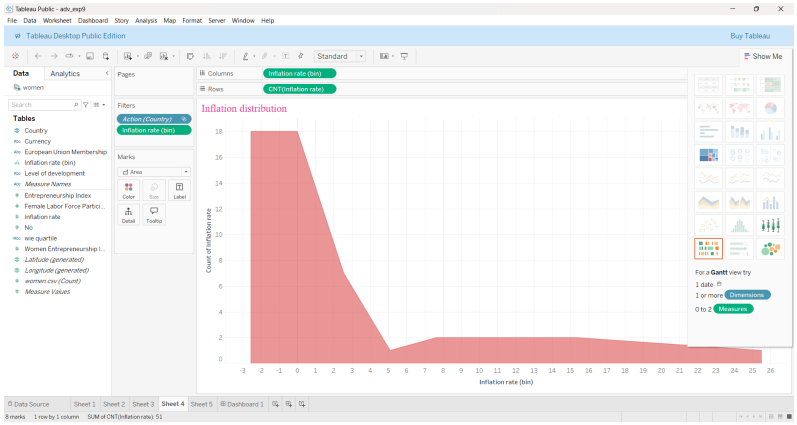
3. Side-by-Side Bar Chart (Entrepreneurship Index Distribution by Development Level)

- **Description**: This chart presents the Entrepreneurship Index for countries, segmented by their development level (e.g., "Developed" vs. "Developing" countries). Bars are grouped side-by-side for each development level, allowing for a direct comparison.
- **Purpose**: By segmenting the Entrepreneurship Index by development level, this chart reveals how entrepreneurship environments differ between developed and developing countries. It helps to show whether developed countries generally have higher entrepreneurship scores due to resources, infrastructure, or policy environments, or if developing countries also score high due to factors like emerging markets and growth potential.



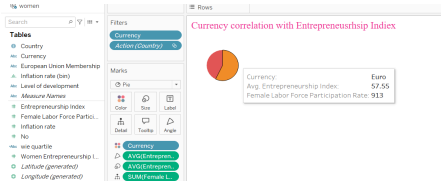
4. Area Chart (Inflation Rate over Time)

- **Description**: This area chart tracks the inflation rate over time, showing how inflation fluctuates across years or months. The shaded area under the line emphasizes the total inflation trend, making it easy to spot periods of high or low inflation.
- **Purpose**: This chart is useful for observing the general trend of inflation rates across time and helps to identify periods of economic stability or instability. For countries experiencing high inflation, this can also help to analyze potential impacts on economic factors like the Entrepreneurship Index or labor force participation.



5. Pie Chart (Currency Correlation with Entrepreneurship Index)

- **Description**: This pie chart breaks down the different currencies in use among countries in the dataset and correlates them with their average Entrepreneurship Index scores. Each slice represents a currency, with the size of each slice showing the relative frequency or Entrepreneurship Index associated with each currency.
- **Purpose**: By correlating currency with the Entrepreneurship Index, this chart can reveal whether certain currencies (and possibly, certain regions) are more conducive to entrepreneurship. For example, currencies from more developed regions might be associated with higher entrepreneurship scores, which can help in understanding regional economic influences on entrepreneurship.



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Result:	Link of dashboard: https://public.tableau.com/views/adv_exp9/Dashboard1?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

	
Conclusion:	By combining these visualizations into a dynamic dashboard in Tableau, we gain a comprehensive view of the socioeconomic landscape across various countries. This dashboard highlights key metrics such as female labor participation, entrepreneurship, inflation impact, and regional differences, offering insights into how these factors interact and influence each other. It serves as a powerful tool for analyzing and understanding global economic dynamics in a cohesive, interactive format.