

## Technical Steps for Creating the Clustering Visualization in Tableau

1. **Data Import:**
  - Import the dataset into Tableau, ensuring all relevant fields are properly recognized and formatted.
2. **Creating a Scatter Plot:**
  - Drag SUM(Explained by: Freedom to make life choices) to the Columns shelf.
  - Drag SUM(Ladder score) to the Rows shelf.
  - This creates a scatter plot where each point represents a data entry with its respective Freedom to make life choices and Ladder score.
3. **Adding Country Names for Detail:**
  - Drag Country name to the Detail shelf under Marks.
  - This step ensures that each point on the scatter plot is associated with its respective country.
4. **Clustering the Data:**
  - Go to the Analytics pane.
  - Drag the Cluster option into the view.
  - Tableau will automatically generate clusters based on the data. In this visualisation, it appears that the data is divided into three clusters (Cluster 1, Cluster 2, Cluster 3). (Low, Medium and High happiness scores)
5. **Colouring by Clusters:**
  - Tableau assigns different colours to each cluster for easy differentiation.
  - In this case, Cluster 1 is coloured green, Cluster 2 is yellow, and Cluster 3 is red.
6. **Refining the View:**
  - Adjust the size and shape of the marks if necessary for better visualisation.
  - Ensure that the axes are labelled clearly: Explained by: Freedom to make life choices on the x-axis and Ladder score on the y-axis.
7. **Adding Filters:**
  - Drag Country name to the Filters shelf if you want to filter specific countries in or out of the visualisation.
8. **Interactivity:**
  - Ensure that the tooltip is configured to show relevant information, such as Country name, Ladder score, and Freedom to make life choices, when hovering over each data point.

By following these steps, you create an interactive scatter plot in Tableau that clusters countries based on their ladder scores and the degree of freedom to make life choices. This visualisation helps identify patterns and groupings within the data, providing insights into how different countries compare in terms of these two variables.

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