Data Visualization - Practice Exercises

Part 1

Examine the World Indicators dataset that comes with Tableau and use the bottom of this page to brainstorm ideas, answering the following questions:

1. Assuming that you are visualizing for yourself to get a better understanding of the data (Stage 1 of the Data Visualization Design Workflow), what are some special properties/characteristics that you can identify in this dataset (Stage 2)?

2. What stories could you tell using this dataset, considering what visualization forms would be appropriate (Stage 3) and what variables you would use in the visualizations (Stage 4)?

3. How would you use different colours, shapes, sizes, filters, and/or parameters in your visualization ideas (Stage 4)?

4. What are some of the challenges visualizing this dataset?

Part 2

Using the World Indicators dataset, create the following visualizations in Tableau:

1. Create a horizontal bar graph with Country/Region along the y-axis and the average Health Exp % GDP along the x-axis. Use Region to filter to Oceania countries only. Sort the bars in descending order.

2. Create a line graph with Tourism Inbound along the y-axis and Year along the x-axis. Create different coloured lines to represent different regions.

3. Create a highlight table with Country/Region for the rows, Year for the columns, and Infant Mortality Rate as the data in the table. Shade the cells by Infant Mortality rate. Use Region to filter to Oceania countries only. Change the legend from continuous colour to a stepped colour ramp of 5 colours.

4. Create a box plot with Birth Rate along the y-axis and Regions along the x-axis.

5. Create a scatter plot comparing Internet Usage and Mobile Phone Usage. Each point on the scatter plot represents a Country/Region. Use Region to filter to Africa and Europe countries only. Colour the points by Region. Then add a trend line. Use Year on the Pages shelf so that the user can animate the graph over the years.

6. Create a pie chart showing the sum of Energy Usage broken down by Region. Label the slices with the Region and the percentage of the total. *Note: Not all the labels will display, depending on your screen resolution. To force all labels to display, you can click on the Label box on the Marks Card and at the bottom under Options, select Allow labels to overlap other marks.*

7. Create a horizontal bar graph with Days to Start Business along the x-axis and Region, subdivided by Country/Region along the y-axis. Sort the bars in descending order. Colour the bars by Region. First filter to show the top 10 countries, but then change 10 to a parameter to allow the user to filter to show the top 5, 10, 15, or 20 countries in this category.

8. Create a Dashboard with example 3 at the top and example 1 below it. Add a dashboard action so when a country is selected in one graph, it is highlighted in the second graph.

Solution: See the Tableau Packaged Workbook file called DataVisualizationPracticeExercises.twbx to learn how to create the visualizations in Part 2 and for ideas of some different ways to visualize the dataset.

Note: In some of the visualizations, you may see that there are NULLs (indicated by a small grey box at the bottom right of a visualization). In some cases, you may want to remove that indicator and the NULL data by clicking on the grey box and selecting Filter Data. If you do so, you may want to add an annotation/note to indicate that this was done, and/or what categories that have been removed had null values. For more information on null values and handling them in Tableau, see https://www.lifewire.com/all-about-null-values-1019266 and https://help.tableau.com/current/pro/desktop/en-us/datafields_specialvalues.htm.