Tableau is a powerful and efficient tool to create data visualizations. It allows for creating highly informative plots without writing any code. Besides, multiple visualizations can easily be combined into a dashboard.

Storytelling is a fundamental part of data scientists’ job and data visualization is a must for storytelling. Thus, data scientists are expected to have at least one data visualization tools or framework to have in their skillset. The versatility of Tableau makes it a highly popular data visualization tool in the data science ecosystem.

It takes practice to learn how to efficiently use Tableau. We can practice for free by downloading the [public edition](https://public.tableau.com/en-us/s/) of Tableau Desktop which is available for Windows and Mac.

Tableau also provides Tableau Public which is a free platform to publicly share your dashboards. It is a great way to demonstrate your skills and creativity.

In this article, we will create a simple dashboard using the public edition. We will be using a [dataset](https://www.kaggle.com/unsdsn/world-happiness?select=2019.csv) from Kaggle that contains the world happiness scores among some other measures for countries in 2019.

The first step is to add a connection to a data source. It is important to emphasize the word “connect” here because Tableau connects to the data file and uses it to create visualizations. It does not edit the original file.

A screenshot of a computer

Description automatically generated

We select the appropriate format and then navigate to the file where the dataset is saved.

Once Tableau is connected to the file, it provides an overview of the data source and automatically creates a worksheet.

A screenshot of a graph

Description automatically generated

(image by author)

The dataset contains 4 more measures in addition to the ones seen in the screenshot above. The additional measures are healthy life expectancy, freedom to make life choices, generosity, and perceptions of corruption.

In Tableau, we use sheets to create visualizations. After the sheets are completed, we can combine them into a dashboard. The dashboard we will create in this article contains three visualizations:

1. A world map colored based on happiness score of countries
2. A scatter plot that demonstrates the relationship between GPD per capita, happiness score, and healthy life expectancy
3. A line plot that demonstrates the relationship between freedom to make life choices, social support, and happiness score.

**Visualization 1**

One of the cool things about Tableau is that it automatically generates latitude and longitude information from the country names. It makes it quite easy to create an informative map.

We first open a new sheet. The generated latitude and longitude columns are dragged into the plotting area. Then the country names column is dragged into the Marks pane.

Tableau highlights the possible visualization types on the right pane. We can either use the world map with color or size. The colored one displays the countries with different colors based on the given quantity. The measure for coloring is the happiness score so we dragged the score column to the color icon in the Marks pane.

All these steps are demonstrated in the screen recording below.

A screenshot of a computer

Description automatically generated

(gif by author)

The first visualization is complete. It is better to give it a more descriptive name. I will rename it as “Happiness Score of Countries — 2019”.

**Visualization 2**

For the second visualization, we will create a scatter plot. As always, we first create a new empty sheet by using the new sheet icon in the bottom left next to the existing sheets.

The procedure is the same. We drag and drop the columns according to the desired visualization type. The scatter plot will contain three pieces of information. The happiness score and GDP per capita are represented as dimensions on the x-axis and y-axis. Thus, after we drag them into the sheet, we set them as a dimension by using the drop-down menu.

Each country is represented with an identical mark in the scatter plot now. We will use the healthy life expectancy column as the third dimension to adjust the color of the marks.

All these steps are demonstrated in the screen recording below.

A screenshot of a computer

Description automatically generated

(gif by author)

I will rename this sheet as “Happiness Score vs GDP and Healthy Life Expectancy”.

**Visualization 3**

We create a new sheet for the last visualization as well. It will contain a line plot with two rows which are freedom to make life choices vs happiness score and social support vs happiness score.

We drag the score column into the columns section and set it as a dimension. The other two columns are put in the rows section.

All these steps are demonstrated in the screen recording below.

A screenshot of a computer

Description automatically generated

(gif by author)

I will rename the y-axis of the subplot on top as “Freedom” because the name seems to be too long. It can easily be done by clicking on the axis name and selecting the edit axis.

I will rename this sheet as “Freedom and Social Support vs Score”.

We have completed the visualizations. The next step is to combine them into a dashboard. Tableau makes this process simple and efficient as well. We first create a new dashboard by clicking on the “new dashboard” icon on the bottom left.

A screenshot of a computer

Description automatically generated

Empty dashboard (image by author)

All the sheets we have created can be seen on the left pane. We can now customize the dashboard by dragging the sheets.

Here is how I customize the dashboard. Feel free to play around with the interface and create your own customized dashboard. There are many cool features that you can explore in the Tableau interface.

A screenshot of a computer

Description automatically generated

(gif by author)

One cool feature in Tableau is that we can choose a particular visualization as a filter which makes the dashboard interactive.

A screenshot of a computer

Description automatically generated

(gif by author)

We have completed our dashboard of world happiness scores. Here is the final version of the dashboard in my Tableau Public profile.

A screenshot of a graph

Description automatically generated

(image by author)

**Conclusion**

We have created a simple dashboard. Tableau is a highly versatile and functional tool so it can be used to create much more advanced dashboards. However, it is better to comprehend the basics first.

It takes lots of practice to become an advanced Tableau user. It is an important tool to have in your skillset if you are working or plan to work in the field of data science.

Thank you for reading. Please let me know if you have any feedback.