Curriculum

#### **Professional Foundations** Average: 97.49%



Week 5

## Intro to Charts

Now that we have Data Analysis out of the way, the final step is to create your data visualisations!

In Week 4 we showed you techniques that will help you tell a compelling story in various forms. You then took that knowledge and used it to create a slide presentation using your Weeks 3 or 4 Problem Statement and researched data.

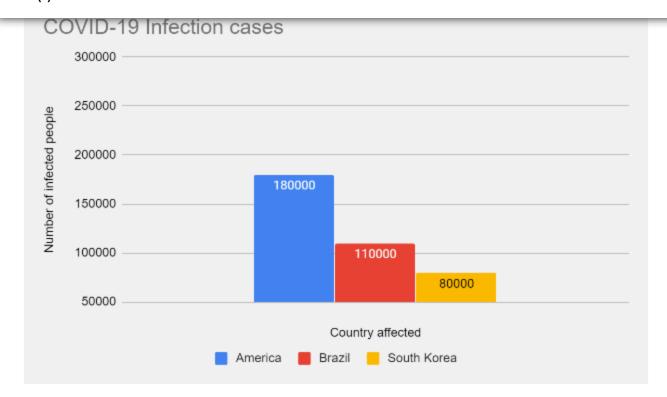
For your audience to understand your data and the story you want to tell with it, you will often need to present that data in the form of visuals. This module will show you how to use different charts, as props and tools, to tell a clear and compelling story.

You will learn the core elements that make up a chart and you will also learn 3 different types of charts at your disposal. They include:

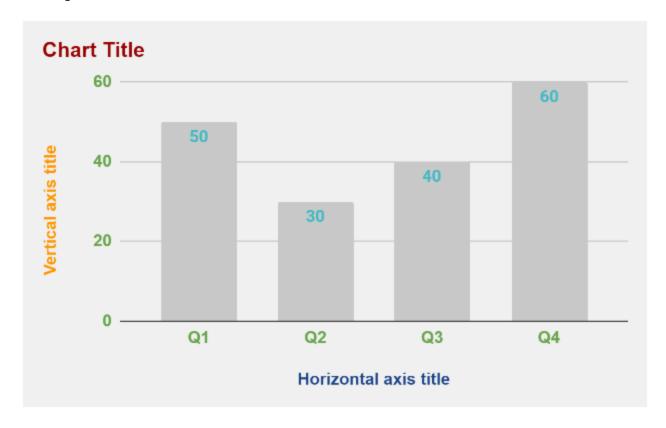
- Bar and Column Chart
- Line Chart
- Pie Chart

Understanding charts is another key professional skill to have in your toolkit.





There are 5 major elements in this chart that you should take note of. These elements are delineated in the next image below.



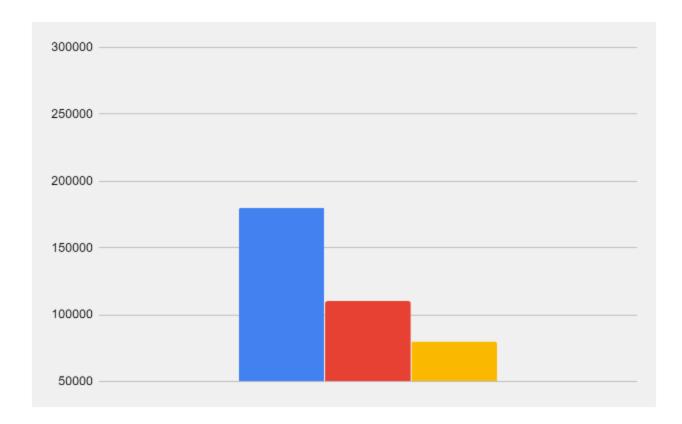
From the image, you will realize that the 5 elements are:

• Chart Title

- AXES Labels
- Data Labels

# For almost all of the charts and graphs, you will use for visualisations, these core elements will be enumerated below:

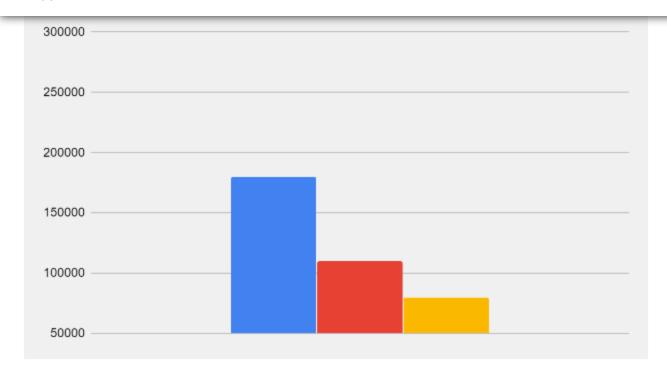
What information is the first chart giving us? If you answered that the chart is giving us **information about the number of people infected with the COVID-19 virus**, then you are right. How did we know this? It was because of the **Chart Title**. Before we explain the different elements, let's get rid of all the elements you saw and see how the chart will look like below.



That is an extremely sad-looking chart.

#### 1. Chart Title

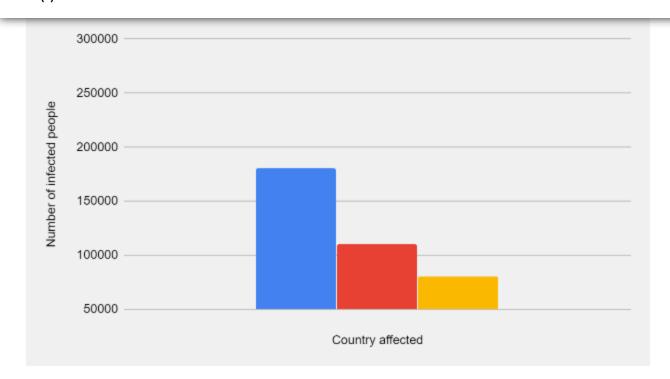
The chart title is arguably the most important piece of the chart. It is the element that lets the audience know what your chart is about. Your chart titles should be descriptive enough such that at first glance, your audience knows what information the chart intends to give them. However, the title should also be brief and concise so that the graph is not cluttered. It is usually placed at the top of the chart. Let's add the chart title now to see the effect.



At least now we have a sense of what those bars represent. However, that is not enough. Let's add more elements.

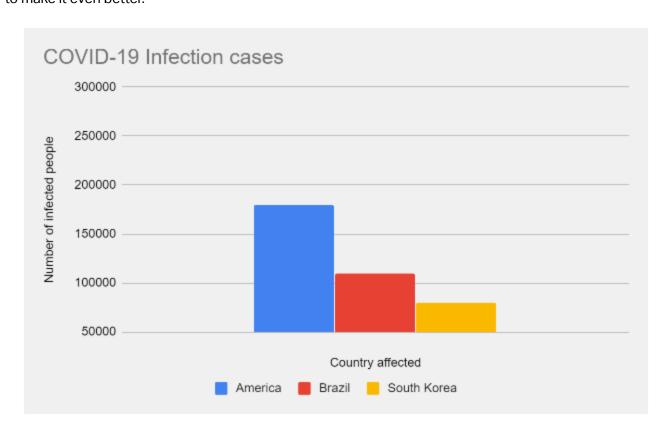
#### 2. Horizontal Axis Titles and Vertical Axes Titles

The next pieces of elements on the chart we will discuss are the axes titles. These titles are also very important. They help people figure out what exactly is plotted on the chart/graph. Once again, make these titles concise and descriptive. As part of making the titles descriptive, make sure to add the unit of measurement for the axes where relevant. In the graph you saw above, imagine if the vertical axis did not have figures, we would not know what the number represents (ie. whether the number is people or regions, etc). As such, it is important to include the units to make your charts a bit more descriptive. After adding the axes titles to our chart, we have the image below.

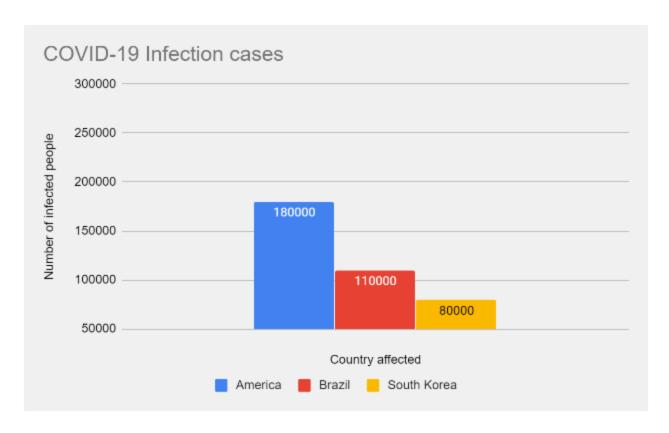


### 3. Axes Labels

Our chart has the chart title as well as the vertical and horizontal axis titles. However, this is still not enough information for people to understand what this graph is showing. The axes label the number of infected people ranging from 50,000 to 300,000 in three different Countries. We can tell what bar belongs to what Country and what value each bar corresponds to because the axes have been labelled. However, we can do one more thing to make it even better.



Even though the last chart shown gives us all the necessary information we need to understand the visualisation without having someone explain what is going on there, it is still a tad hard to map each country to the corresponding infection cases. The data labels will facilitate this process for us. Data labels uniquely identify each bar or data point in the chart for us to make the value of that data point easily recognizable. Let us now add the data labels.



Great! Now we do not have to guesswork on the exact value of cases for each country.

**Caution:** Data labels do not always enhance the comprehensiveness of the chart. Sometimes, they take away from the chart's clarity and make it messier, so use data labels wisely. We'll learn more about this next week.

For now, these are all the important elements of charts you need to know. Almost all charts should have each of these elements to make them easily comprehensible to the audience.

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