

# Data Visualisation

Once you have received enough returned surveys, you need to find a clear way of presenting your results.

This is where data visualisation comes in. By using charts and graphs, you can show your findings in an accessible and impactful form. As a result, you can clearly communicate your results to your staff, your potential funders, and your clients.

Remember, some data visualisation methods are better suited to presented certain data types. When you begin to visualise data, always consider whether an alternative data visualisation form could present the data more clearly.



## Word Clouds

What are word clouds? Word clouds work by counting the number of times a word occurs and plotting this accordingly into a collage of words. The bigger the word, the more frequently it has occurred in the text.

There are a few things to look out for. Firstly, make sure you change your software's settings so recurring stop words such as "it" and "because" are filtered out: this streamlines your data.

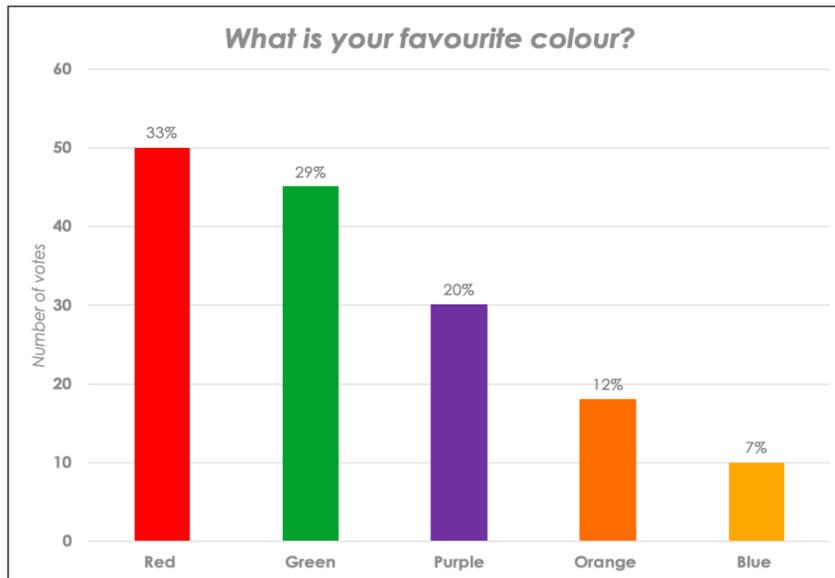
You could also apply a technique called "heat mapping" to make your analysis even easier. Heat mapping uses different colours to represent different themes or frequencies. For example, a hot colour like red could signal a popular word, whereas cooler colours like blue indicate a less popular word.

Included below are examples of different types of word cloud.

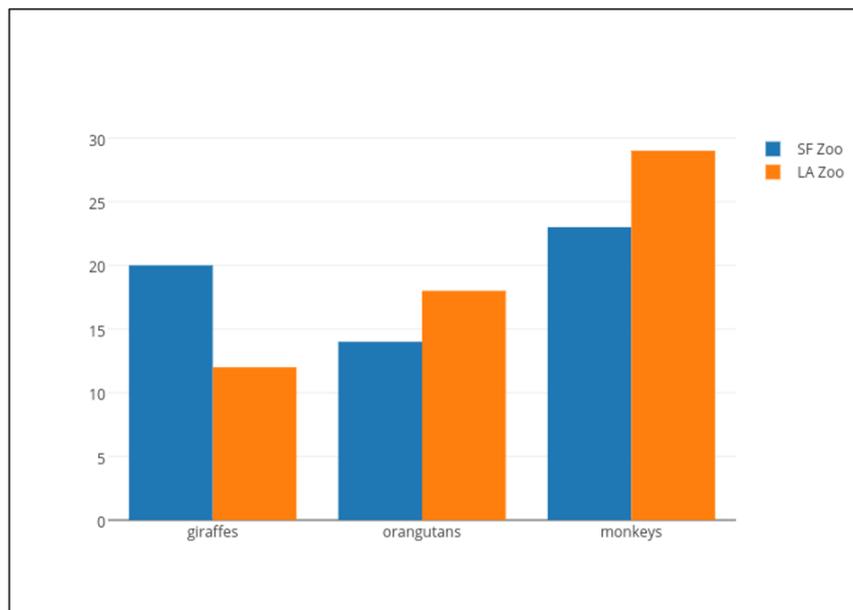




percentages, because bar graphs are not necessarily good at showing minute differences in data.

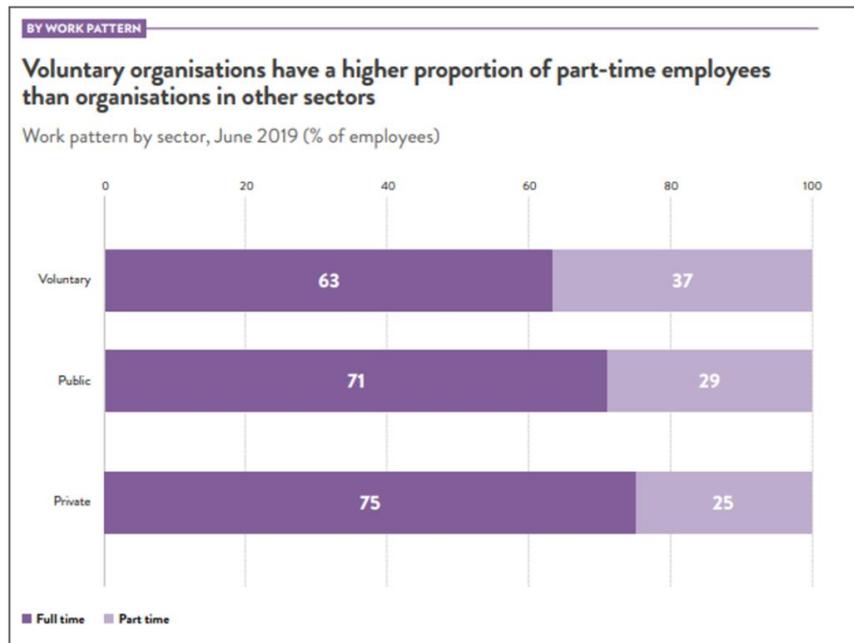


There are several different types of bar graphs, and each type is suited for different collections of data. A clustered bar graph can be used for exploring differences between multiple sets of categorical variables. A fun example might be "how many giraffes (1), orangutans (2) and monkeys are there at both zoos?" Check out the graph below.



A stacked bar graph is great at exploring differences within a categorical variable. You can read each bar as being a bit like an elongated pie chart. Once again, we have a breakdown of a categorical variable, showing us how many part time employees are active within the voluntary sector workforce.

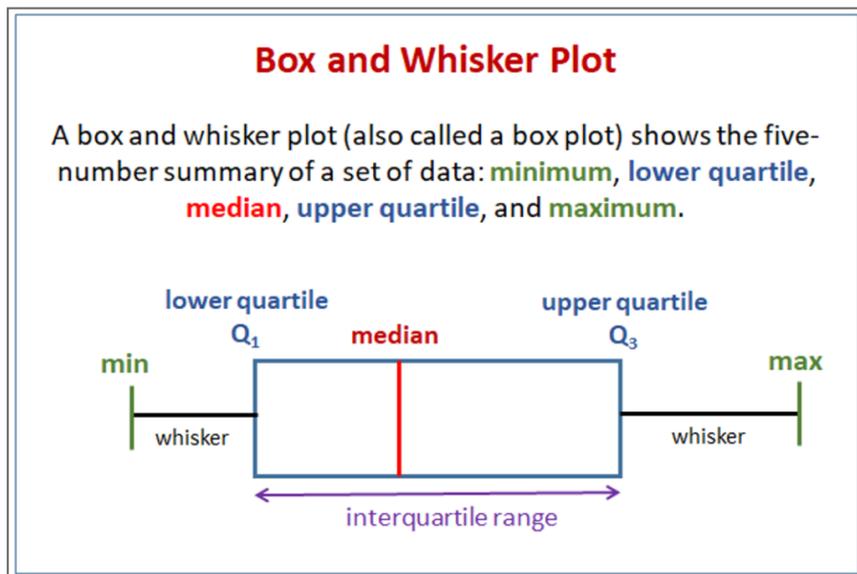




Always label both axes – otherwise your reader will not know what variables the graph represents. You can label your bars using whole numbers. Furthermore, you should also make sure to use different colours and keys where possible- this will make your bar chart more engaging!

## Box and Whisker Plot

Box plots are useful for presenting statistics about a set of numerical data.



## Tidying Up Your data

Sometimes, online survey applications like SurveyMonkey go wrong. Algorithms aren't particularly smart - they break easily!

If the software you are using generates automatic visuals, you should always check for errors. In fact, errors at the visualisation stage could suggest there are some more underlying problems.

The problem could be the question or answer type you used. You might have given a single answer option for something that would have worked better as multiple choice.

You might be getting gaps in your data set. There could be missing values, created when your respondents ignored or could not answer a question.

It is always best practice to download your data set. Most survey programs are CSV compatible, meaning you can export the data directly into Excel to check it yourself.

## Version Control

When you open your data in excel, be sure to save an original copy of the data before making any changes. It's good practice and keeps the original data safe in case you need to return to it.

Create a working version of the file and make your data into a table and pressing control - T. This will allow you to apply filters to the data, which will make easier to search for missing values.

## Textual Data

If your survey incorporated text boxes, it is good practice to skim these answers before analysing them. This helps you to spot any spelling errors that could affect outputs such as word clouds. You can also check to see if participants have answered the questions properly. If they have fundamentally misinterpreted what you are asking, it's good practice to omit their answer.

## Missing Values

Finally, there's the problem of missing values. When there are missing values in your data set, it is best to omit these entries from your final results.



## Further Reading

We have compiled a handy list of useful resources for getting stuck into Data Visualisation below:

[The Do's and Don'ts of Data Visualization](#)

[Data Visualization 101: How to Choose the Right Chart or Graph for Your Data](#)

[MonkeyLearn \(free word cloud software\)](#)

[Flourish- Data visualization & Storytelling \(free tool\)](#)

