LESSON HANDOUT

Visualisations

- Represent your data in a graph or image
- Transform numbers into shapes or patterns
- Help you compare your data and/or identify trends

Visualisation is essential when comparing or presenting data because it fundamentally changes the way we absorb this data.

When planning visualisations, you must take into account:

- Who your audience is
- What is the purpose of the visualisation, what information are you looking to convey
- How will you present the data

Pre-attentive features

Pre-attentive features are processed in our spatial memory and basically, tell us where to look.

We can use pre-attentive features to draw attention to the most important elements of our visuals.

When using pre-attentive features, you must be cautious of cognitive overload.

Cognitive load is the amount of cognitive effort required to process information. When this requirement exceeds our ability or will to process the information it is called a cognitive overload.

Important Elements to consider

Colour: Colour is a powerful pre-attentive feature and one of the simplest ways to draw attention to an element. Colour should be used when distinguishing one variable from another or when tying similar categories together. It may also be used to draw attention to a particular element within a visualisation.

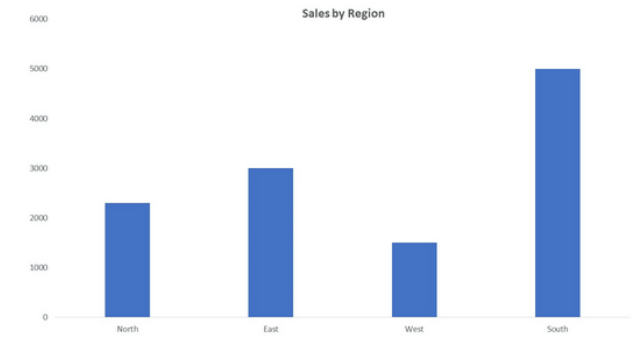
Clutter: The more elements presented in your visualisations, the more your audience has to process. Unnecessary elements (visualisations that may be informative, but not necessary) are called clutter.

Types of Visualisations:

Line Graph

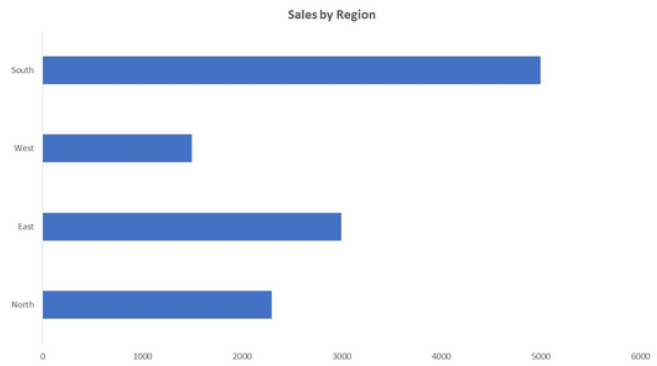
Line Graphs are mostly used to plot variables over time.

Column Chart



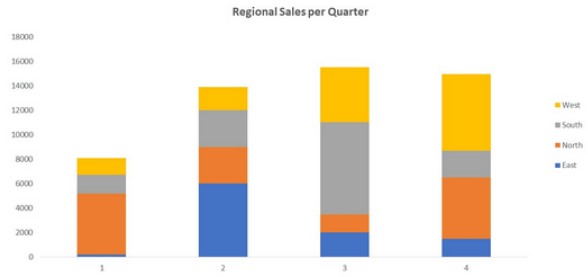
Column Charts are a good visualisation to use when comparing one variable to another.

Bar Chart



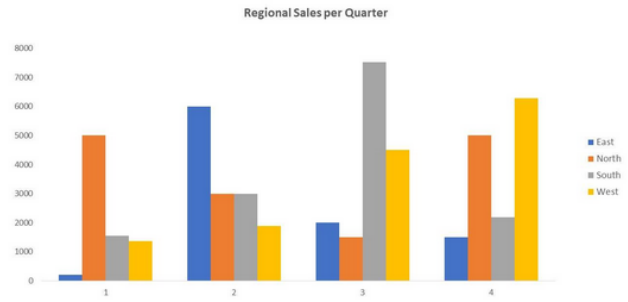
A **Bar Chart** is also a good tool to compare one variable to another.

Stacked Column Chart



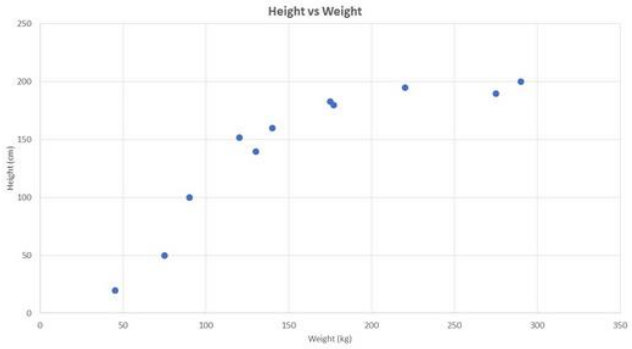
Stacked Columns show the proportion of multiple dependent variables against one independent variable.

Clustered Column Chart



The **Clustered Column** chart is another chart that illustrates the proportion of multiple dependent variables against a single independent variable.

Scatter Plot



Scatter Plots show the relationship between two variables.

Elements of a Graph: