**DATA CHARTS AND VISUALIZATION**

**What is data visualization?**

Data visualization charts are graphical representations of data that tell a story using symbols in order to improve the understanding of large amounts of data. Visual data metaphors such as charts effectively engage human perceptual processes and amplify human cognition more so than semantic data alone. Data visualization charts and graphs transform enormous volumes of dense, unfocused data into comprehensible, meaningful visuals from which valuable, otherwise hidden insights can be revealed.

**Data analyst questions to ask**

There are certain processes and questions a data analyst needs to take and ask before going ahead with data visualization.

* What story is your data trying to deliver?
* Who will you present your results to?
* How big is your data?
* What is your data type?
* How do the different elements of data relate to each other?
* Do you want to compare values in this data?

**Types of visualization charts and their categories**

There are 5 major visualization chart categories. These categories help you identify what kind of visualization to use. They include:

**Comparison Chart:** This is a chart in which a comparison is made between two or more objects, phenomena or groups of data. A comparison diagram or can offer qualitative and/or quantitative information. The types of visualization that can be used here are as follows:

* Column chart
* Mekko chart
* Bar chart
* Pie chart
* Line chart
* Scatter plot

**Composition Chart:** These charts are used to compare a part to a whole, usually in percentages, with all the segments equaling to 100%. The types of visualization that can be used here are as follows:

* Pie chart
* Stacked bar chart
* Mekko chart
* Stacked column chart
* Area chat
* Waterfall chart

**Distribution Chart:** Distribution charts are based on plot point distributions on a grid. The grid squares are colored based on the density of points that fall within them. You can create distribution charts only when the specified data source is a view with two measures and a category. The types of visualization that can be used here are as follows:

* Scatter plot
* Mekko chart
* Line chart
* Column chart
* Bar chart
* Box plot
* Histogram

**Relationship/Correlation Chart:** This is a type of graph or mathematical scheme that uses Cartesian coordinates for display values typically of two variables for a data set. The types of visualization that can be used here are as follows:

* Scatter plot
* Bubble chart
* Line chart

**Analyzing Trends:** These visualizations are best used to analyze trends and patterns. They include:

* Line graph
* Dual-Axis line
* Column chart