Types of data visualization

2D area
Temporal
Multidimensional
Hierarchical
network

2D area types of data visualization are usually geospatial, meaning that they relate to the relative position of things on the earth's surface.

Cartogram

A cartogram distorts the geometry or space of a map to convey the information of an alternative variable, such as population or travel time. The two main types are area and distance cartograms.

Choropleth

A choropleth is a map with areas patterned or shaded to represent the measurement of a statistical variable, such as most visited websites per country or population density by

Dot Distribution Map

A dot distribution or dot density map uses a dot symbol to show the presence of a feature on a map, relying on visual scatter to show spatial patterns.

Temporal Visualizations

Temporal visualizations are similar to one-dimensional linear visualizations but differ because they have a start and finish time and items that may overlap each other.

Connected Scatter Plot

A connected scatter plot is a scatter plot, a plot that displays values of two variables for a set of data, with an added line that connects the data series.

Polar Area Diagram

A polar area diagram is similar to a traditional pie chart, but sectors differ in how far they extend from the center of the circle rather than by the size of their angles.

Time Series

A time series is a sequence of data points typically consisting of successive measurements made over a time interval, such as the number of website visits over a period of several months.

Multidimensional Chart Types

Multidimensional data elements are those with two or more dimensions. As you'll see below, this category is home to many of the most common types of charts and graphs.
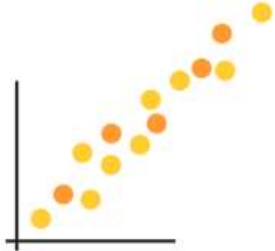
Pie chart

A pie or circle chart is divided into sectors to illustrate numerical proportion; the arc length and angle of each sector are proportional to the quantity it represents.

Histogram

A histogram is a data visualization that uses rectangles with the heights proportional to the count and the widths equal to the "bin size" or range of small intervals.

Scatter Plot

A scatter plot displays values for two variables for a set of data as a collection of points.

Hierarchical Charts

Hierarchical data sets are orderings of groups in which larger groups encompass sets of smaller groups.

Dendogram

A dendrogram is a tree diagram used to illustrate an arrangement of clusters produced by hierarchical clustering.

Ring Chart

A ring or sunburst chart is a multilevel pie chart that visualizes hierarchical data with concentric circles.

Tree Diagram

A tree diagram or tree structure represents the hierarchical nature of a structure in graph form. It can be visually represented from top to bottom or left to right.

Network Visualizations

Network data visualizations show how data sets are related to one another within a network
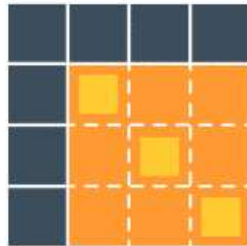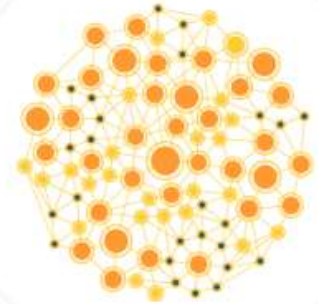
Alluvial Diagram

An alluvial diagram is a type of flow diagram that represents changes in network structure over time.

Node-Link Diagram

A node-link diagram represents nodes as dots and links as line segments to show how a data set is connected.

Matrix Chart

A matrix chart or diagram shows the relationship between two, three, or four groups of information and gives information about said relationship.

Types of Data Visualization Formats

Here are the five most important data visualization formats you should know about

Infographic Report

A fusion of infographics, magazine-like layouts, and long-form typography. Think of an infographic reports as the child of a beautiful infographic and a well-designed article.

Dashboard

A dashboard is a graphical display and business intelligence tool that allows users to analyze, discover and report on current values or changes in data.

Data Presentation

Data presentations are graphics, text, icons, charts, and diagrams displayed on slides, typically using PowerPoint.

Interactive Data Visualization

Interactive data visualizations are a newer format for analysis and storytelling. Data and information are coded, often in JavaScript, HTML, and CSS and are experienced through a web browser.

Animated Data Videos

Animated data involves the cinematic display of metrics, statistics, and relationships in a linear story. Often designed in After Effects (see below in Tools section), these videos can tell complex stories with multiple scenes and dimensions (eg. 3d).

Types of Tools and Software for Data Visualization
Here's a list of 5 of the most important types of data visualization tools (for good and for bad).

Tableau

Tableau is the Coca Cola or Pepsi of data visualization tools. It's dashboard design software. Use it to make charts, create full dashboards, and interact with a user using clicks, drop-downs, buttons, etc.

Adobe Illustrator

Adobe Illustrator is the Godfather of infographics. It's the software most professional designers use for creating infographics. It's data-driven chart capabilities, however, make it difficult to use for data visualization, however.

Power BI

Microsoft's Power BI software is a great dashboard creator. Along with Tableau (mentioned above), Power BI is the Coke or Pepsi in the world of data visualization tools. Free for most casual users.

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Microsoft Excel & PowerPoint

Excel and PowerPoint are still used for data visualization. These tools have come a long way, and they retain their usefulness in designing and presenting data. Here's a tip: Distrust the default designs. And make your own data design style.

Adobe After Effects

After Effects is a recent addition to this list of data visualization tools. This animation software has a poweful plug-in ecosystem that allows for the ingest of data and numerous templates to make profession motion graphics.

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