Data visualization techniques

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What is data visualization?

- Data visualization is a graphical representation of information and data. Using visual elements such as tables, graphs, and maps, data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data. In addition, it provides an excellent way for employees or business owners to present data to a non-technical audience without confusion.

Advantages

- Our eyes are drawn to colors and patterns. Red and blue, squares and circles are immediately distinguishable. Our culture is visual and encompasses everything from art and advertising to television and film. Data visualization is another form of visual art that captures our attention and keeps the message in mind. Looking at the chart, you can quickly spot trends and outliers. When we can see something, we internalize it immediately. It's purposeful storytelling. If you've ever stared at a huge table of data and failed to spot any trends, you know how effective visualization can be.

  Other benefits of data visualization are:

  *Ease of sharing information. Explore
  *opportunities interactively.
  *Visualize patterns and relationships.

Disadvantages

- While there are many advantages, some disadvantages are less obvious. For example, it's easy to make incorrect assumptions when viewing visualizations with many different data points. Or it can be biased or confusing because the visualization is poorly designed.

  Other drawbacks are:

  Biased or inaccurate information.
  Correlation does not necessarily imply causation.
  Important messages may be lost during translation.

Why data visualization is important

- The importance of data visualization is simple. Help people see, interact, and understand data better. Whether simple or complex, good visualization keeps everyone on the same page, regardless of expertise.

  It's hard to imagine a professional industry not benefiting from making data more understandable. All his STEM fields benefit from understanding data, as do fields such as government, finance, marketing, history, consumer goods, services, education, and sports.

  Always poetic about data visualization (we're visiting his website on Tableau, after all), but there are undeniable practical real-world applications. Visualization is also one of the most useful professional skills to develop as it is highly productive. Whether it's a dashboard or a presentation, the more visual you can get your point across, the better you'll be able to leverage that information. The concept of the citizen data scientist is on the rise. Capabilities are changing for a data-driven world. Being able to use data to make decisions and use images to tell stories about when, who, what, when, where, and how data informs is great for professionals. is becoming more and more important.

  Traditional education usually draws a sharp line between creative storytelling and technical analysis, but the modern professional world also values those who can switch between the two. I'm here. Data visualization sits right in the middle between analysis and visual storytelling.

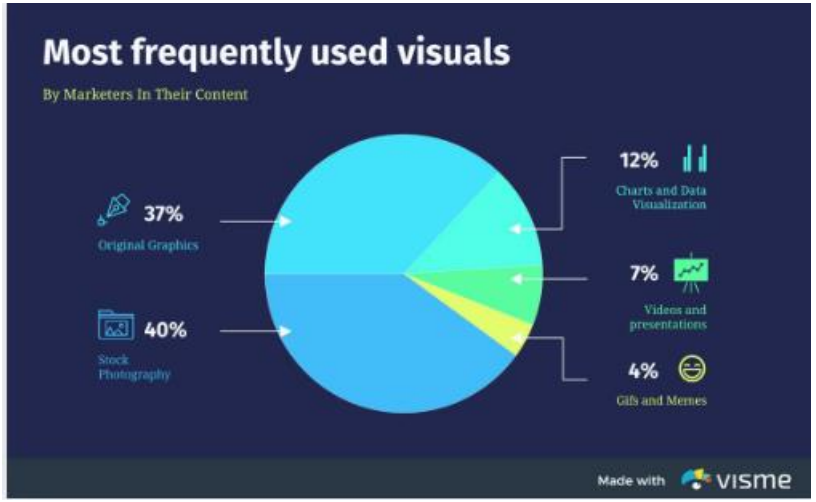
Types of Data Visualization

- Bar Chart
- Pie Chart
- Donut Chart
- Half Donut Chart
- Multi-Layer Pie Chart
- Line Chart
- Scatter Plot

Bar Chart

The bar chart or bar graph is one of the most common data visualizations on this list. They're sometimes also referred to as column charts. Bar charts are used to compare data along two axes. One of the axes is numerical, while the other visualizes the categories or topics being measured.

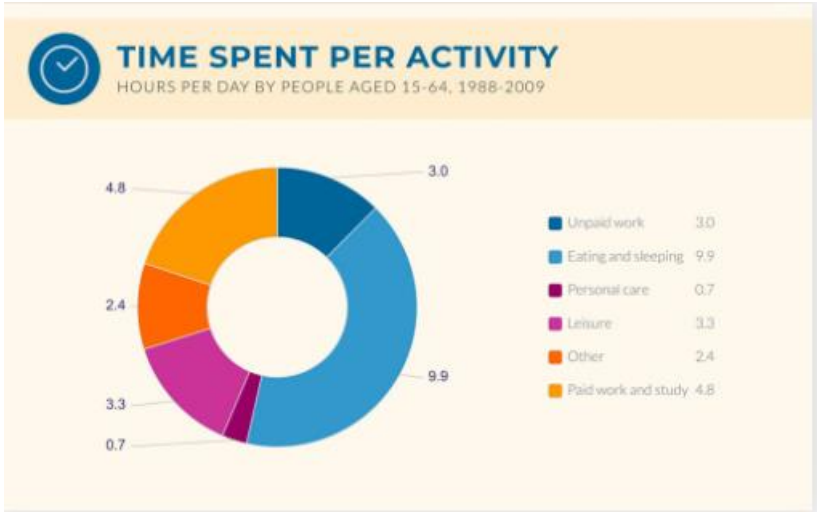
Pie Chart



The second most common data visualization on this list is the pie chart. The data in a pie chart represent parts of a whole. The entirety of the circle is the whole, and each wedge is a relevant section.

The best type of data for a pie chart has no more than five or six parts. Any more than this makes the wedges too thin at the center. If more than three values are similar to each other, it will be difficult to discern the difference. The best pie charts use contrasting colors that fit well together, making each wedge visually different from the one next to it.

Donut Chart

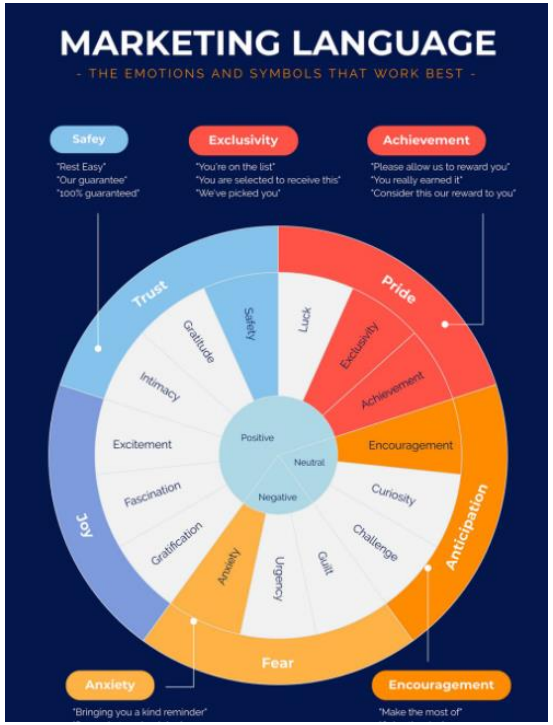


A donut chart is much like a pie chart but with the center area taken out. The difference between them is essentially visual. You can have more sections than a pie chart in a donut chart and it will still be readable.
The same rule about colors applies to donut charts; choose contrasting colors to separate the sections visually. To make them more attractive, add a 3D feature to the donut, which has more visual depth. If you're working on a project to share online, consider adding an animation to the chart.

Half Donut Chart

The half donut chart is exactly what its name implies, half of a donut chart. It's a good choice of data visualization type when you need to showcase small data sets. Preferably, don't use more than three wedges in a half donut chart.

Multi-Layer Pie Chart



This data visualization type isn't as easy to create as others; it does take some strategizing for all the categories to fit together and be easy to understand. In technical terms, this visualization is three pie charts layered over each other.

Line Chart

A line chart or line graph is a data visualization type that showcases changing data over time. Like a bar graph, the line chart has an x and y-axis. The difference is that both axes contain numerical values representative of the data.

Scatter Plot

A scatter plot is a data visualization type used to analyze the correlation between variables. The data is plotted on the chart as dots at the intersection of its two values.

ELEMENTS OF GOOD DATA VISUALIZATION

- CLEAR HEADINGS AND KEYS
- OBVIOUS TRENDS
- SIMPLE ANALYSIS
- RELEVANT COMPARISONS
- LOTS OF DATA/EVIDENCE
- SUMMARIES OF KEY POINTS
- ADD DESIGN ELEMENTS
- WIDELY UNDERSTOOD STRUCTURE
- COMPARISONS TO AVERAGES