AIHR | ACADEMY TO INNOVATE HR

Data Visualization Playbook

// AIHR Resource

Introduction

Data visualization is the storytelling part of data analytics and is often overlooked as a vital component of the integrity of data analytics.

This playbook will explore different elements to consider when planning data visualization, steps to take, and some best practices.

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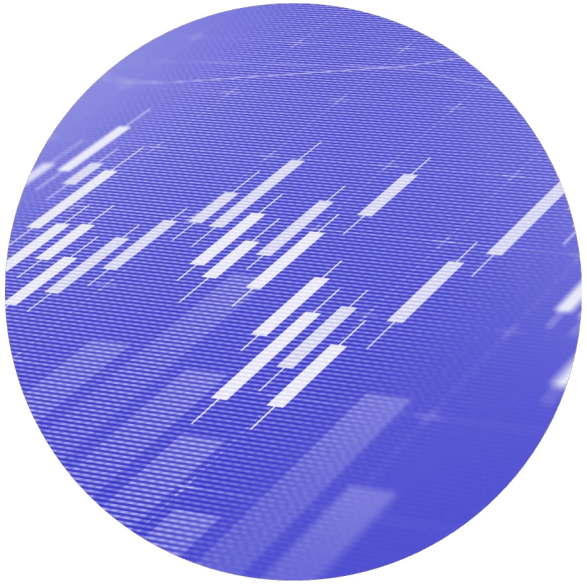
What Is Data Visualization?

Data visualization is translation and accessibility. Upon understanding data and seeing what data tell you about your organization, these findings need to be communicated to other teams. This is data visualization.

Not everyone in an organization is a data scientist or analyst or may have worked with numbers in the way that others have. For this reason, we need to remember that presenting raw data can sometimes sound like a different language and, therefore, is often misunderstood.

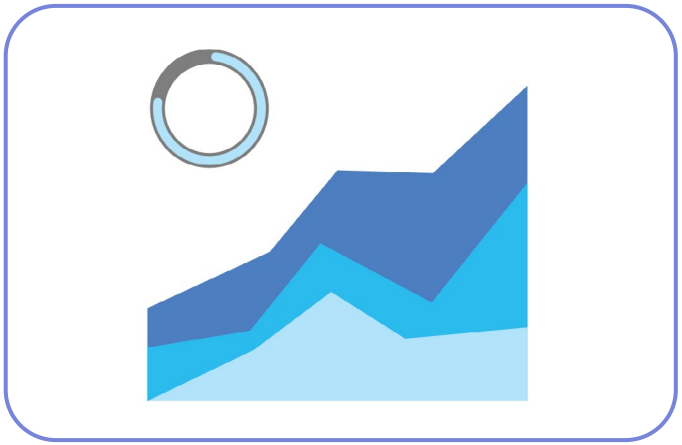
We also need to be mindful of how accessible the presentation of data is, not only in the story itself and how it's told but even down to the font sizes, colors, and graphics used.

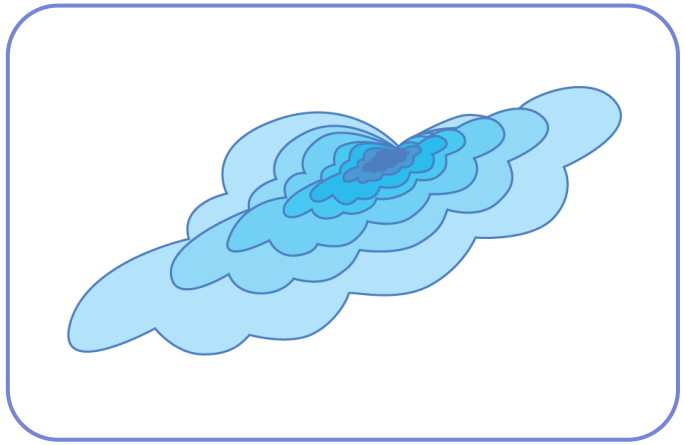
With lots of considerations to make, a great place to start is at the beginning.

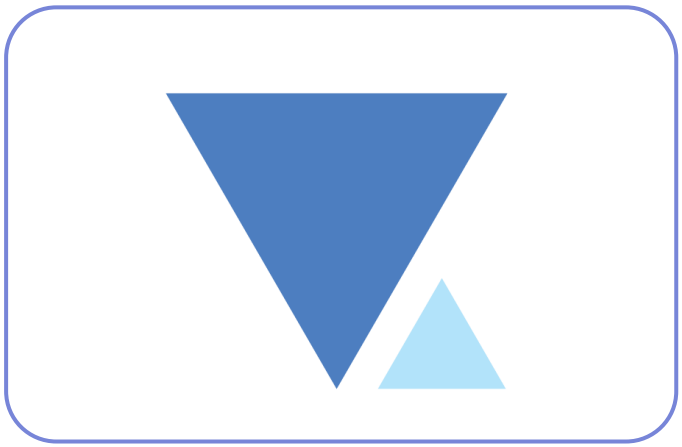


How to Visualize Data // Part 1

Here is an example of visualized data. Can you see which visualization matches each figure?







5.6 million people within a 12 km radius, with 2.3 million living within 4 km of the central business district

75% rise in average weekday traffic within the first three hours

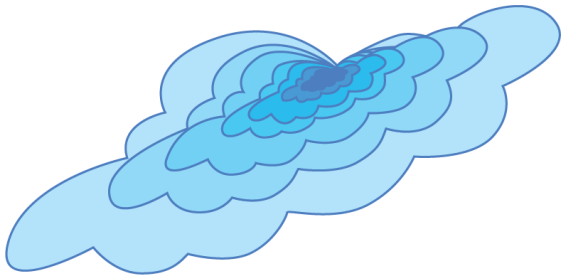
A turnover rate of more than 50%

How to Visualize Data // Part 2

Rethinking what data look like takes imagination.

75% rise in average weekday traffic within the first three hours

"If the line goes up, it's good" is a phrase to be kept in mind when choosing to utilize graphs for visualization. Here, we see three shaded areas representing how increasing numbers relate to each other, so they can be simultaneously taken into consideration, with an added slicer on the top left relating to a period of time.



5.6 million people within a 12 km radius, with 2.3 million living within 4 km of the central business district

Creating a heatmap can effectively visualize and contextualize sporadic or centralized grouping or differences in concentration.

A turnover rate of more than 50%

Big versus small puts relating or opposing numbers into perspective. Here, for example, people might focus on the 50% without understanding how that relates to the number of new hires.

How to Visualize Data // Part 3

Below are examples of some tried and tested ways to visualize data.

Tables

Use to:

- Compare variables
- Show lots of data in a structured way

Tree maps

Use to:

- Represent hierarchy
- Show subsequent denominations well

Histograms

Use to:

- Show outliers
- Represent how figures relate to one another

Scatter plots

Use to:

- Visualize regression data
- Show relationship between two variables

MORE TRADITIONAL FORMATS

Using these formats comes with its downsides. Having been used a lot to visualize data, these tend to lack imagination and could hinder what is trying to be achieved.

Pie charts

Use to:

- Represent components
- The relationship between broken-down components

Bar chart

Use to:

- Show relationships between variables
- Clearly present complex relationships

Planning // Part 1: What?

STEP ONE: What is the point to get across?

Type your answer below.

Asking yourself the following questions will help you form the correct narrative and include the most important information for the people who need it.

What are the important figures?

Knowing this will highlight the most effective way to visualize data and will make sure no important figures are overlooked.

What are the data showing?

Identify whether the data are highlighting comparisons, a regression, outliers, multiple variables, etc. This will determine which format you'll use for your visualization.

What do you know about the people on this team?

Setting up and visualizing the building blocks of the narrative will allow people to understand it on a deeper level. For example, rather than showing just a result, show how you got to that place.

What could be difficult to understand about this data?

Put the most important data on a pedestal. That way, people will be able to focus on the figures that matter.

Planning // Part 2: Who?

STEP TWO: Who is the visualization for?

Type your answer below.

Consider the team you will be explaining the data to and ask yourself the following questions:

Do they work with statistics?

If yes, then you don't have to worry too much. If not, think in the most basic terms: What does this statistic mean?

In what capacity will this team be involved in how the data will be used?

Contextualize the data, but don't go overboard for information that isn't useful. Focus your attention on the parts that matter to this team.

What do you know about the people on this team?

Knowing about the team will help you make this as accessible as possible. Knowing a little about the team's personalities could also help to make the visualization more impactful.

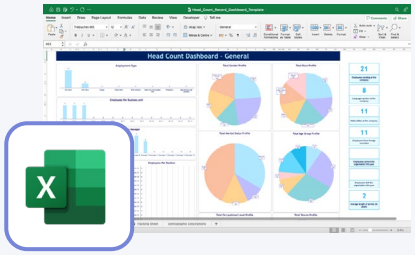
What could be difficult to understand about the data?

Try predicting questions as you plan. This will help you understand the different complexity levels of the data and focus your attention on key parts where visualization would be most needed.

STEP THREE: How will you visualize your data?

Below are some top picks of data visualization tools.

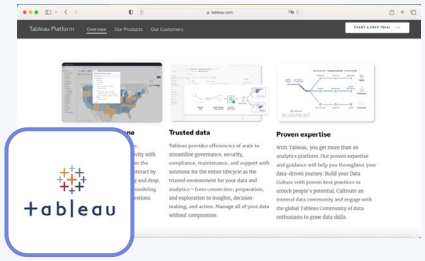
MICROSOFT EXCEL



- Can handle complex data input
- Good library of visualization choices

- No interactive dashboard
- 365 needed for integration

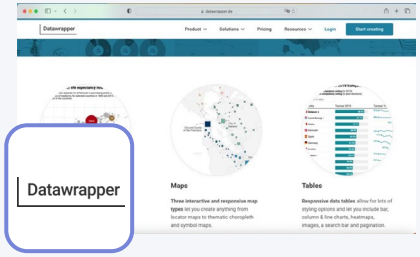
TABLEAU



- Intuitive tool
- Great visualization options
- Superb integration options

An expensive option

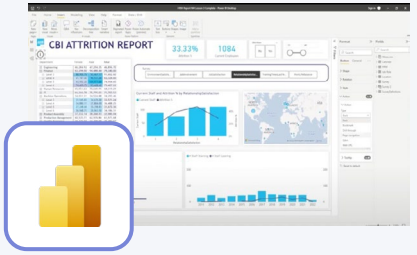
DATAWRAPPER



- Beginner friendly
- Free

Difficulty building complex charts

MICROSOFT POWER BI



- Comprehensive dashboard
- Integration options with Microsoft and other apps
- Easy to use

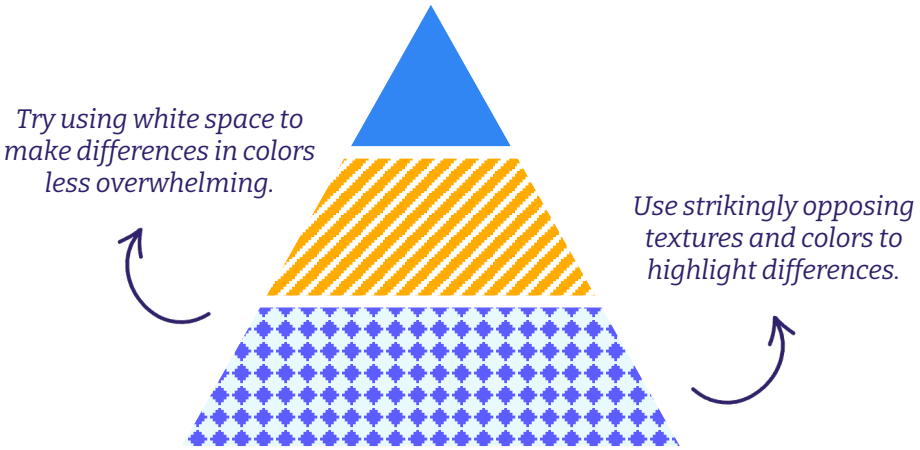
Can only be used on a Windows PC

Considering Accessibility

Below are a couple of areas to consider to make your data visualization as accessible as possible.

Color

Over 300 million people in the world have color-vision deficiency, meaning that the colors you use can greatly impact a person's experience and understanding of your data.



Text

Try to offer your data in multiple formats, i.e., visual and text. Wherever needed, offer labels as part of your visualization.