SEVEN STEPS TO BETTER DATA VISUALIZATION

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Seven Steps to Better Data Visualization

We live in an information-rich world. Every time we click a link, send an email, attend a live event, answer a phone call or make a purchase, it becomes a data point. *But how can companies use all that data to make good business choices?* As an analyst, your ability to help others make sense of the information you provide is just as important as the analysis itself.

Why is data visualization important?

We know that good data leads to better decisions. But there's a step between analyzing high quality data and making an informed decision that is sometimes neglected — presentation of the findings.

The crucial step in getting from data to decision is sharing your insights with others. In order for your company's leaders to use the information you present in the most effective way, you have to be able to tell a story. Without context, data loses its meaning and — ultimately — its value.

That's where data visualization comes in. The purpose of data visualization is to make complex information digestible so that it can be easily interpreted and acted upon.

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Benefits of Visual Processing

Data is much easier to understand when presented in a visually compelling way. In an article by SHIFT eLearning, Karla Gutierrez summarizes a series of studies that reveal the power of visuals to aid in information processing.

"We process visuals 60,000 times faster than text. What's more, visuals are far more memorable than text is. The same research study found that after three days, test subjects retained 10-20% of written or spoken information and a whopping 65% of visual information."

What does this mean for you as an analyst? Finding creative, strategic ways to visually represent your data ensures that it will be understood and remembered.

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How to Improve Your Data Visualization Strategy

Now that you understand the importance of good data visualization, it's time to learn how to make it work for you.

Define A Clear Purpose

Step 1: Define a clear purpose.

The first step toward good data visualization is to identify the problem you're trying to solve. *What vital strategic question are you going to answer? How will the information you're presenting provide real value to the company?*
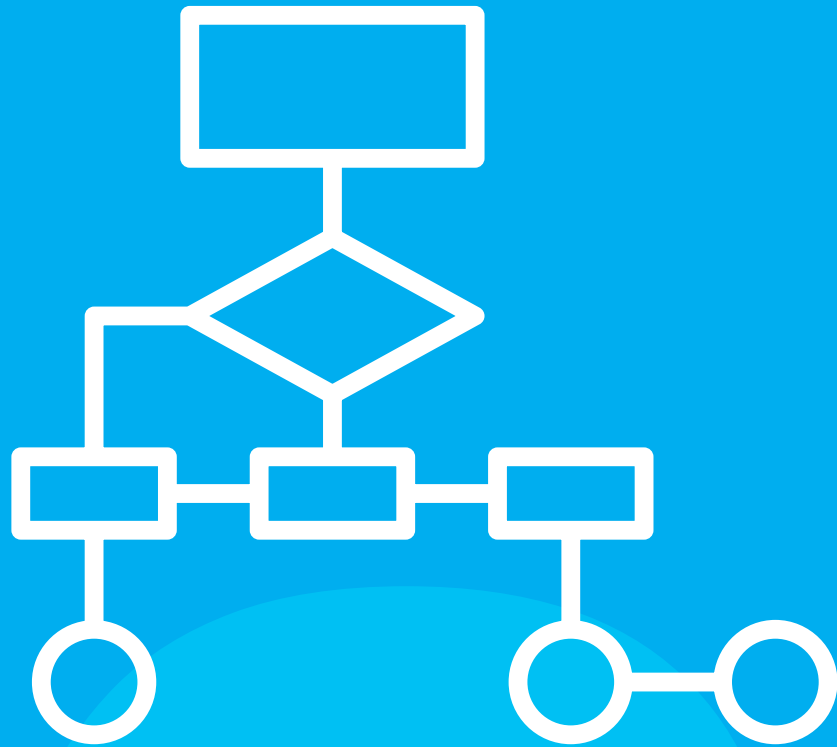
In order to answer those questions, you'll need to know what your KPIs (key performance indicators) are. More data isn't always better — what you need is the right data for the right question. And choosing the best pieces of the puzzle to highlight relies on a solid understanding of what you want to measure.

For a list of example KPIs for different industries, see this guide from ClearPoint Strategy.

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Step 2: Know your audience.

The visualization strategy you choose should be designed to communicate effectively with your target audience. *What is their expertise? How will they best be able to process your data?*

If you're presenting to a team within your department, for example, they may want to see complex graphics that rely on multiple data points and connections, while the company's board members may prefer a higher level summary.

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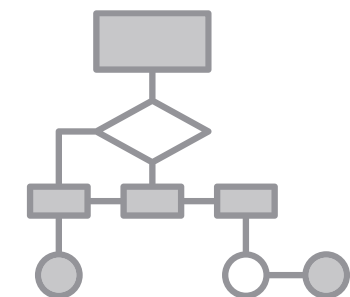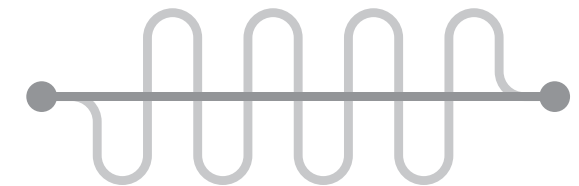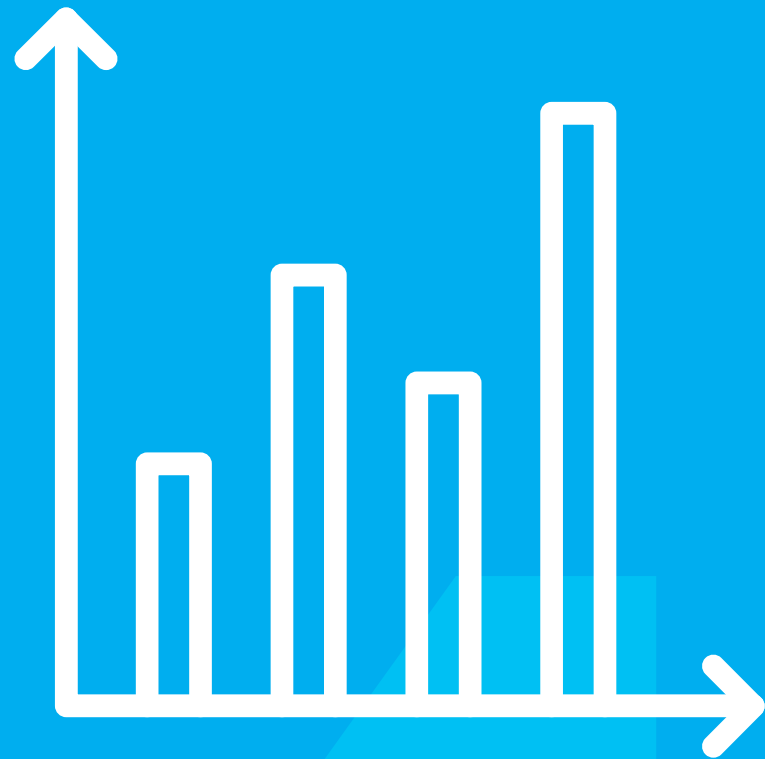
Keep Visualizations Simple
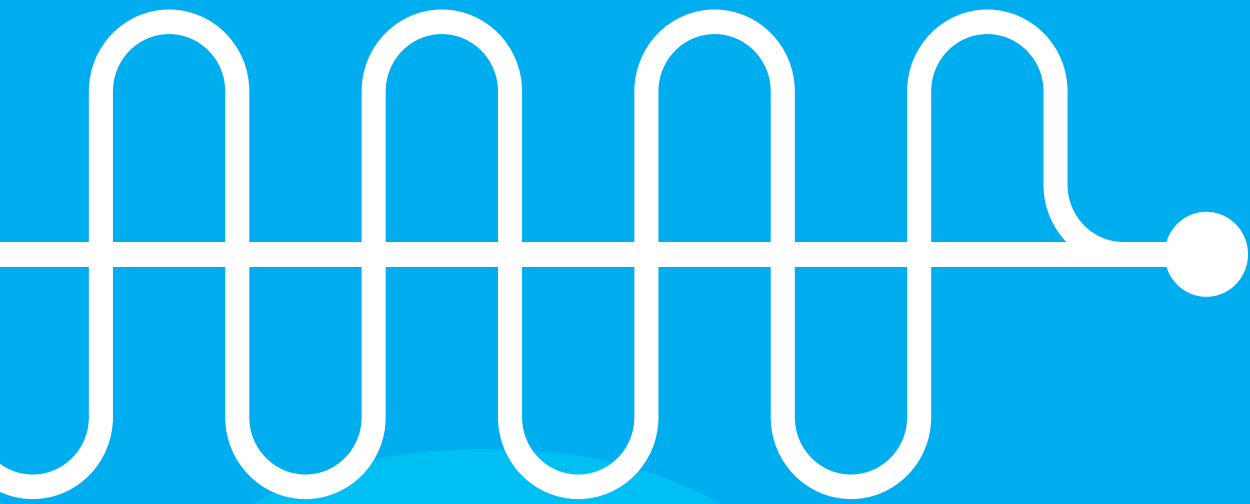
Step 3: Keep visualizations simple.

No matter your audience, it's important to keep your visualizations as simple as possible. The more complicated the visual, the more difficult it will be to make decisions and recommendations from its content.

Choose The Right Visual

Step 4: Choose the right visual.

Anyone who has tried to create a chart before knows how many options are available for presenting your data. Choosing the right one can feel like a daunting task, but it doesn't have to be.

After you've identified your purpose (step 1) and audience (step 2), you know what kind of data you need to summarize. Armed with that knowledge, you can use the guide to the right to pick an appropriate chart type.

Tables
A basic table can show a lot of information in a structured way, but it can be overwhelming to a more general audience.

Line Charts
Line charts are best suited to showing trends over time.

Bar Charts
A bar chart is an easy way to compare quantities between different categories. When working with bar charts, remember not to overcrowd them with too much information.

Pie Charts
When you need to compare parts of a whole, consider using a pie chart. The wedges that make up the chart's components aren't always easy to compare on their own, though, so it's usually best to include labels.

Treemaps
Treemaps are a more advanced form of data visualization. They work well for demonstrating hierarchical relationships and comparing proportions between categories.

Heatmaps
Heatmaps show data in a matrix form with certain value ranges corresponding to specified colors. They present data in a form very similar to a basic table, but the added dimension of color makes it much easier to process the values quickly.

Scatterplots
Scatterplots allow you to record the values of two variables by plotting them along two axes. They are used to depict relationships between two sets of numeric values.

Bubble Charts
Bubble charts are similar to scatterplots, but they allow you to include a third variable. The third variable is represented by the size of the bubble (which would have been the same for each data point on a scatterplot). Bubble charts are generally more visually appealing than scatterplots and can easily show variations between data items.

Make Sure Your Visualizations Are Inclusive

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Step 5: Make sure your visualizations are inclusive.

Whenever possible, try to make sure important information is communicated in a way that doesn't rely entirely on color. This will allow your data to be understood by the broadest possible audience.

Note: Color is an important component of data visualization and is used extensively as a way to represent information within a graphic. According to a recent study conducted by Salesforce, it is also a key factor in user decisions.

Inclusive design doesn't mean eliminating color — it just means working to ensure your graphics can be understood with or without it.

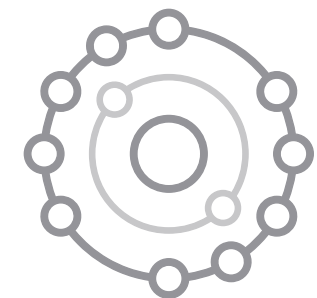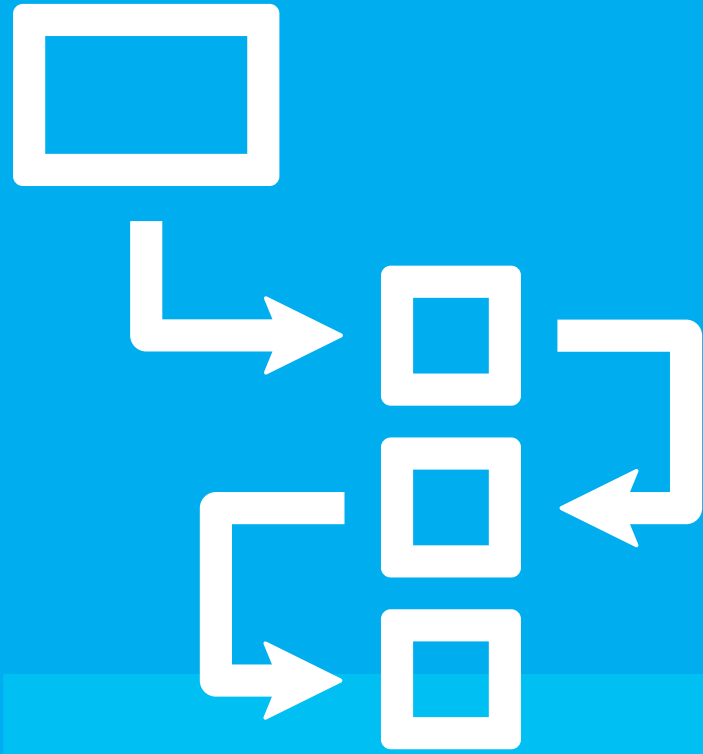**Allow your data to be understood by the broadest possible audience.**

Step 6: Provide context.

Instead of just presenting your data, connect it to a broader context. *What does it mean for the problem or subject being assessed?* Make sure it's easy to interpret the information quickly and apply it in the context of a particular challenge.
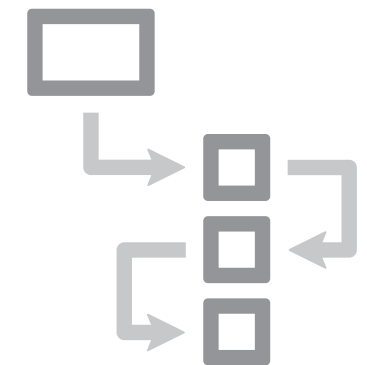
Make It Actionable

Step 7: Make it actionable.

Finally, and perhaps most importantly, make sure the data you're sharing is actionable. The best visualizations can turn insights into action by allowing your audience to use data to inform their strategies and business decisions.

That's it!

When you put these seven steps into practice, you'll be able to tell a story with your data. And that story will empower your audience to make confident, informed decisions that move your company forward.

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