

Visualizations 101



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Find the story within your data

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“For centuries, people have depended on visual representations such as charts and maps to understand information more easily and quickly.”

DIRECT MARKETING MAGAZINE, 2015

As consumers of data, having instant access to information, in all forms is necessary to perform your jobs. But having access to that data isn't enough – it needs to be presented in way that is understandable and easy to digest.

Visualizations, if done right, can do just that. They have the ability to tell a story through the images displayed by guiding users toward a conclusion about their data and empowering them to make a decision based on that.

You wouldn't write a book without a riveting plotline, would you? So don't leave your data out in the cold without a story to back it up. But where do you start? How does storytelling work through visualizations?

Let's start with our brains. How the brain best learns and retains information is reliant on understanding how it processes the information coming in. As we start to see information, it forms a visual pattern so that we quickly draw attention to key observations. So ideally, it makes sense that users can grasp the meaning of data when they are displayed in visual form, rather than spreadsheets or numbers scattered on a document.

Luckily that's where we can help. This eBook will walk you through the most commonly used visualizations; guide you through which ones work best with your data, and best practices for how to apply them to craft a great story.

Types of Visualizations

Get the lowdown on the most commonly used charts and graphs.

Pie Chart

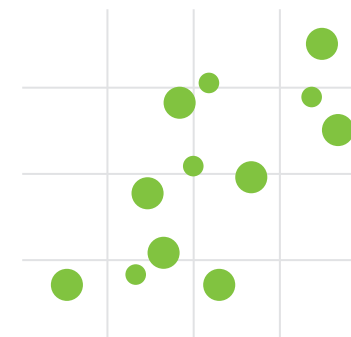
Best used for when you want to show a **one-to-many** comparison between the different data sets being represented. It can illustrate relative magnitudes, frequencies, or percentages.

> Duh! It's named for its resemblance to a pie which has been sliced.



DID YOU KNOW?

Alternative visual styles of this **include** exploded pie wedge chart (when you want to emphasize important data) and the donut pie chart (a pie chart with a hole in the middle) if you wanted to insert a design element in the center to support the information being displayed.



Scatter Chart

Best used to display values for **two variables from a dataset**. The data is displayed as a collection of points, each having the value of one variable determining the position on the horizontal axis and the value of the other variable determining the position on the vertical axis.

> Great for showing the overall relationship in a large amount of data.

DID YOU KNOW?

This works best when you have an integer value on both the Y and X axis – because if you don't it looks like a line chart without the line.

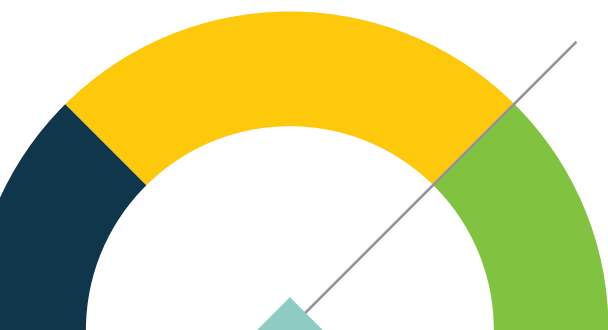


Stacked Column & Stacked Bar

Best used for showing the **relationship of individual items to the whole** – comparing the contribution of each value to a total across categories.

BEST PRACTICE:

Use when real estate is limited.



Gauge

Best used to show a **range**. Great for when you have an absolute floor value and absolute ceiling value and you want to show where the value lies within that.

DID YOU KNOW?

While some still prefer this visualization (and it's true, it does grab your attention) – gauges are notorious for taking up valuable space and providing limited information since it presents data on a single dimension. All it really tells you is whether something is on target, above target or below target. It's up to you where you want to fall on this great gauge debate.



Whisker Chart or Box Plot

Best used for statistical analysis and to show the **distribution of a dataset**. The lines that are shown to extend vertically from the boxes are known as the whiskers that denote variability outside the upper and lower quartiles. This type of chart is also referred to as a box and whisker plot.

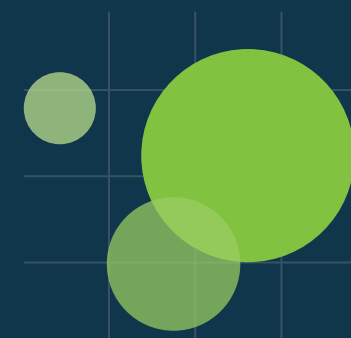


Polar Chart

Best used for displaying **multivariate observations with an arbitrary number of variables** in the form of a two dimensional chart.

DID YOU KNOW?

The Polar Chart is also known as a radar chart, web chart, spider chart, star chart among many others.

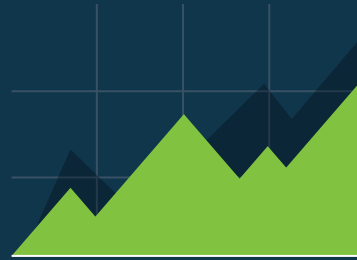


Bubble Chart

Best used for showing **3 dimensions of data** – comparing entities in terms of their relative values, positions, and their size.

DID YOU KNOW?

Bubble charts can be considered similarly to a scatter plot but instead of data points, they are replaced with bubbles.



Area Chart

Best used for showing **cumulated totals using numbers or percentages over time**. It's basically a line chart but filled in to give you a visual providing a deeper view of the multiple series of data within the chart.



Heat Map

Best used for showing **geographical representation** of data where each individual value are shown as colors.



Pyramid Chart

Best used for showing **comparison of data**, using the thickness of its layers to denote relative values.

Funnel Chart

Best used for showing **stages in a particular process** (i.e. sales process) or identifying potential problem areas within an organization's process.



Sparkline Charts

Best used for showing **many trends at once**, as asset of small timelines. Great for showing variation in some measurement in a simple and condensed way.

DID YOU KNOW?

A prime example of a sparkline is the market summary of the US DOW Jones and S&P 500 stocks.

Static vs. Animated Charts

Static Visualizations

Static visualizations provide users with basically everything you want them to see without requiring them to take any action. Usually, static visualizations display information that isn't going to change.



Animated Visualizations

Animated visualizations provide users with an option to drill-down deeper into the information being presented, often requiring them to take some sort of action to make it happen. Typically these types of visuals leverage flash technology or HTML5 to render the data, while static visuals render the data as an image so they don't require any special browser add-ons to be viewed.

Drilldowns and Drillthroughs

Oftentimes, most users want to see and explore the data in more depth which is where drilldowns and drillthroughs come to play.



Drilldown is a capability that takes the user from a more general view of the data to a more specific one at the click of a mouse. For example, a report that shows sales revenue by country can allow the user to select a country, click on it and see sales revenue by province, state or city within a territory.

DID YOU KNOW?

It's called 'drilldown' because it is a feature that allows the user to dig deeper into more specific layers of the data or information being analyzed.

Drillthroughs takes users to a report that is relevant to the data being analyzed instead of showing a more granular level of the data. For example, a tabular report that shows sales revenue by state can allow the user to click on it and reveal an analysis grid of the same data, or perhaps a heat map representing the data in visual form.

> Another way to dig deeper within a visualization is **zooming** – where clicking shows more detail within a single data set



DID YOU KNOW?

It's called a 'drillthrough' because it is a feature that allows the user to pass from one report to another while still analyzing the same set of data.

Are you ready to apply the basics of what you've learned in this guide and start creating your own visualizations?

> **VIEW A FREE DEMO**

ON HOW TO START BUILDING YOUR OWN VISUALIZATIONS.

Or learn about how they are emerging in the latest dashboard design trends by accessing [our eBook here](#).

About Logi Analytics

Logi Analytics is the leader in self-service analytics, delivering tools designed to meet the needs of users, IT and product managers. At Logi, we are re-imagining how software can empower individuals, and the organizations and products that serve them, with analytics that can be embedded directly into the business applications people use every day. From interactive dashboards to ad hoc queries and visual analysis, Logi enables users to explore and discover insights, and make data-driven decisions.

More than 1,600 customers worldwide rely on Logi. The company is headquartered in McLean, Virginia, with offices in the U.K. and Europe. Logi Analytics is a privately held, venture-backed firm. For more information, visit LogiAnalytics.com.

