

## 12 Golden Rules of Data Visualization

by Taymour | June 29, 2022

Dashboards are data visualizations that provide a quick and easy way to see how your business is doing. Unlike rows and rows of uninteresting data, they can help you quickly spot trends, track progress, and identify areas that need improvement. Dashboards are also a great way to share information with your team or clients. By displaying data in an easy-to-understand format, well-designed dashboards can help you glean insights to make strategic decisions and take meaningful action. If you're not using dashboards, you're missing out on a valuable tool for running your business.

To make awesome digital dashboards that get used, you should first understand what makes a great dashboard. At [newData](#), we have identified 12 Golden Rules of Data Visualization:

- 1. Define your target audience.** A dashboard's target audience depends on the users' specific goals or needs. To create an effective dashboard, consider who will be using it and what information they need to glean from it. Executive dashboards are typically high-level summaries, while dashboards designed for managers tend to be deeper dives into the data.
- 2. Clarify the purpose.** The most important information you need to convey should jump out on a dashboard, much like a paragraph's topic sentence. It should be easy to scan, so users can quickly find the information they're seeking. For example, if the goal is to track corporate productivity, then the dashboard may include a large graph that highlights the company's overall productivity over time.
- 3. Provide supporting detail.** Every element on the dashboard should support the main purpose. In our corporate productivity example, secondary or supportive information (such as a particular team's or individual's specific performance) can be

shown in smaller graphs beneath the main graph.

4. **Make it timely.** A dashboard's data inputs should be updated regularly to ensure they stay relevant. For example, if the dashboard tracks sales data, then it should be updated daily or weekly to reflect the latest numbers.
5. **Keep data visualizations simple.** Too many or over-complicated visualizations can make pretty pictures, but they can also be overwhelming and make it difficult for users to find what they want. Your target audience should understand any visual within just a few seconds. Studies have shown that in this digital age, most of us only have an eight-second attention span (and I would argue that the majority of executives have even less than that!). Users don't care how brilliant the designer is; the less-complicated the explanation, the more likely they are to find it helpful.
6. **Choose appropriate dashboard elements.** Charts and graphs are intended for different purposes. For example, if a dashboard's purpose is to track website traffic, then it may include both a line graph of visitors over time and a pie chart that breaks down where the traffic is generated. A word to the wise, though: Choose graphs and charts carefully. Pie charts can get confusing if they have too many data points, and line graphs can be difficult to interpret if the data is too granular.
7. **Limit interactivity.** While it may be tempting to make dashboard visualizations interactive, it's important to limit interactivity to only absolutely necessary elements. Too much interactivity can be confusing and make the dashboard difficult to use.
8. **Make it visually appealing.** A dashboard should be easy on the eyes, so users will actually want to use it. Keep graphs and charts in roughly the same place on each page, and make them a similar size and shape. Choose a simple color scheme and stick with it. It's important to use visually-appealing colors that help convey the data's key insights. (See our tips at the end of this post for choosing the right colors such as complementary, analogous, triadic, tetradic, or monochromatic color schemes.)
9. **Simplify the numbers.** When displaying numbers on a dashboard, show users the most relevant data, not the less-important, intricate details. This approach will make it easier for the target audience to quickly understand and remember

important information. For example, numbers should typically be rounded to the nearest whole number, and decimals should only be displayed if significant digits facilitate data interpretation.

10. **Maintain consistency.** Consistency across dashboard elements enables users to quickly interpret and compare data. Strive for uniformity in the way you present and summarize insights (such as the information displayed on a chart's X and Y axes, units of measurement, labels, and even formatting like text size and font).
11. **Provide context.** Dashboard contents should be relevant to the narrative. Each chart or insight's purpose should support a cohesive message. For example, simply displaying this year's sales as \$20,000 has no context. Have sales increased or decreased? To provide context, a line chart that shows sales over time would give users a sense of whether that sales number is good or bad.
12. **Measure your results.** Always test your dashboard with the target audience before you launch it. Doing so will help ensure that the dashboard meets your users' needs.

A good dashboard provides easy access to data and meaningful insights that spreadsheets simply can't duplicate. It streamlines complex information and expresses the data's meaning. It provides an intuitive user interface and is customized and personalized. What type of dashboard would be meaningful to your stakeholders? If you're not sure, ask them! They probably have a good idea of what they need from your data reporting to make informed decisions. Once you know what they need, you can get started on designing that perfect dashboard for your business or organization.

## **APPENDIX - Color Selection Tips**

**Complementary colors:** Complementary colors are opposite each other on the color wheel, which means they create a visually appealing contrast. Some examples of complementary colors are blue and orange, green and red, and purple and yellow.

**Analogous colors:** Analogous colors are closely related. For example, blue and green sit next to one another and represent a piece of the color wheel. Consider hues of red, pink, and purple or a collection of bright blues, greens, and turquoise. Because they are closely related, they tend to

produce an overly-uniform, or monochromatic, appearance. When choosing wall colors for their homes, most people opt to use analogous color schemes because they appear balanced, serene, and neutral. Similarly, these are the most natural-looking color schemes that we encounter in nature. The most famous monochromatic design is a combination of blues, which we associate with water.

**Tetradic or Monochromatic Colors:** A tetradic color scheme is a variation of the twin color scheme in which four colors are equidistant from one another. All four hues are equally distributed around the color wheel, ensuring that no single hue has a stranglehold on the design. Because it makes use of four colors organized into two complementary color pairs, the tetradic (double complementary) plan is the most sophisticated. Tetrad is a very demanding color scheme; it needs careful planning and a passionate approach to interactions involving these hues. The scheme is difficult to balance—if all four hues are used in equal measures, the design may appear uneven; therefore, if you're using this scheme you should choose one color to dominate the others.



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