Checklist for data-driven visualizations

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What: goals

Know if you are telling a story or exploring your data. Then, consider these points:

- [ ] Include the relevant variables from your research question
- [ ] Check your field's literature or journal's style guide for example visualizations
- [ ] Consider if you need more than one visual to tell your story

Why: human perception

People (including you, the author) need to read and see your visualization to understand your story.

- [ ] Make lines bolder, symbols larger, and font sizes larger than software defaults for viewing ease
- [ ] Use perceptually accurate representations such as common baselines, small multiples, or length
- [ ] Remove perceptually inaccurate representations like angles or slope, area, volume, and colors for quantitative scales

How: design and defaults

Make changes to your visualization to tell your story more clearly. Most program defaults are not designed for presentations, universal accessibility, or ease of reading.

Highlight

- [ ] Make data visually prominent
- [ ] Use smallest effective change/contrast for differences
- [ ] Do any comparison calculations for the viewer

Organize

- [ ] Use common baselines wherever possible to make group comparisons
- [ ] Reduce interior clutter in grids, ticks, labels
- [ ] Use small multiples to show otherwise overlapping groups

Integrate with context

- [ ] Label variables consistent with text
- [ ] Label directly on visuals where possible
- [ ] Use consistent symbology in related visualizations

Readings

Start here

Kirk A. *Data Visualisation: A Handbook for Data Driven Design*. 2nd ed. Los Angeles, CA: SAGE, 2019.

Robbins NB. *Creating More Effective Graphs*. Hoboken, NJ: Wiley-Interscience, 2005.

In depth

Bertin J. *Semiology of Graphics: Diagrams, Networks, Maps*. Madison, WI: The University of Wisconsin Press, 1983.

Few S. *Show Me the Numbers: Designing Tables and Graphs to Enlighten*. 2nd ed. Burlingame, CA: Analytics Press, 2012.

Few S. *Now You See It: An Introduction to Visual Data Sensemaking*. 2nd ed. El Dorado Hills, CA: Analytics Press, 2021.

Tufte ER. *Envisioning Information*. Cheshire, CT: Graphics Press, 1990.

Tufte ER. *Visual Explanations: Images and Quantities, Evidence and Narrative*. 1st ed. Cheshire, CT: Graphics Press, 1997.

Tufte ER. *The Visual Display of Quantitative Information, 2nd Ed.* 2nd ed. Cheshire, CT: Graphics Press, 2001.

Get more help

Visit libraries.ou.edu/data for consultations, office hours, and more.