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OEE By Production Line
Zero to beautiful:
Data visualization best practices

Learn data visualization best practices

Modeling, monitoring, and analyzing information are analytical skills. But when it’s time to share visualizations, think like a designer to get your point across with memorable and compelling graphics. Mastering design elements:

- Assists you in building a more articulate and persuasive case.
- Helps viewers understand and connect with data, through support for clear insights.
- Encourages people to share and use your visualizations.

Embrace clarity

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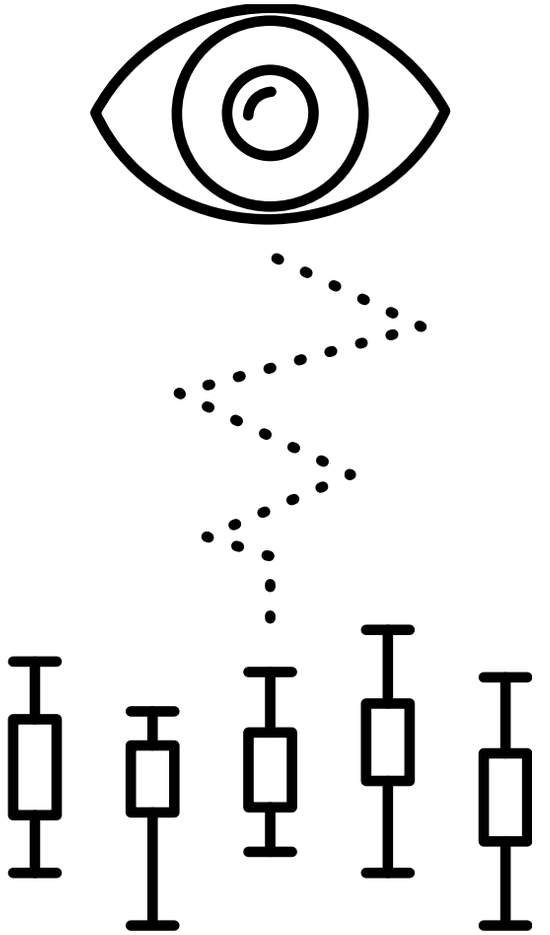
Just as a strong narrative helps structure a story, having a purpose behind every aspect of a chart or graph helps support your point. It's best to:

- Avoid adding more formatting than is needed to achieve data clarity.
- Avoid clutter or elements that draw too much (or too little) focus.
- Label data points and put clear titles on charts and graphs.



Embrace clarity

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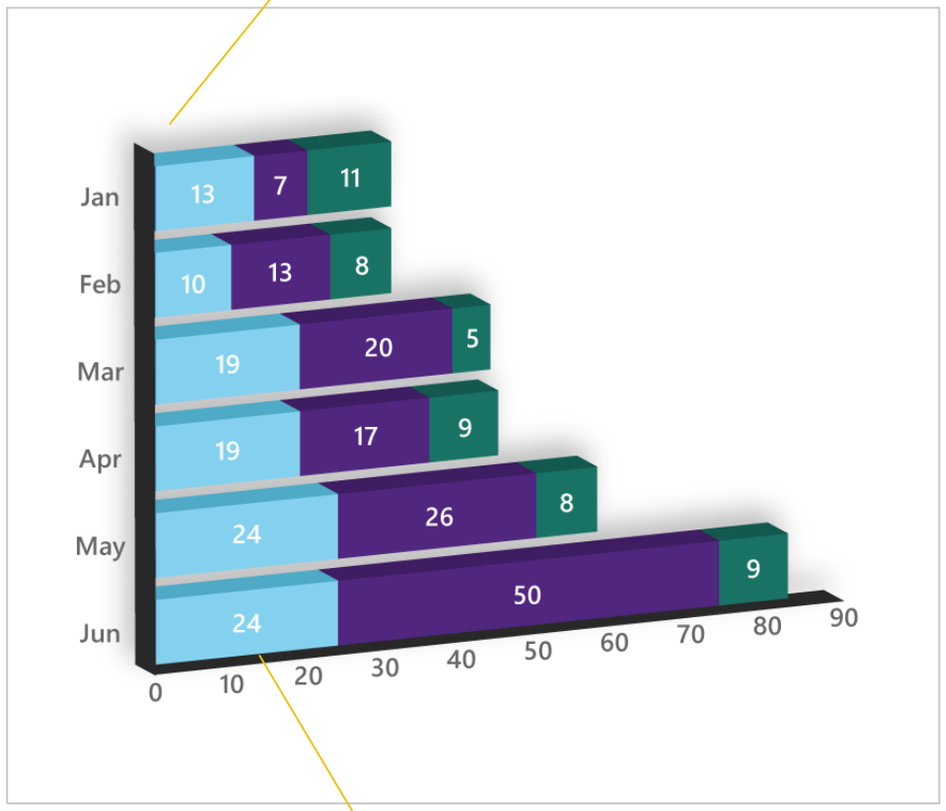
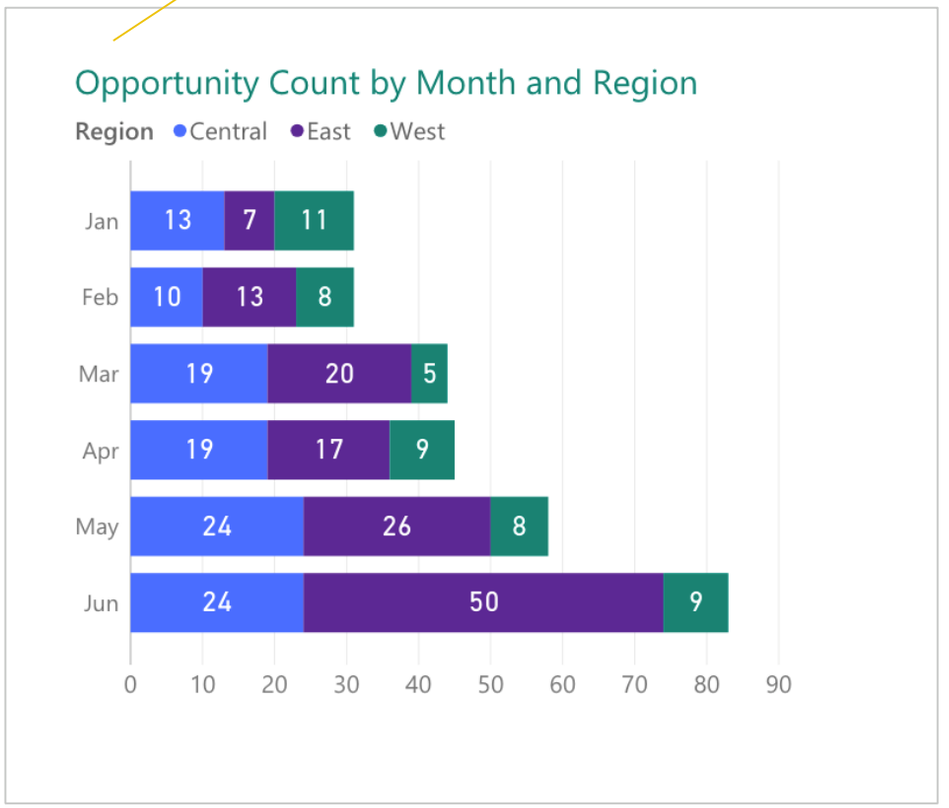
Drop shadows and 3D formatting draw focus and add no value to the visual.



Title provides vital context.



Text and background contrast is too low.*

*In Power BI, you can import color schemes, to ensure that casual users won't be able to choose certain color combinations.

Be consistent

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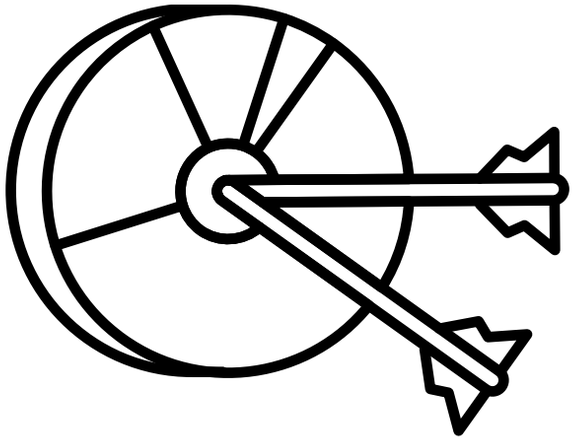
Inconsistency can make a visualization confusing or hard to interpret. Be sure to:

- Keep design elements such as color and line weight uniform.
- Make certain the name and color representing a particular data point across a dashboard or related charts stays the same.



Be consistent

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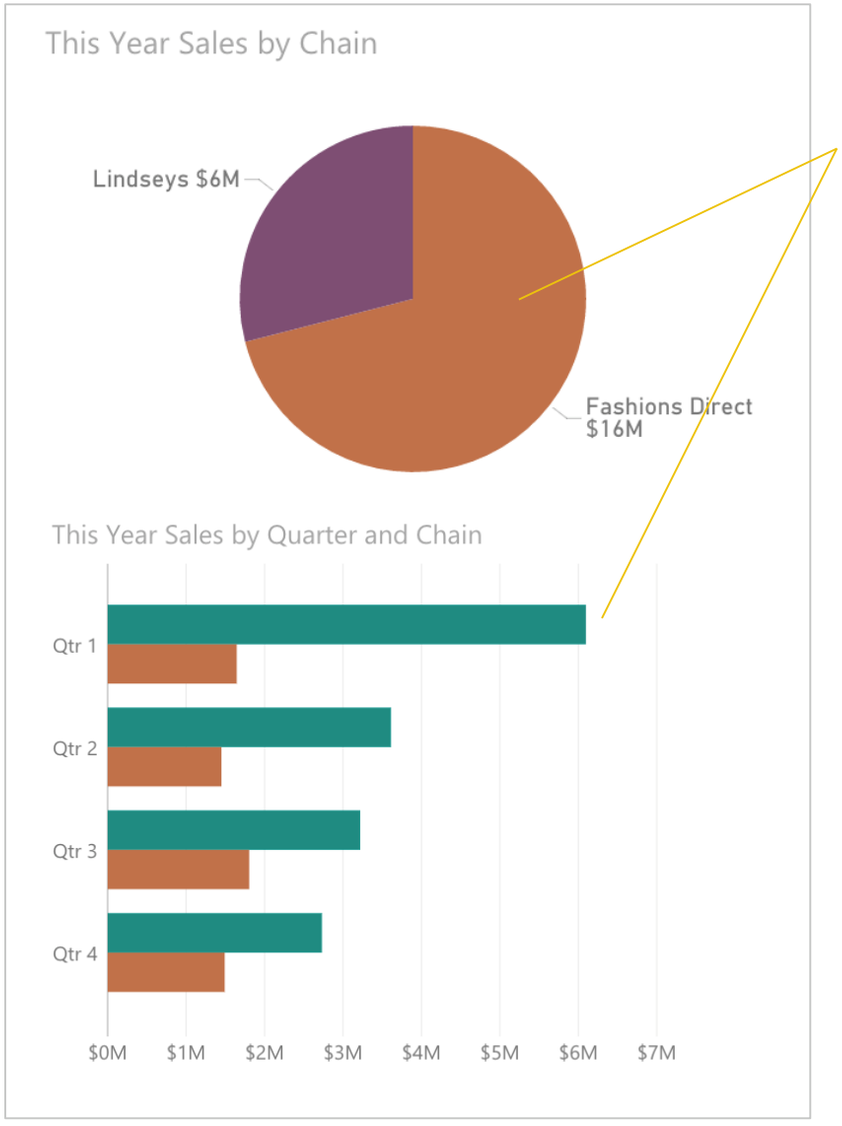
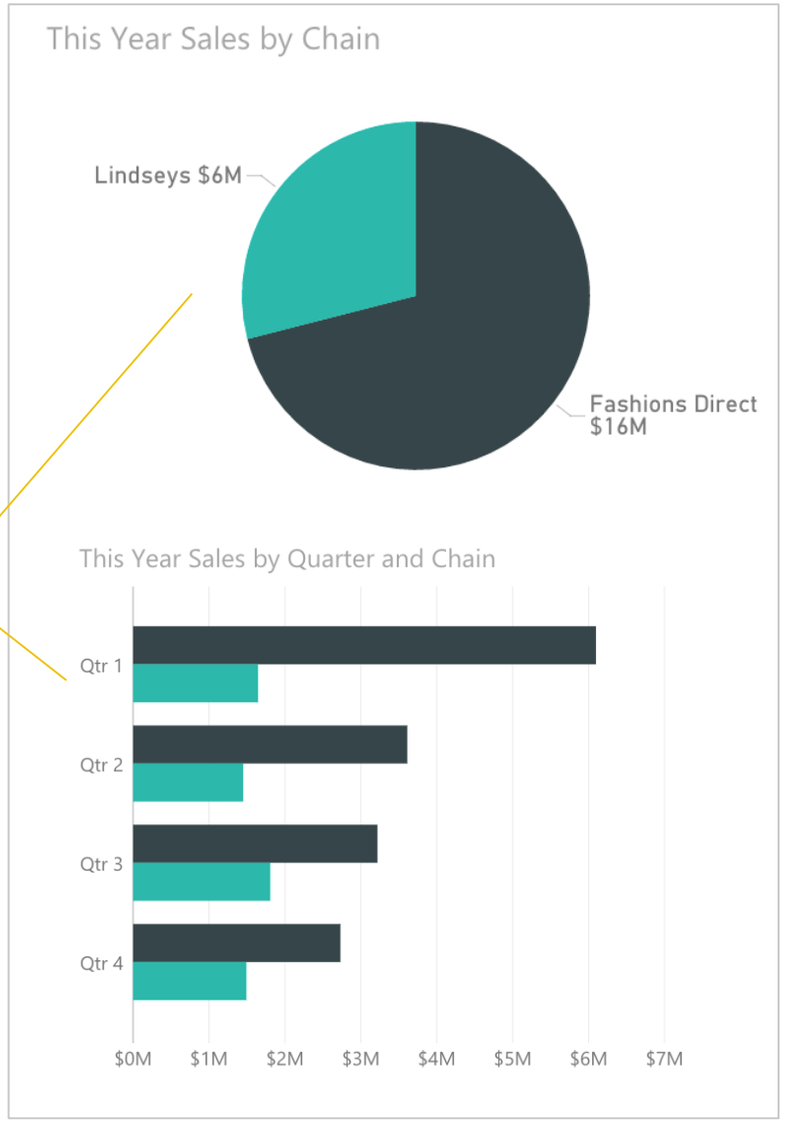


The color representing the chains differs in related charts.

Using colors consistently aids comprehension.



Support readability

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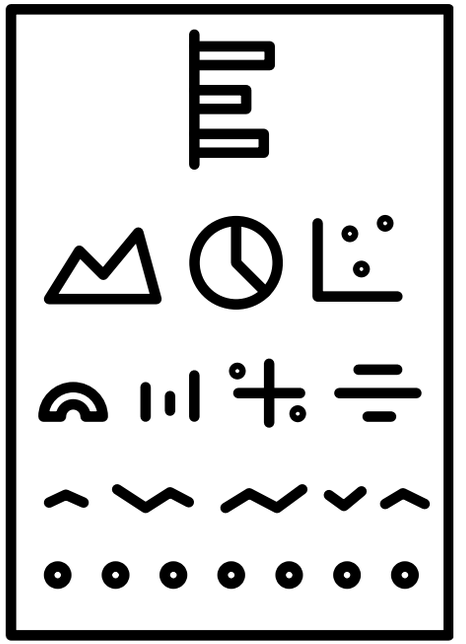
Make words as legible as possible:

- Use light and dark values to create contrast instead of relying on different colors. Low-contrast text-and-color combinations don't provide enough visual cues for people with low vision or color blindness. For specific guidance, use the WebAIM contrast checker or Altervista Accessibility Color Wheel.
- Use font types, font sizes, and text orientation that are easy to read. Avoid serif fonts, which tend to lessen readability on displays.
- Choose shape fills and backgrounds that support, not obscure, numbers and text.



Support readability

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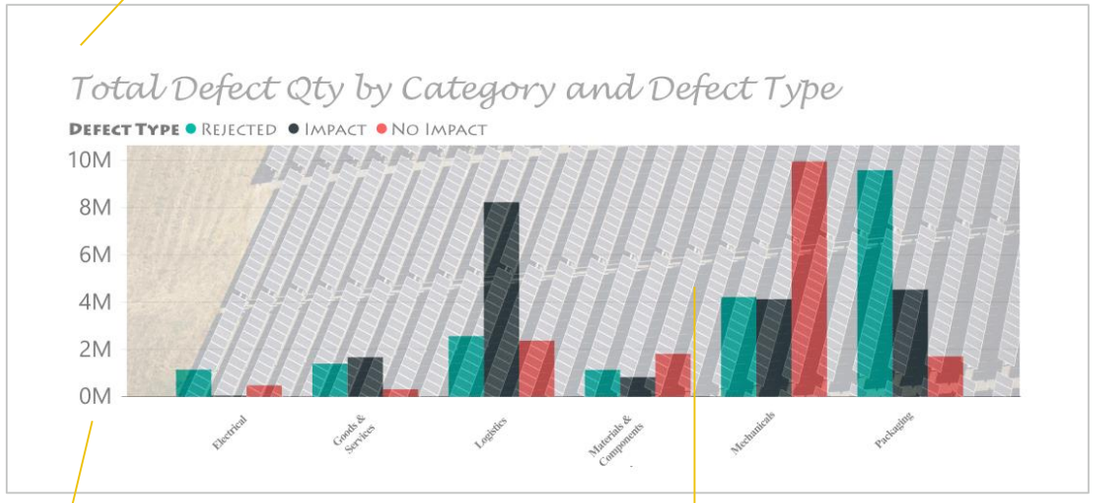
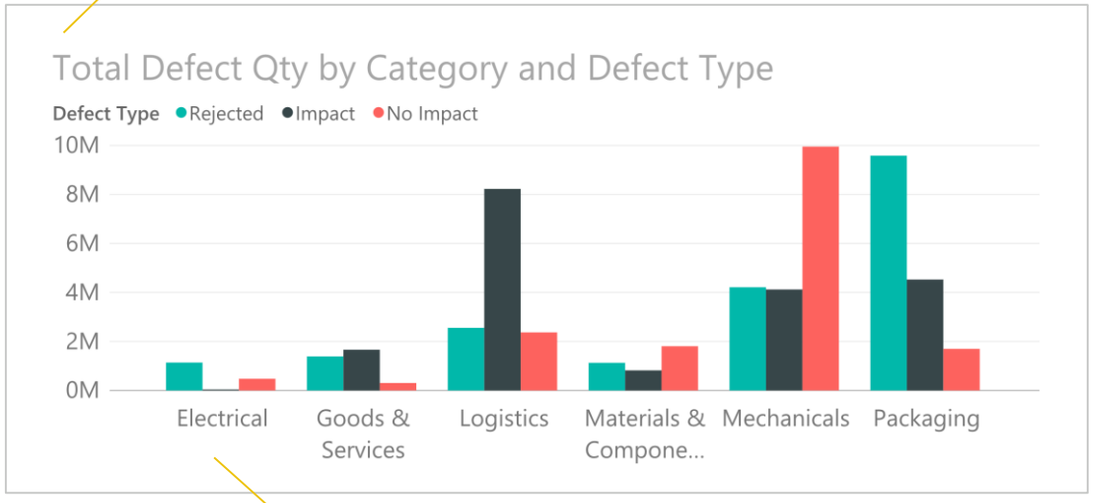
Use fonts, text sizes, and copy orientations that are clear and legible.



Limit the number of fonts and font sizes to three in your reports.

Avoid shape fills or backgrounds with patterns, as they can distract from the data.

Avoid using italics, all caps, or decorative fonts. Stick to sans-serif fonts, such as Arial and Calibri.



Lighter-weight fonts are good for chart elements. Heavier-weight fonts are good for titles.

Achieve balance

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Simplify and make sure that what's important is easy to see. Be sure to:

- Leave the right amount of "white space" between chart elements.
- Show the right number of data relationships per chart. In general, cap data-set relationships at six per chart or graph.
- Note that in cultures where people read from left to right, most viewers focus on the center and top left of a chart, giving the upper right, lower left, and lower right areas less visual importance.

Achieve balance

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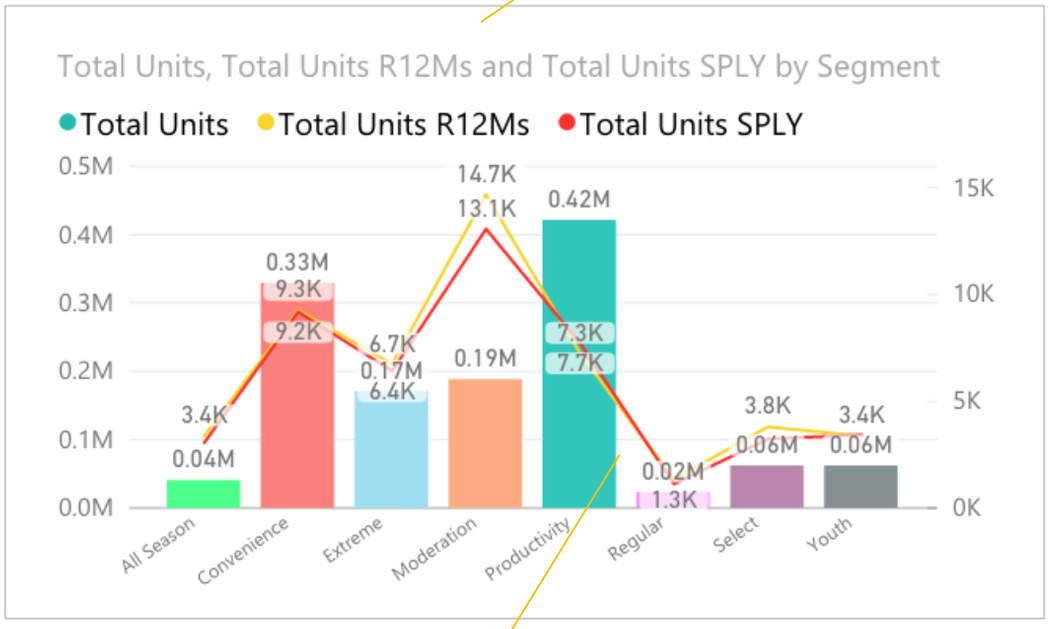
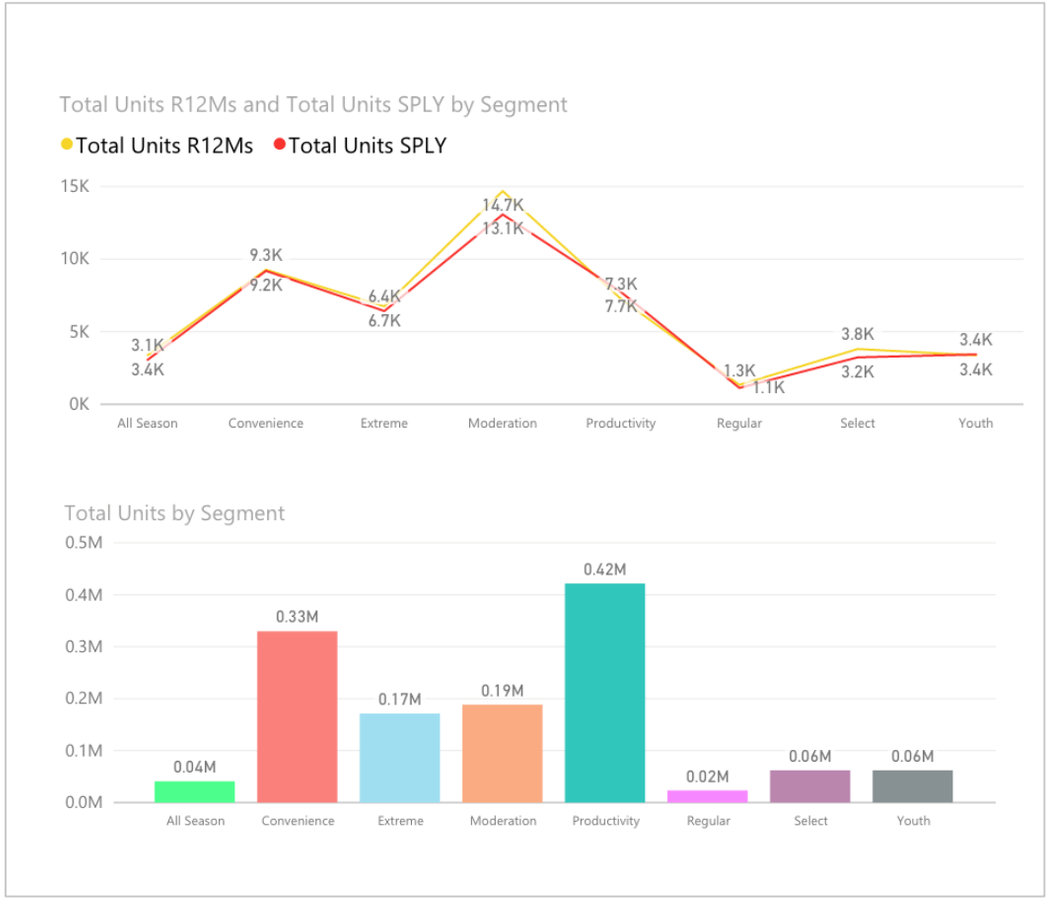
Too many relationships, like several product lines, broken out by SKU and tracked over more than one time period are hard to read. Break them out into multiple charts per period.



Avoid crowding.



Displaying the data in two charts helps highlight and center the important information.

Get input

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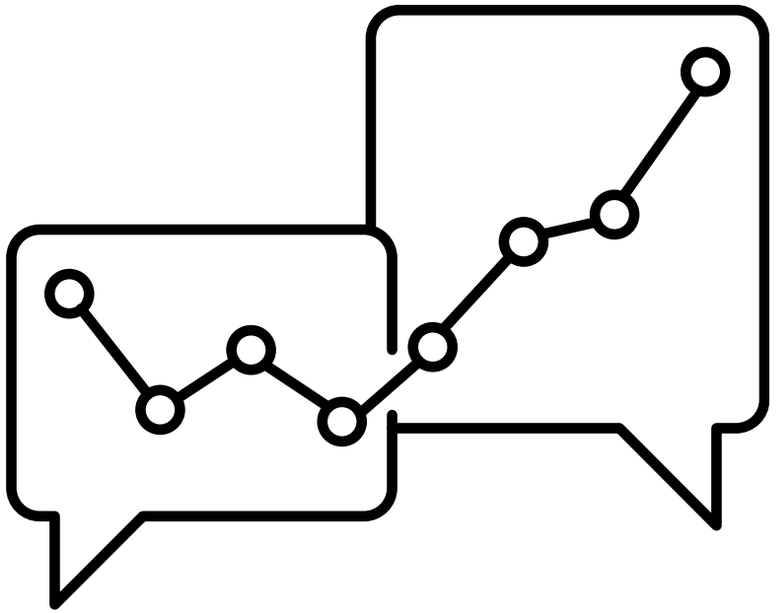
When you work alone, it’s easy to miss something important. What seems clear to you could be confusing to your audience. Top tips:

- Get feedback on your visualization, to see if your message is getting across—ask a colleague what she thinks your chart shows, to see how her impression fits with the underlying data.
- If your message didn’t come through, adjust your visualization or try a different approach.



Get input

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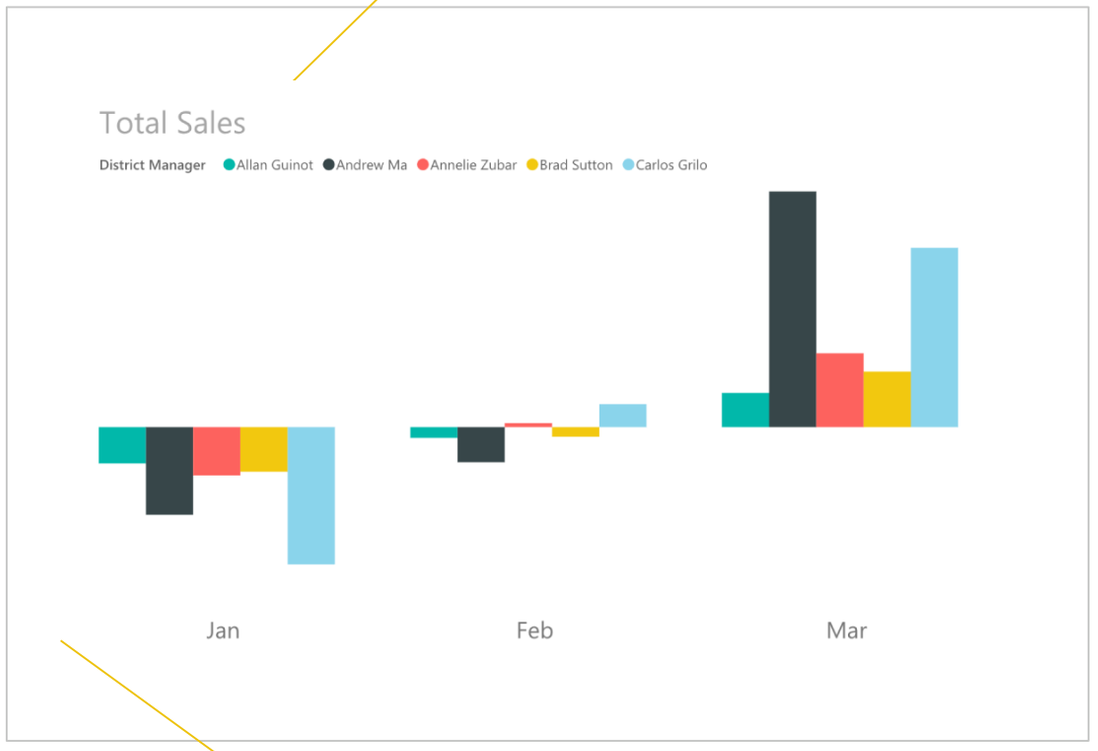
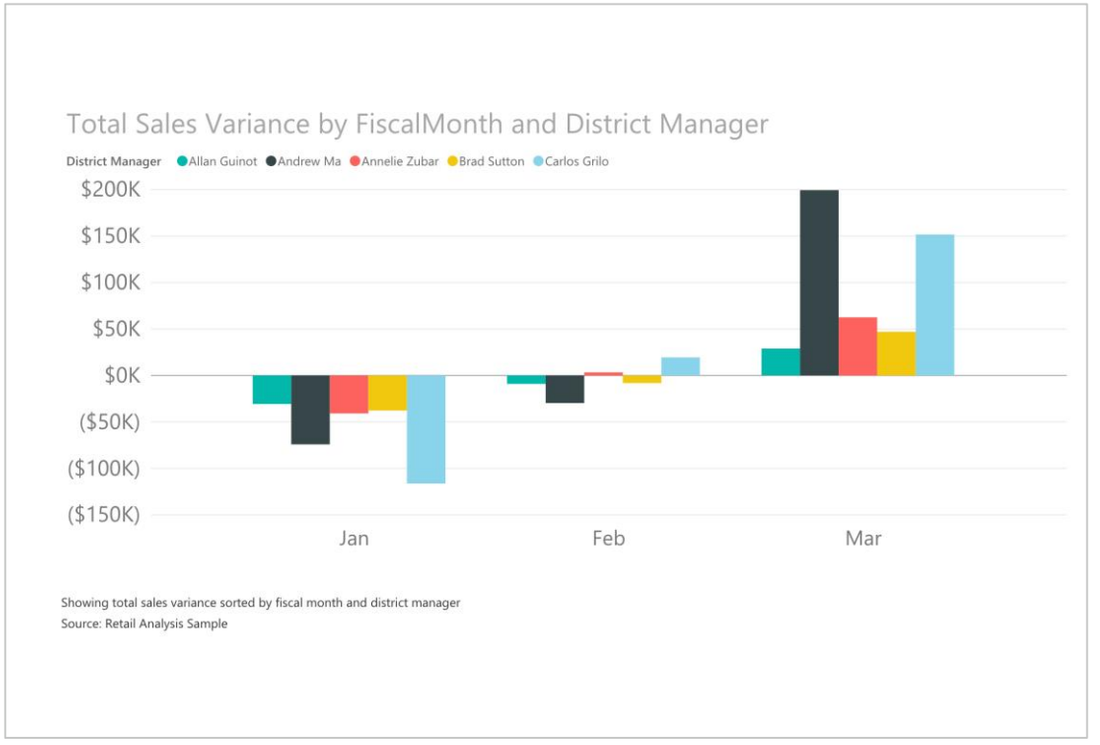
Title should provide more context.





Axis needs a label for context.

Pursue truth

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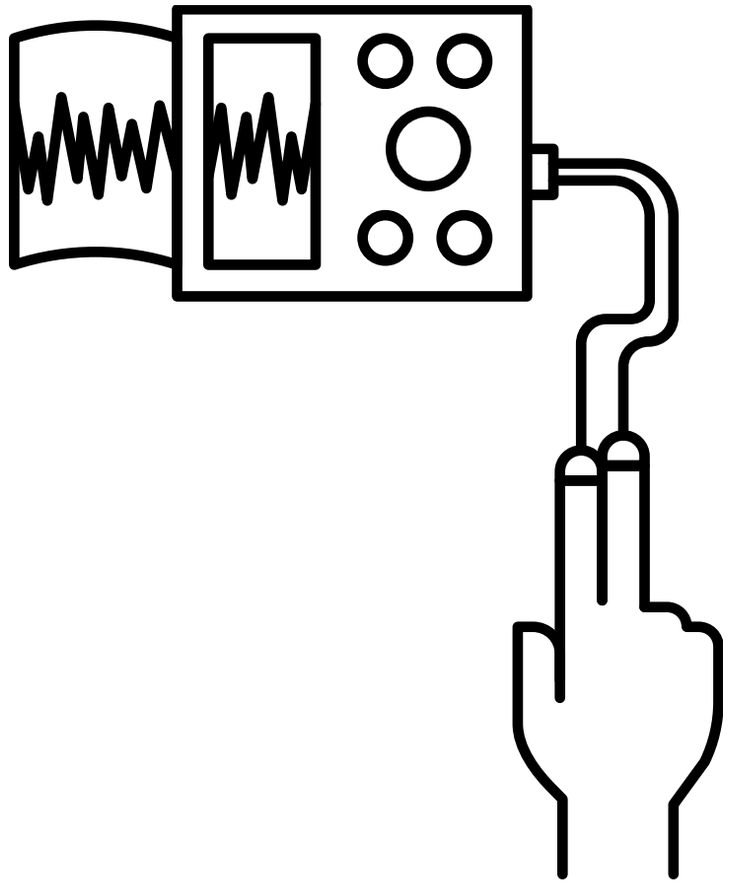
Choose a visualization that clearly shows the relationships in your data:

- Pick the type of chart that best represents the data.
- Start from zero on the y axis for graphs to avoid misinterpretation—unless you have a clear reason not to.



Pursue truth

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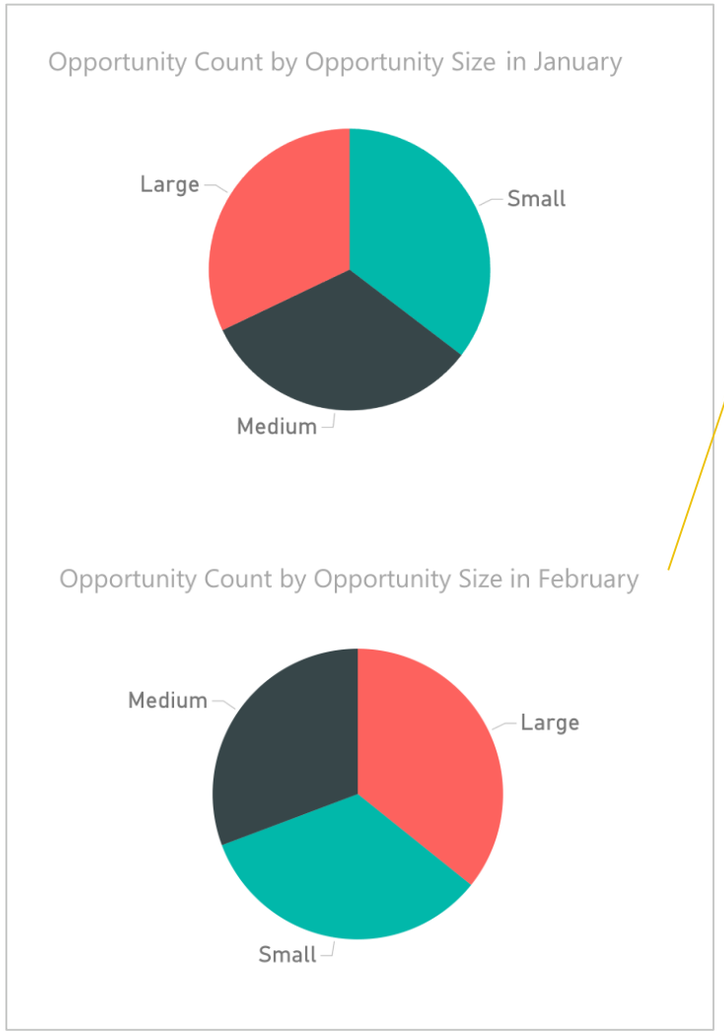
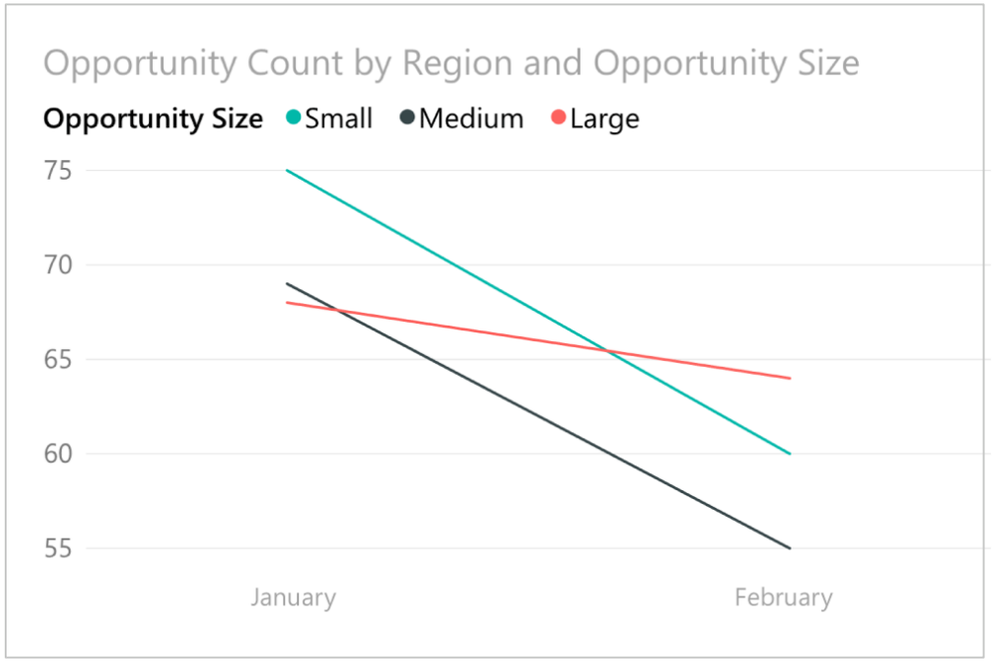


Pie charts work well for proportion comparison, but aren't good for showing changes across time.



A line chart or combination chart shows trends well.

Take the next step

For more information on the basics of good visualization principles:

- Grab *The DIY Guide to Dazzling Data*
- Check out this video by data expert Alberto Cairo.
- Sign up for Power BI and make some beautiful visualizations yourself.

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