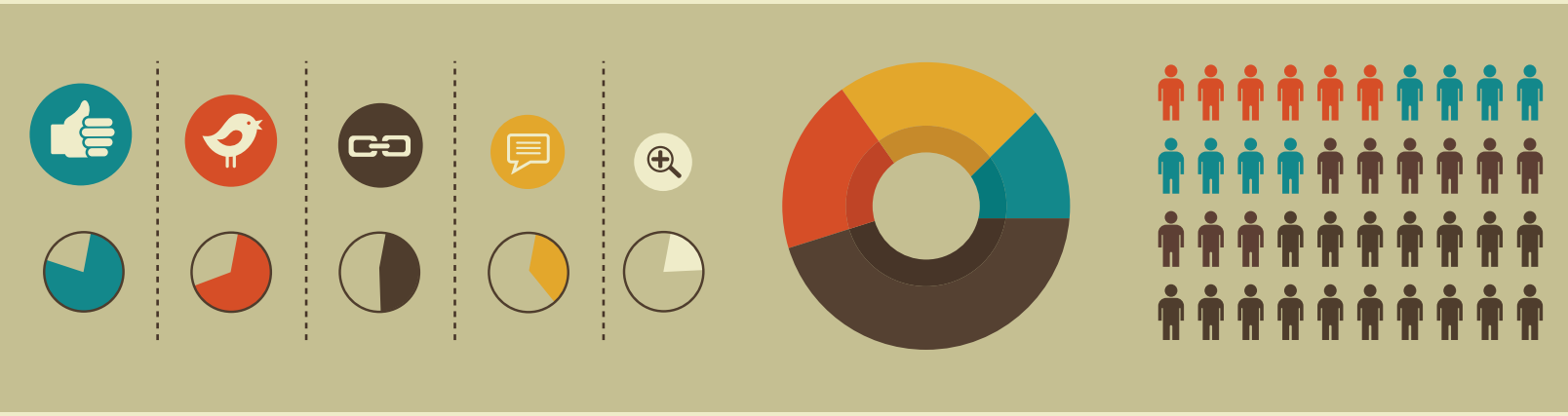
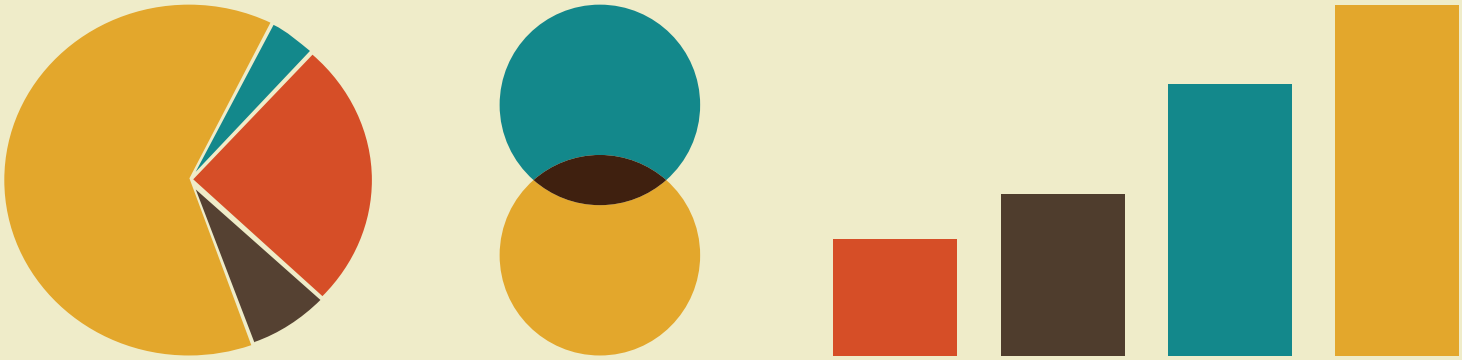




Planning and Creating Infographics

By MICHAEL OPSTEEGH | *Senior Member*

INFORMATION GRAPHICS, or infographics, can be a powerful way to persuade your audience and convey copious amounts of data in a manner that is digestible and entertaining to the reader. Infographics can be simple charts or graphs that help the reader visualize data, or they can be complex diagrams that tie in disparate data to convince the reader of causal relationships. No matter how large or small, infographics can be an island of eye candy in a sea of dense text, and readers are more likely to rely only on the infographic than any text that may be provided to support it. To this end, infographics can be persuasive, but they can also be misleading and fraught with ethical missteps. Since infographics usually rely on large data sets and, by their very nature, are designed to amplify certain aspects of the data over others, we must be careful in how we visualize our information, which data we choose to include or omit, and how we label our data.

Getting Started

Planning and creating engaging infographics takes time, thoughtfulness, and creativity. You should let practice and patience guide your infographic projects and understand that each project presents its own unique challenges.

Often your first ideas are not your best. Sometimes the story you wanted to tell isn't supported by the data or the data are affected by factors you hadn't considered, like inflation. Sometimes the data doesn't tell a story at all or the story is predictable and uninteresting. Sometimes your first method of data visualization isn't the best suited for the situation. Practice and patience will help you hone the critical reasoning and creative skills required for creating engaging infographics.

Required Skills

Planning and creating engaging infographics requires a diverse skill set that traverses liberal arts, social sciences, and mathematics. As technical communicators, we are used to taking multidisciplinary approaches to our work, and our skills lend themselves to creating infographics.

They say the MFA is the new MBA. As skills that can be boiled down to routine procedures are computerized or sent offshore, creativity is becoming one of the most valued attributes in business. As technical communicators and infographic designers, the most valuable skill you have is the ability to tell a story. You must possess a curiosity that drives you to find the story in the data, and you must possess the creativity to tell that story.

You must have some knowledge within the sphere or industry in which you are working. This knowledge will inform the story that you tell, direct your research, and help you identify and explain outliers in the data.

Additionally, a design acumen is a useful and desirable quality to have, but it isn't required. You can supplement a lack of design skills by hiring a graphic artist to render your

infographic for you. By the same token, someone who is a graphic design wizard doesn't necessarily have the skills to analyze the data and suss out a compelling story that underpins an infographic.

In addition to soft skills mentioned above, you must be comfortable with math and statistical terms and functions.

Helpful Tools

Like any multidisciplinary art form, creating infographics requires the technical communicator to be familiar with a variety of tools. I'd suggest that you have an intermediate to advanced knowledge of the following tools:

- Evernote or Microsoft Word. You'll need a place to record your thoughts, ideas, questions, and findings. I prefer Evernote because it allows you to easily save information from a variety of sources, and it syncs easily across various mobile devices. If you're on the move, and an idea occurs to you, use your smartphone to record it.
- Microsoft Excel. You'll need a tool to help you organize data, perform calculations, finesse the data by rounding, and quickly visualize your data. Excel seems to be the Swiss Army knife in this regard, and it's ubiquitous.
- Adobe Illustrator or Adobe Photoshop. Finally, you'll need a tool in which to create your final product. I prefer Illustrator. Photoshop does amazing things with photographs, but Illustrator is better suited to illustrations, line art, and vector graphics. Also, Illustrator has some, albeit antiquated, graphing and chart tools.

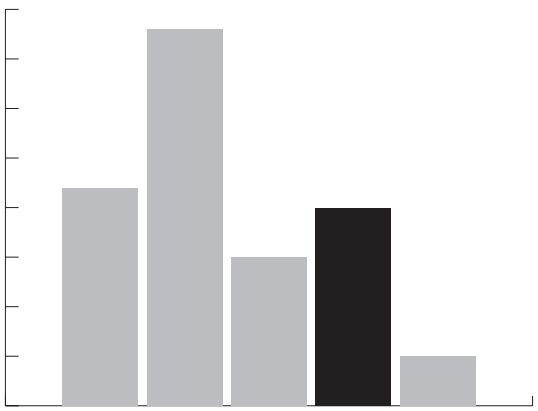
You may find other tools that suit your needs better. Feel free to replace these tools or complement them with your own.

Choosing the Right Data Visualizations

There are many ways to visualize data. The one you choose (or ones you choose for complex infographics) should depend on the type of data you are displaying and how the data relate to each other. The following describe some of the most common data visualizations.

Bar Charts

Bar charts show basic discrete comparisons between multiple subjects. The bars can be vertical or horizontal.

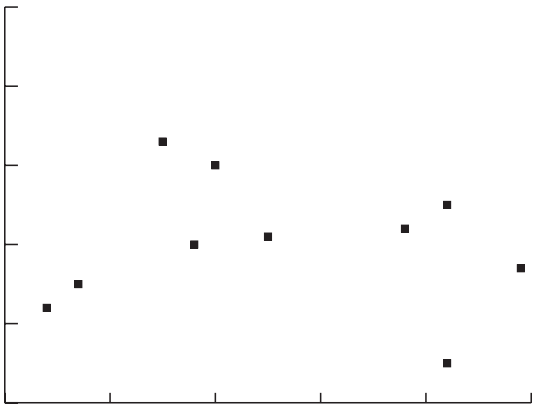


Pie Charts

Pie charts show how a group of data are broken down into parts when the sum of the parts equals a whole (or 100%).

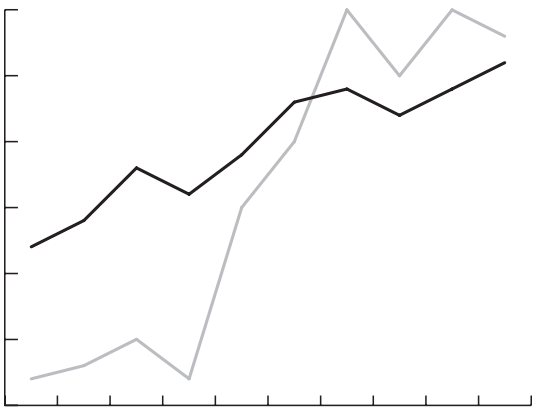
Scatter Plots

Scatter plots display individual points of data and can often reveal a trend. You probably created many scatter plots in your high school math classes.



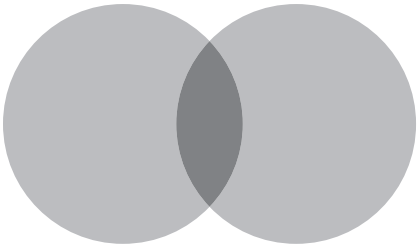
Line Graphs and Area Charts

Line graphs are like scatter plots, but the points of data are spread along regular intervals and are connected by a line.



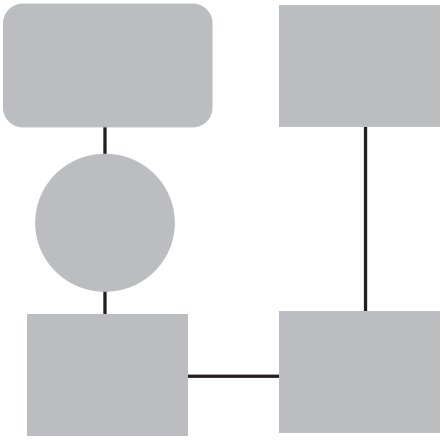
Venn Diagrams

Venn diagrams show the possible relationships between discrete items.



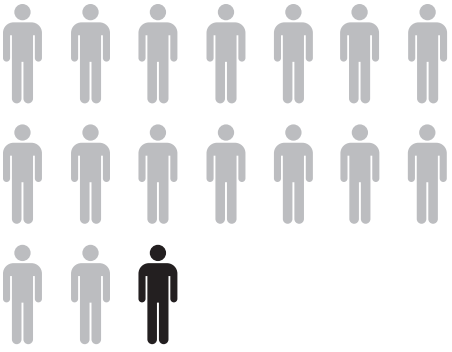
Flow Charts

Flow charts are good at displaying relationships and decision trees. Elements in the flow chart are connected by lines indicating a relationship.



Pictograms

Pictograms are created using glyphs or pictures that represent some physical aspect of the data they represent, where each glyph represents a set number.



The first attempt at visualizing the data may not be the best suited. Try multiple types of visualization to see if a new story emerges or to verify that your data are correct, as you may notice inconsistencies when viewing the data differently.

Creating Your Infographic

The exact steps you take to create your infographic may vary from project to project. Your infographic may be composed of several types of visualizations (e.g., charts, graphs, scatterplots), and each may have their own workflow. Donna Wong suggests the following workflow in *The Wall Street Journal Guide to Information Graphics*: research, edit, plot, and review.

Research

Research is that critical stage where you gather information. If your information is not accurate or reliable, there is no point in continuing. Ensure that you gather information from authoritative and independent sources. Find primary sources. You may need to buy data. Be sure to obtain permission to use the data. As you gather your data, start recording your story ideas. The data will direct the story that you tell, so your first ideas may not pan out.

Edit

In this stage, you will find your story. Identify outliers in the data that might make the story more interesting, but be aware that not all of them do. Identify gaps in the data and locate the missing data if you can. Filter and simplify your data; large data sets may contain information that is superfluous to your story. Be careful not to omit data that has a bearing on the outcome of your story. Finesse the data by dropping unneeded decimal places and rounding the numbers. Determine if percentages or absolute numbers are appropriate for your infographic; each may tell a slightly different story.

Plot

To many, the plotting may be the most exciting part of creating an infographic. This is the stage where you choose the right visualization for your data, choose the appropriate scale and increments, and affix the appropriate labels.

Review

Proofread your infographic. Check your visualizations against your research to ensure they make sense. Check your visualizations against other data that might be available to ensure your visualizations are accurate. Ask a colleague to review your infographic—preferably someone unfamiliar with your research.

Once your review process is complete, you are ready to publish your infographic.

Ethical Considerations

Infographics are powerfully persuasive tools. With great power, however, comes great responsibility. Omitting data that would have a bearing on the reader's decision is obviously an egregious offence. It isn't always intentional, so you should be on the lookout for some of the more common missteps.

You may be inclined to focus on a positive part of the story. For example, you may create a line chart showing test scores were up by 5% last quarter, but if you omit the prior three quarters where test scores had plummeted 10%, you aren't giving the reader a clear picture.

You may be inclined to compare unlike things or not choose the right measurement by which to compare them. For example, if you showed a side-by-side comparison of two stocks that had risen by $10 each, the angle of the slopes would be the same. If, however, one stock had risen from $50 to $60, while the other from $10 to $20, the performance of the latter is far better in terms of percentage gains. Likewise, if one stock rose $10 in a day and the other in a week, it isn't fair to show them side by side.

You may be tempted to omit outliers in your data if you feel they distract from your story. For example, you might want to omit results that were skewed by some external factor during a clinical trial for a pharmaceutical. Doing so, however, would likely result in adverse regulatory action. You must present all relevant data. You may provide a second visualization with the outliers omitted only if you explain why they aren't relevant.

These examples barely scratch the surface of the ethical considerations that must be made while planning and creating infographics. Be vigilant in your projects.

Conclusion

We live in a data-driven world where we are bombarded by big data and measure everything in economic terms. We are drowning in information. We can throw our users a life preserver by helping them visualize data, complex processes, and relationships between disparate objects—the information required to make daily decisions. Infographics can help us influence our readers, managers, clients, and colleagues.

MICHAEL OPSTEEGH *(@StubbornlyWrite) has been a technical writer in the software and financial services industries since 2004. He is currently a senior technical writer at Eyefinity, which supports eyecare professionals with industry-leading software and services, and he is a lecturer in the technical and professional communication program at California State University, Long Beach. He holds a master's degree in English, rhetoric, and composition, and a certificate in technical and professional communication from California State University, Long Beach. He is among the first in the profession to be designated as a Certified Technical Professional Communicator (CPTC).*

FURTHER READING

Meyer, Eric K. *Designing Infographics* (Indianapolis, Hayden Books), 1997.

Tufte, Edward R. *The Visual Display of Quantitative Information*, 2d ed. (Cheshire, Graphics Press), 2001.

Wong, Donna M. *The Wall Street Journal Guide to Information Graphics: The Dos and Don'ts of Presenting Data, Facts, and Figures* (New York, NY, W. W. Norton & Co.), 2010.