THE charting game

Don’t just roll the dice when creating charts. Be smart about it and use the right chart type for your data, with the right design.

by Julie Hill

photography by Todd Hafermann
It starts harmlessly enough. One minute you're watching the marketing guy rattle through a project update. His slides are good, his point is succinct and you're following him beautifully — until he utters those fateful words: "Let me pull up this Excel spreadsheet." Your eyes slowly glaze over. Black-and-white numbers start dancing across the screen as the glowing red dot of his laser pointer pirouettes from box to box. Your forehead starts to throb. Your pen starts to doodle. The symptoms are classic: You've got a case of spreadsheet nausea.

Even worse are charts that have so many crisscrossing colors and shapes they look like a Hong Kong street map. These statistical monstrosities are often the work of time-pressed presenters, who slapped the charts together hastily without much thought about their design or the the way in which they would be used in the actual presentation. Experts say presenters tend to underestimate two key things about charts: 1) how effective a good chart can be and 2) how much thought should go into an effective chart.

Eliminate clutter
According to Nigel Holmes, an explanation designer in Westport, Conn., whose chart work appears regularly in *Time* magazine, electronic slides have several inherent limitations. "People think they have as much space on a slide as they do on a piece of paper, so they try to cram everything in," says Holmes. The result is hopelessly cluttered slides that do little but exhaust and confuse audiences.

Holmes says many presenters become victims of their own charts, because they are trapped by the software that's been developed for them. "The computer and its programs have led many managers to believe that anybody can create a decent chart," he says. "So they give it to anybody to do, [assuming] that the person making the chart doesn't have to think and that the computer will do everything automatically."

Charts guided by these misconceptions tend to reflect the amount of thought that went into them, Holmes says, which isn't much.

Although the charting engines inside such programs as PowerPoint have their advantages, Holmes advises presenters to take control of their charts by "mentally throwing PowerPoint away and then [coming] back to it." When creating a chart, he says, presenters need to ask themselves not how much information they can cram in but how much they can leave out.

Presenters need to remember that they have a trump card. "Nobody but the speaker knows what the speaker has left out, so no one really feels slighted if something is left out," says Bill Lampton, a presentation trainer and communications consultant from Gainesville, Ga. Holmes and Lampton agree that charts made for the screen should contain only essential information and charts with more detail should be reserved for handouts.
Analyze raw data
Like a bowl of raw vegetables for your lunch, the data from which charts are made doesn’t look all that appealing. It’s often a spreadsheet of some sort, a compilation of data from a research project or a table of statistics pulled from the bowels of the accounting department. Regardless of how raw or unappetizing the data is, though, it’s up to the presenter to add the right ingredients to make it palatable.

The first chart-making rule of thumb is not to start with the chart. Instead, you should do enough audience research to determine what people will be looking for in the data you are presenting. Do they need to see whether sales are moving upward or downward? Do they want to know how this year’s performance compares to last year’s? Or do they only care how the bottom line is affected? Focus on what your audience is hungry for, and then try to give it to them.

After deciding the audience’s needs, ask yourself whether a chart is indeed the best way to convey the information. It may not be. If it is, and you have sufficiently analyzed the data, then you can choose which format would serve your information best — bar, pie, line, table, 3D or 2D chart. With a format chosen, the next step is to sketch how you want the chart to look.

Build a smarter chart
Most successful charts begin as a visual sketch — a hand-drawn or mental map of what the audience should see. From there, it’s a matter of getting the numbers and creating the chart around them. Microsoft PowerPoint and other charting programs often come with import functions that accept data from Microsoft Excel and other spreadsheets. Keep in mind, however, that this method tends to work best for line graphs and tables, and then only if the data has already been pared down.

Presenters have been grumbling for years about the limitations of PowerPoint’s charting functions. But those who want better-looking charts don’t have to settle for PowerPoint’s meager offerings. A number of helpful programs have sprung up in the past few years to add polish and sophistication to all kinds of charts.

Astound Presentation is a fine presentation program in its own right, but it also allows you to import elements of PowerPoint presentations, including charts, and doctor them. Harvard Graphics’ charting abilities are intuitive and easy-to-use. Adrenaline Charts Pro is a Macintosh-compatible

types of charts

Line charts (aka fever charts)
Description: A grid with axes and points showing plotted data that, when connected, show a trend.
Do use: Usually best when a trend or growth point is being made, not an analysis of the numbers themselves. Good for stock prices or financial timelines.
Don’t use: When the numbers are so close together that it doesn’t really establish a trend or if plotted lines are too clumped to them tell apart.

Bar charts
Description: Shows visual comparisons of quantities by corresponding lengths on a grid. Can be used in builds or grouped together in multiple bars.
Do use: When prominence is given to the figures rather than actual flow or trend. For example, when a comparison needs to be shown between two different sets of numbers, such as looking at budget expenses during a two year period to show an increase or decrease.
Don’t use: When a trend, rather than the numbers, tells the story. Or when there are so many numbers the bars are too thin. Must be neat to be convincing.

Pie charts
Description: A circle chart that represents a complete number divided into wedges, that is, percentages of a whole. Can be 2D or 3D, but 3D often looks more professional.
Do use: When showing as many as seven components, such as budget allocations. Good for analyses of income and spending.
Don’t use: When many divisions result in impossibly small slices of pie.

Typical table
Description: A display of words or numbers in columns, with a gridwork to contain them.
Do use: For timetables, flow charts, distance-mileage charts and calendars. When numbers being compared range too widely to be easily charted and when the exact numbers must be read, not illustrated, for generalized flow.
Don’t use: When you can use a chart! Or if it puts too much information on a slide.

• J.H.
charting program designed exclusively for creating dynamic 2D and 3D charts, bar graphs and tables. And CrystalGraphics has developed a PowerPlugs Charts plug-in for PowerPoint designed specifically to turbocharge Microsoft’s anemic charting engine.

Speak graphically
No matter how slick a chart you create, though, for it to do anyone any good, the information must be explained properly and the chart itself must be skillfully integrated into the presentation. As many presentation coaches will tell you, a lot can go wrong with a chart in the delivery phase. Long-time presentations coach Bill Lampton says presenters often assume their audience members can interpret the data on a slide, but that isn’t always true. If the data isn’t explained sufficiently, Lampton says, they may interpret it in unpredictable ways.

Lampton recalls the experience of a hospital executive who knows what was speaking to a local civic group that was reviewing the facility’s financials. An audience member asked the speaker what the numbers meant for the bottom line that fiscal year. The speaker answered quickly, “Seven million in the black.” What the administrator failed to mention was that the $7 million dollars wasn’t free-and-clear profit; rather, it was funneled back into equipment and facilities improvements. The civic group wanted to see something positive in the figure but, Lampton says, “They left bewildered and a little angry, muttering that it is no wonder healthcare costs have gone up.”

Another important point Lampton impresses upon his trainees is the need to give an audience a story or a compar-

ison they can relate to, especially when you are describing a large number. “If you say 60,000 people a year are killed in drunken driving crashes, people will say, ‘That is interesting,’” says Lampton. “But if you tell them the equivalent of the entire town’s population died last year due to these crashes, then there’s something they can grasp.”

Focus on your message
Lou Hampton, a communications consultant in Washington, D.C., has seen his share of poorly done, overcrowded visuals for financial presentations. But Hampton tells all the executives he coaches that their attitude, not the quality of their graphics, plays the most important role in presenting number-heavy material. When Hampton’s clients tell him that numbers are boring, he says, “With an attitude like that, [the data is] almost certain to be boring to the audience as well.”

Hampton counsels speakers to stay focused on their messages and highlight the parts they do find interesting. It’s the message behind the numbers that’s important, not the numbers themselves, and making that message come alive is the presenter’s job.  

Julie Hill is managing editor of Presentations.

chart design tips

1. **Don’t clutter.** Information should be focused enough that the viewer understands a chart in a few seconds, not a few minutes.

2. **Use charts to summarize and underscore key points.** If you are concerned about secondary points and other information being omitted, be sure to detail them in your handouts.

3. **Use simple colors.** Too many colors or colors that are too similar make charts hard to read. Also avoid pairings of red and green, blue and yellow or blue and green, because any colorblind audience members will have difficulty discerning between them.

4. **Be consistent.** If you are using a presentation template with particular fonts and colors, make sure the charts match the style you’ve chosen.

5. **Use action statements instead of generic labels.** A chart title that says “Sales 1995-2000” doesn’t mean much. Instead, a title that says “Results of productivity initiatives, 1995-2000” adds clarification and emphasis.

6. **Keep lettering big and bold.** Make sure the type you use for charts is big enough to be read from the back of the room in which you are presenting. Also, sans-serif fonts work best in electronic slideshows.

To determine an appropriate font size, measure in feet the distance from the screen to the farthest audience member’s seat, divide that number by the height the projected image will be and then multiply by three. For example, if the last row of audience seating is 24 feet from the screen and you plan to project a 4-foot-high image, the equation looks like this: (24 ÷ 4) 3 = 18. In this case, you should use an 18-point type on your slides.

7. **Show restraint.** Your graphics shouldn’t be the star of the show. Special effects are nice, but you want the audience to pay attention to what you are saying, not to what the graphic is doing.