Ten Charting Mistakes to Avoid

Idea In Short

Reviewing investor relations presentations from major public companies turns up a surprisingly consistent set of charting mistakes, missing axis labels, mismatched scales presented side by side, and forecasts drawn to look more certain than they actually are. Even the most sophisticated companies and consulting firms make these errors, which makes them worth studying carefully as a checklist for anyone building charts of their own.

Charts Carry Real Responsibility

Consultants and analysts spend enormous effort turning ambiguous problems into structured, actionable stories, and charts carry much of that communication burden.1 Content needs to be accurate first, but it also needs to be genuinely easy to understand and insightful, and a review of investor relations presentations from major public companies shows just how often even sophisticated organizations fall short of that standard.

Missing Labels Undermine Everything

The single most common mistake is a missing axis label, particularly on the vertical axis. Without a labeled scale, a bar chart becomes pure guesswork, since a reader has no way to know what the height of any given bar actually represents, no matter how clean the chart otherwise looks.

Forecasts Disguised as History

A related and more serious mistake involves horizontal axes that blend historical data with future projections without clearly distinguishing the two. A chart spanning several years that includes unlabeled forecast years alongside actual historical results risks misleading a reader into treating projections as settled fact, when clear labeling, marking future years explicitly as forecasts, would prevent that confusion entirely.

Cramming Too Much Into One Table

Even highly sophisticated analytical firms sometimes try to pack an overwhelming volume of data into a single table, with a dozen or more numbers crammed into every row. Data at that density belongs in an appendix, broken into several smaller, more digestible tables, rather than forced into one dense grid that overwhelms rather than informs.2

The Danger of Mismatched Scales Side by Side

Placing two bar charts next to each other becomes genuinely misleading when the two charts use different underlying scales. Bars of similar visual height can represent numbers that differ by a factor of three or more, and a reader scanning quickly will naturally assume similar height means similar magnitude unless the charts explicitly flag that their scales differ.

When a Diagram Takes Too Long to Decode

Some charts attempt visually clever metaphors, road signs, directional arrows or color-coded pathways, to convey a strategic narrative, but a diagram that takes longer than five or six seconds to decode has failed at its basic job regardless of how creative it looks. A simple, well-worded bullet point often communicates more clearly than an elaborate diagram nobody can parse quickly.

Small Percentages Can Look Huge Without Context

Charts lacking any numerical labels risk exaggerating differences that are actually modest. Two values that differ by only a handful of percentage points can appear three or four times larger than each other purely due to how bars are scaled and rendered, distorting a reader's sense of the real underlying gap.

Sometimes the Safest Chart Has No Labels at All

Occasionally a chart appears with no labels whatsoever, leaving even a diligent reader unable to determine whether the underlying trend is positive, negative or essentially flat. That level of ambiguity, whether intentional or accidental, defeats the entire purpose of including a chart in the first place.

Overly Confident Forecast Lines

Long-range earnings forecasts drawn as a single smooth, steadily rising line risk implying a level of certainty that multi-year business forecasting rarely supports. Presenting a forecast with that much visual confidence, without acknowledging the underlying uncertainty, can leave investors with an unrealistically tidy picture of what is actually a highly uncertain multi-year projection.

Data-Rich Charts That Say Very Little

Finally, plenty of charts combine several genuinely interesting data points, income levels, travel frequency, population size, without actually delivering an insight worth acting on. Combining available data into a chart simply because the data exists, rather than because it answers a genuine question, produces exactly this kind of technically accurate but practically unnecessary slide.

Why These Mistakes Persist Even at the Top

It is worth asking why mistakes this basic keep showing up in polished, professionally produced materials from experienced teams. Part of the answer is simple familiarity bias: the person building the chart already understands the underlying data intimately, so a missing label or an unlabeled forecast year does not register as confusing to them the way it would to a first-time reader encountering the chart cold. Building in a deliberate step, showing a chart to someone unfamiliar with the underlying analysis before it goes out the door, catches most of these errors before they ever reach an audience.3

A Simple Checklist Worth Keeping

Taken together, these recurring mistakes form a useful checklist: label every axis clearly, distinguish historical data from forecasts explicitly, avoid cramming excessive data into a single table, never place differently scaled charts side by side without flagging the difference, and always test whether a chart communicates its point within five or six seconds of a reader's attention.

- 1Data Visualization
- 2Information Overload

- 3Curse Of Knowledge

Summary

Even the most sophisticated companies produce misleading charts: missing axis labels, mismatched scales shown side by side, and forecasts drawn to look more certain than they are. A chart that takes longer than five or six seconds to understand, or that requires the viewer to guess at scale, has failed at its basic job.