Mastering the Waterfall Chart

Idea In Short

A lengthy consulting report forecasting eight global economic trends worth a combined trillion dollars in growth relied heavily on a specific chart type, the waterfall chart, to communicate cumulative additions and subtractions clearly. Reviewing how the report used, and occasionally misused, this format offers a genuinely useful lesson in visual storytelling that applies well beyond the report's specific economic forecasts.

A Big-Thinking Report Built Around Trillion-Dollar Trends

A well-known consulting firm produced a lengthy report identifying eight global economic trends, each projected to generate more than a trillion dollars in cumulative growth, the kind of ambitious, big-picture forecasting the firm has built its reputation around.1 Whatever one makes of the specific forecasts, the report's heavy reliance on a single chart format offers a genuinely useful lesson in visual communication.

When Data Deserves a Chart

A large majority of the report's pages included some form of data visualization, reflecting a broader consulting instinct worth taking seriously: if underlying data does not lend itself naturally to grouping or categorization, a slide or report page built around it is probably not communicating anything genuinely new.

What a Waterfall Chart Actually Does

For readers unfamiliar with the term, a waterfall chart displays a sequence of additions and subtractions building toward a final total, visually resembling a staircase. The format works particularly well for income statements or any scenario involving cumulative gains and losses building to a subtotal, since it makes the individual contributing factors visible rather than burying them inside a single final number.

When the Format Adds Real Value

One especially effective chart in the report showed how eight distinct macro trends combined to produce several trillion dollars in projected growth over a decade, with more than half of that total attributed to developing economies specifically. That kind of layered, additive story is exactly what a waterfall chart is built to communicate clearly.

When the Format Gets Misused

Not every chart in the report justified the format. One waterfall chart simply illustrated two population figures summing to a combined total, a piece of arithmetic simple enough that a chart added visual complexity without contributing any real analytical value beyond a single sentence. Worse, the report's own rounding introduced a small inconsistency in the displayed totals, a reminder that even sophisticated reports benefit from careful proofreading of basic arithmetic.

Highlighting the Point That Actually Matters

Another chart in the report illustrated incremental investment across utility sectors, including a notably negative figure for telecommunications investment relative to trend. A missed opportunity in that particular chart involved color: highlighting the negative figure distinctly, rather than treating it visually the same as positive figures, would have drawn attention directly to what was actually the most interesting and counterintuitive data point in the entire chart.

Surprising Findings Buried in the Data

One chart focused specifically on incremental energy supply projected across several categories, all involving fossil fuels rather than renewable sources, a finding that likely surprised readers who assumed future energy growth would concentrate more heavily around solar or biomass sources. Another chart compared healthcare spending trends between the United States and Europe over the following decade, projecting US spending to nearly double while European spending remained comparatively controlled, a striking divergence between two economies at broadly similar levels of development.

Two Practical Ways to Build One

Building a waterfall chart does not require advanced technical skill. Dedicated online tools exist that generate a properly formatted waterfall chart directly from entered data, exporting a usable spreadsheet file in return. A simpler, more manual approach involves building an ordinary stacked bar chart in a spreadsheet, then removing color from every bar except the ones meant to stand out, a slightly old-fashioned but genuinely effective technique that requires no specialized software at all.

Reading Macro Forecasts With Healthy Skepticism

Reports forecasting economic trends a decade or more into the future deserve a degree of healthy skepticism regardless of how polished their charts look. Macro forecasts of this scale depend on numerous underlying assumptions about population growth, technology adoption and policy decisions, any one of which can shift meaningfully over a ten-year window.2 Treating a well-designed chart as evidence of a forecast's accuracy, rather than simply evidence of clear communication, is a subtle but important distinction worth keeping in mind when reading any long-range projection.

Choosing the Right Chart for the Right Story

The deeper lesson extends beyond waterfall charts specifically to chart selection generally. Line charts communicate trends over time, bar charts compare discrete categories, and waterfall charts specifically communicate cumulative addition and subtraction building toward a total. Reaching automatically for a familiar, sophisticated-looking format without first asking what story the underlying data actually tells is a common mistake even experienced analysts make under deadline pressure.3

The Broader Lesson Beyond This Specific Report

Even an ambitious, well-researched report forecasting trillion-dollar global trends is ultimately only as persuasive as its individual charts. A chart used with real purpose, highlighting the specific point that actually matters, adds genuine clarity, while a chart used simply because the format is familiar and impressive-looking adds clutter without adding insight.

- 1Waterfall chart
- 2Forecasting

- 3Chart

Summary

A waterfall chart earns its place whenever a story is fundamentally about addition and subtraction building toward a total, income statements, cumulative growth trends, incremental investment. Even a report built around ambitious trillion-dollar forecasts is only as convincing as its individual charts, and a chart used without real purpose adds clutter rather than clarity.