1) Choose your chart

What would you like to show?

categories · **time** · **part to whole** · **distribution** · **geospatial** · **relationship** · **6 exact value**

barchart — one measure
grouped bar — two variables
diverging stacked bar — opposing variables
deviation bar — delta between

floating bar — delta between
stacked bar — one category + total
panel bar — multiple categories
lollipop — like bar but thinner

dumbbell — two groups
proportional — sizing
x/y coordinate plot — measure combination
vertical waterfall — visual calculation

bullet graph — bad/ok/good
parallel coordinate — multi variate data
pictograph — using icons
wordcloud — not recommended

radial column — not recommended
radial bar — not recommended
radar chart — not recommended
gauge — not recommended

dot matrix — frequency count
age distribution — two categories
histogram — per interval
frequency polygon — distribution

error bars — uncertainty
box plot — with median
violin — box plot + density
ridgeplot — distributions over time

number — single big number
table — multiple numbers
deviation box — focus on delta
in bar labeling — more accuracy

line chart — continuous time
dot-line chart — aggregated in time
area chart — one measure

column chart — one measure
stacked column — like column + total
stacked area — like area + total

deviation column — above or below target
deviation line — versus cumulative target
waterfall — change in time

timeline — order of events
sparklines — mini trend
slopegraph — two time stamps

dot plot — before and after
cycle plot — repeating time series
horizon graph — high and low

route map — direction
symbol map — classes
flow map — movement

chloropeth map — value by region
isopleth map — value by area
dot map — distribution

hexbin map — value by hex
bubble map — not recommended
chart on map — not recommended

100% stacked bar — one categorie + 100%
100% stacked column — one timestamp + 100%
100% stacked area — continuous time + 100%
100% bar chart — adding up to 100%

100% stacked bar — category in time
100% stacked column — multiple categories
Sankey diagram — flow
waffle chart — 100 blocks filled

tree map — nested part to whole
100% waterfall — breakdown
parallel set — part to multiple whole
Marimekko chart — plus extra variable

nested area — parts inside other parts
Pareto chart — 80 / 20 analysis
pie chart — not recommended
donut chart — not recommended

funnel chart — conversion
Venn diagram — overlapping
flow chart — step by step
Gantt chart — planning

organization chart — hierarchical
arc diagram — relations
bump chart — rank over time
sorted stream graph — rank + size over time

heatmap — use color to show
network diagram — relations + hierarchie
risk map — visualizing risk
scatterplot — correlation

dendrogram — clustering
sunburst — nested groups
chord diagram — relations
bubble — not recommended

Use this chart for: 🔍 analysing · 💬 communicating · ⚠ monitoring · 💡 confusing

2) Design your chart

Let your data speak

do's

Show in context

Rank your data in a relevant way so patterns and outliers become visible.
relevant ranking

Enrich you chart with target or benchmarks, to give the values more meaning.
target or benchmark

Support easy comparison

When you have more than 4 series, change you chart to small multiples.
small multiple

Gridlines make it easier to compare length of columns and bars and help to see the steepness of lines.
gridlines

Visual hierarchy

De-emphasize all non-data elements like axis and legend. The data is more important.
less is more

Highlight the most important element, to make it stand out.
emphasize

Show and tell

Create a title to name the insight in the chart.
descriptive title

Labels and annotation help your data to tell a story.
annotation

don'ts

Misleading design

A truncated axis in a column or bar-chart distorts the relative size of the columns.
cutting of Y axis

Multiple Y-axis give a false meaning to lines crossing or to the space between lines.
multiple Y axis

Beauty over accuracy

Do not use 3D to make a chart prettier, it will make it harder and more confusing to read.
3D effect

Although fluid lines might look nicer, they are not representing the data properly.
fluid lines

Too much

The human brain can only process a maximum of 4 series in a chart.
more than 4 series

Things that are the same, should have the same color.
too much or meaningless color

Hard to read

Show as little decimals as possible. Always show the same number of decimals.
too much details

Text and numbers that are not horizontal aligned are harder to read.
align text other than horizontally