Analyst Academy

CHOOSING THE RIGHT CHART
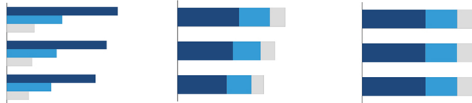
CHART TYPE

BAR CHART

PURPOSE
COMPARE CATEGORIES AGAINST EACH OTHER

BENEFITS
EASY TO READ, ACCURATE, AND RELIABLE

EXAMPLE USES

"Region A had the highest sales"

"Efficiency at factory B lags behind"

"Many companies have at least $1B cash"

VARIATIONS

CLUSTERED
Ideal for comparing subcategories against each other

STACKED
Ideal for comparing totals while still showing subcategory breakdown

100% STACKED
Ideal for emphasizing subcategory changes

TIPS

◦ Put bars in logical order, often from biggest to smallest
◦ Keep spacing between each bar minimal
◦ Always start the X axis at 0
◦ Remove gridlines or other distractions
◦ Avoid unconventional shapes like 3D columns
◦ Avoid using borders on your bars
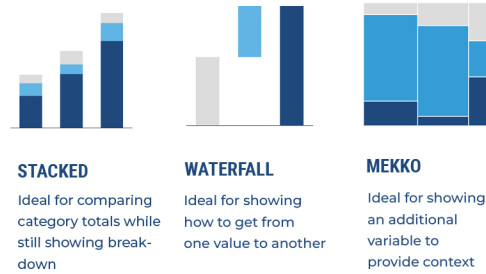◦ Keep the colors of your bar chart simple

CHART TYPE

COLUMN CHART
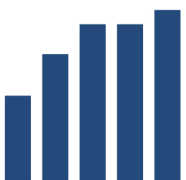
PURPOSE
COMPARE CATEGORIES WITH A NATURAL ORDER

BENEFITS
READS FROM LEFT TO RIGHT, GOOD FOR TIME COMPARISONS

EXAMPLE USES

"Sales peaked in 2022 but have since declined"

"MRR exceeded $1M every month last year"

"Operating costs reached new highs in June"

VARIATIONS

STACKED
Ideal for comparing category totals while still showing breakdown

WATERFALL
Ideal for showing how to get from one value to another

MEKKO
Ideal for showing an additional variable to provide context

TIPS

◦ Avoid long category labels (use bar chart instead)
◦ Distinguish between historical and projected data
◦ Call out important periods of the chart
◦ Keep spacing between each bar minimal
◦ Always start the Y axis at 0
◦ Remove gridlines or other distractions
◦ Avoid unconventional shapes like 3D columns
◦ Avoid using borders on your columns
◦ Keep the colors of your columns simple

CHART TYPE

PIE CHART

PURPOSE
COMPARE ONE OR MULTIPLE CATEGORIES TO THE TOTAL

BENEFITS
EASY TO GAUGE PORTION OF TOTAL

EXAMPLE USES

"20% of autos on the road are trucks"

"Materials account for a majority of costs"

"Only one fifth of working time is productive"

VARIATIONS

DONUT
Ideal for showing extra data in center of chart

SUNBURST
Ideal for showing visual breakdown of categories

TREEMAP
Ideal for showing many layers in a nested space

TIPS

◦ Don't use for comparing categories against each other
◦ Limit the number of categories used
◦ Color the slices you'd like to highlight
◦ Make sure categories add up to 100%
◦ List categories in logical order, starting from the 12 o'clock position
◦ Avoid 3D and other unconventional shapes
◦ Keep your labels simple and concise
◦ Avoid comparing Pie Charts side by side

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available at TheAnalystAcademy.com

CHART TYPE

LINE CHART
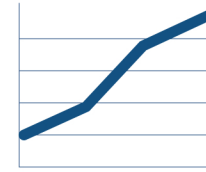
PURPOSE
SHOW CHANGE IN DATA OVER TIME

BENEFITS
HIGHLIGHTS TRENDS, PATTERNS, OR EXCEPTIONS IN THE DATA

EXAMPLE USES

"Apple stock has risen steadily for the past 10 years"

"Sales for Company A have been volatile"

"While the industry declines, our revenue has risen"

VARIATIONS

MULTIPLE LINE
Ideal for showing pattern of multiple categories in the same space

AREA
Ideal for emphasizing change in quantity for a single categories

STACKED AREA
Ideal for emphasizing total change in quantity for multiple categories

TIPS

◦ Add category labels right next to the lines themselves instead of using a legend
◦ Consider the measurement intervals of your data
◦ Call out important sections of your chart
◦ Use contrasting colors when you have multiple lines on your chart
◦ Avoid using too many categories in one chart
◦ Use gridlines if you need to emphasize line slope

CHART TYPE

SCATTER PLOT

PURPOSE
SHOW THE RELATIONSHIP BETWEEN TWO VARIABLES

BENEFITS
EASILY SHOW CORRELATION, PATTERNS, OR OUTLIERS

EXAMPLE USES

"Taller people tend to also weigh more"

"San Francisco is both expensive and crowded"

"Japan's safety is unlike most countries of its size"

VARIATIONS

BUBBLE
Ideal for showing an additional data variable

HEATMAP
Can be used to show patterns in large datasets

PAIRED BAR
Ideal for showing relationship between small dataset

TIPS

◦ Avoid overcrowding your data with too many variables
◦ Avoid overplotting the chart with too many dots
◦ Don't suggest causation where it might not exist
◦ Label your data points when it's appropriate
◦ Exercise caution when using different shapes for your data points
◦ When using bubbles scale based on area, not on diameter