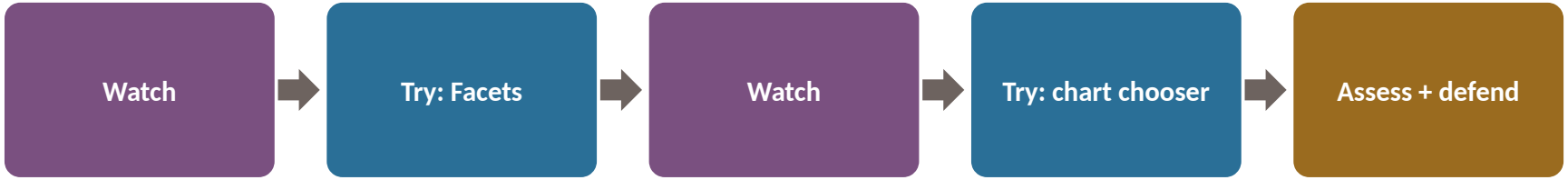
MODULE 3

Exploratory analysis, visualization, and the stakeholder story

Find the signal, encode it honestly, and tell a decision-maker where to go, then defend it live.

Watch a little, then do a little



Each recorded segment is short. You pause, practice the concept hands-on, then return for the next piece.

Where this module sits in the lifecycle

This module is the communicate layer: exploratory analysis surfaces what is real, and the stakeholder story turns it into a decision a non-technical leader can act on and you can defend under questioning.

PART 1 OF 2

Exploratory analysis and honest encoding

About 12 minutes on camera

Profile before you plot

- Profile distributions, missingness, and skew on an unfamiliar dataset, and separate signal worth reporting from noise and artifact.
- Choose a visual encoding by communicative intent, matching the chart to the question the audience is asking, not to the shape of the data alone.
- Refuse false precision: state residual uncertainty in words a VP can repeat.

Match the chart to the question

Comparison

Ranking or comparing categories. A sorted bar, not a pie.

Change over time

A trend across a continuous axis. A line, honestly scaled.

Part-to-whole

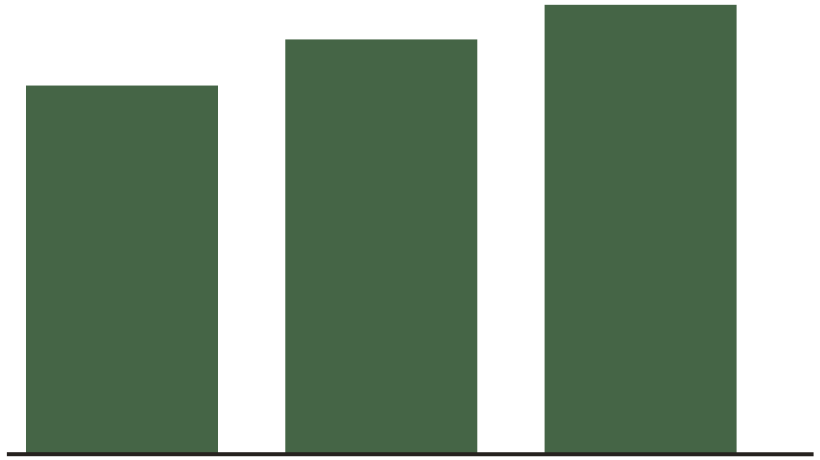
A share of a total. A stacked bar or a single highlighted slice.

Distribution

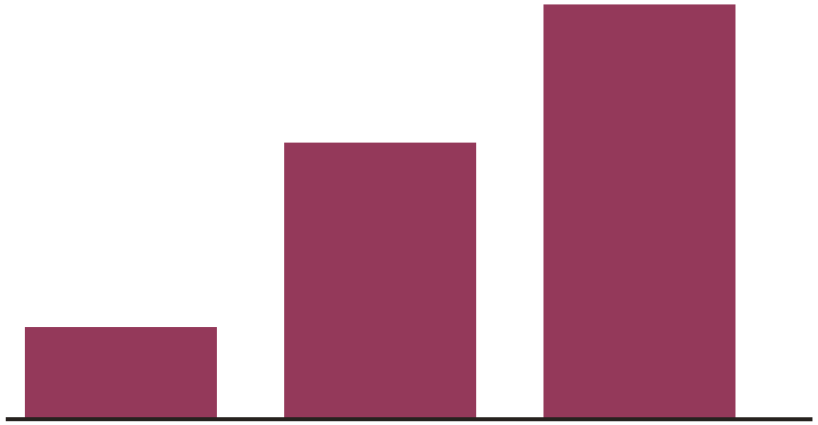
The spread and shape of one variable. A histogram or box.

The same data, told two ways

HONEST (axis at zero)



MISLEADING (truncated axis)



Same three numbers. Cutting the axis manufactures a gap the data does not support.

NOW TRY IT

Google Facets: interactive EDA

- Load a dataset, sort features by distribution, and surface missing, constant, or skewed values.
- Note at least three features whose shape would change how you would report them.

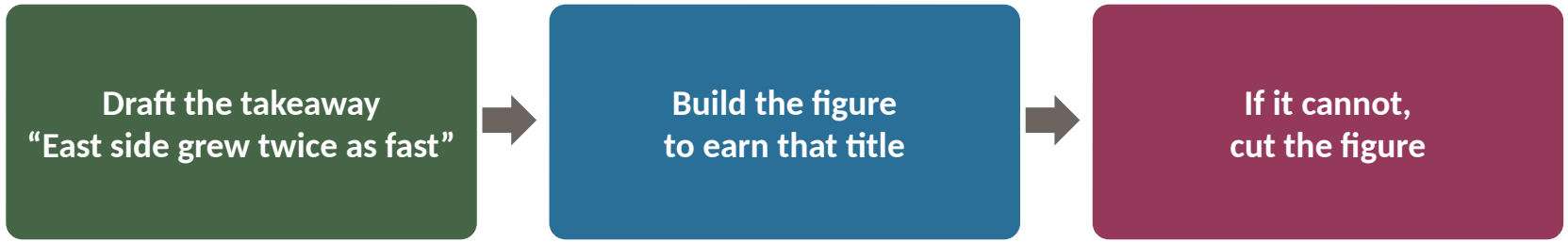
About 15 minutes, then come back for Part 2.

PART 2 OF 2

The stakeholder story and the defense

About 13 minutes on camera

Write the takeaway title first



Titling with the plain-language takeaway first forces every figure to justify its place. Ink should be proportional to the quantity, and color should not imply order the data lacks.

Defend it live

- A five-minute executive brief is not a deck. Name the decision, make the call, and state what would change your mind.
- Answer unscripted, skeptical questions honestly, including “what would change your recommendation?”
- State uncertainty in a sentence, not a hedge: a confidence interval a non-technical person can repeat.

NOW TRY IT

Data-to-Viz and the FT Visual Vocabulary

- Use the Data-to-Viz chart chooser to move from your question and data type to a defended chart form, then study its misleading-figure catalog.
- Pick a final encoding with the Financial Times Visual Vocabulary, matching intent (comparison, change, part-to-whole, distribution) to a specific chart.

About 20 minutes, then build the formative figures.

Formative deliverable (completion points)

- Produce one honest figure and one deliberately misleading version of the same data (truncate the axis, or switch to an unordered color scale).
- Write two sentences naming exactly what makes the difference between them.
- Self-check: the honest version's ink is proportional to the quantity and its title states an actionable takeaway; you can name the perceptual rule the misleading version breaks.

How it counts. Submit the work with a short reflection or evidence you ran it. Credited on completion, not scored for correctness. This is the practice that makes the graded simulation go well.

GRADED ASSESSMENT

The 10-Minute Executive Brief

- A non-technical VP: “We can open one new location, east side or west side. 48 hours, 5 minutes of my time. Don’t send a deck, tell me where to go and why.”
- You get a messy operational dataset with gaps. You do the analysis, make the call, and deliver a tight brief.
- You then defend the recommendation live under unscripted questions.

Includes a live or recorded oral defense: rehearse it first with the on-device defense-practice tool.