

Communicating Data Science to Stakeholders



- Goal: change decisions and behavior, not polish slides



- Leading failure cause: misaligned purpose, not weak models (RAND)



- Over 80% of AI projects fail to deliver business value



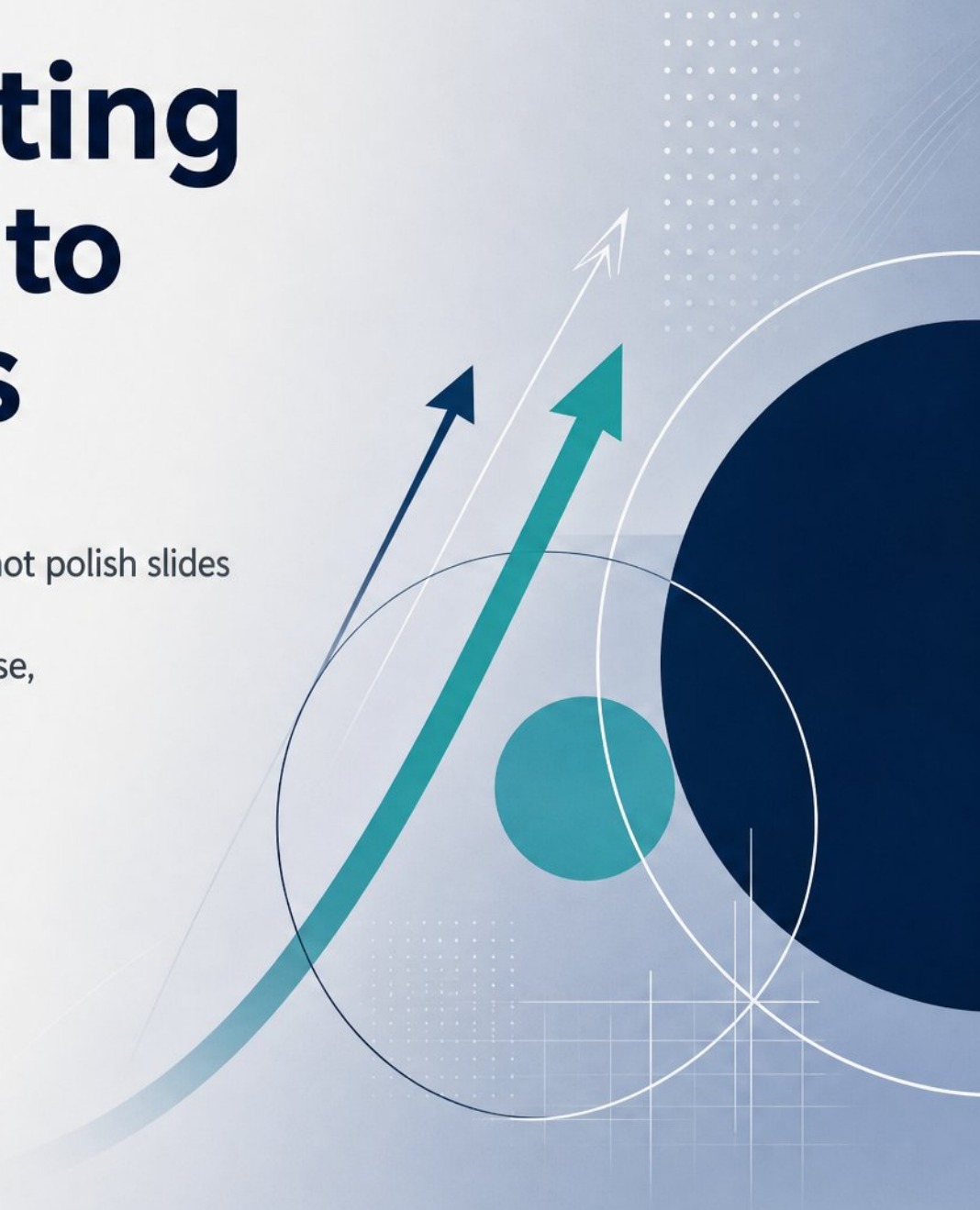
- Communication runs through scoping, metrics, delivery, and follow-through



- Leaders rank data storytelling a top 2026 skill gap; 76% see outperformance



- Guiding standard: did the audience decide better because of you?



Why Communication Is the Bottleneck, Not the Bonus

AI PROJECT FAILURE
IS SETTLED BEFORE ANY
MODEL IS TRAINED.

THE FIVE ORGANIZATIONAL ROOT CAUSES



MISUNDERSTOOD
PROBLEM



INSUFFICIENT
DATA



TECHNOLOGY-FIRST
MINDSET



INFRASTRUCTURE
GAPS



PROBLEMS TOO
HARD

BOTTLENECK
IS ORGANIZATIONAL,
NOT TECHNICAL.



- AI project failure is organizational, not algorithmic — settled before any model is trained.



- RAND's five root causes: misunderstood problem, insufficient data, technology-first, infra gaps, problems too hard. Four of five are non-technical.



- The quiet sixth cause: no named owner, no success metric, no kill criteria, no evidence trail.



- Adoption is high; EBIT impact is not. Deploying a capability $\neq$ governing it.



- Your credibility rests on being understood and trusted when the news is unwelcome.



TECHNICAL PRACTITIONER

Builds the capability
and seeks clarity.

COMMUNICATION IS THE BRIDGE
ALIGNMENT • CONTEXT • TRUST

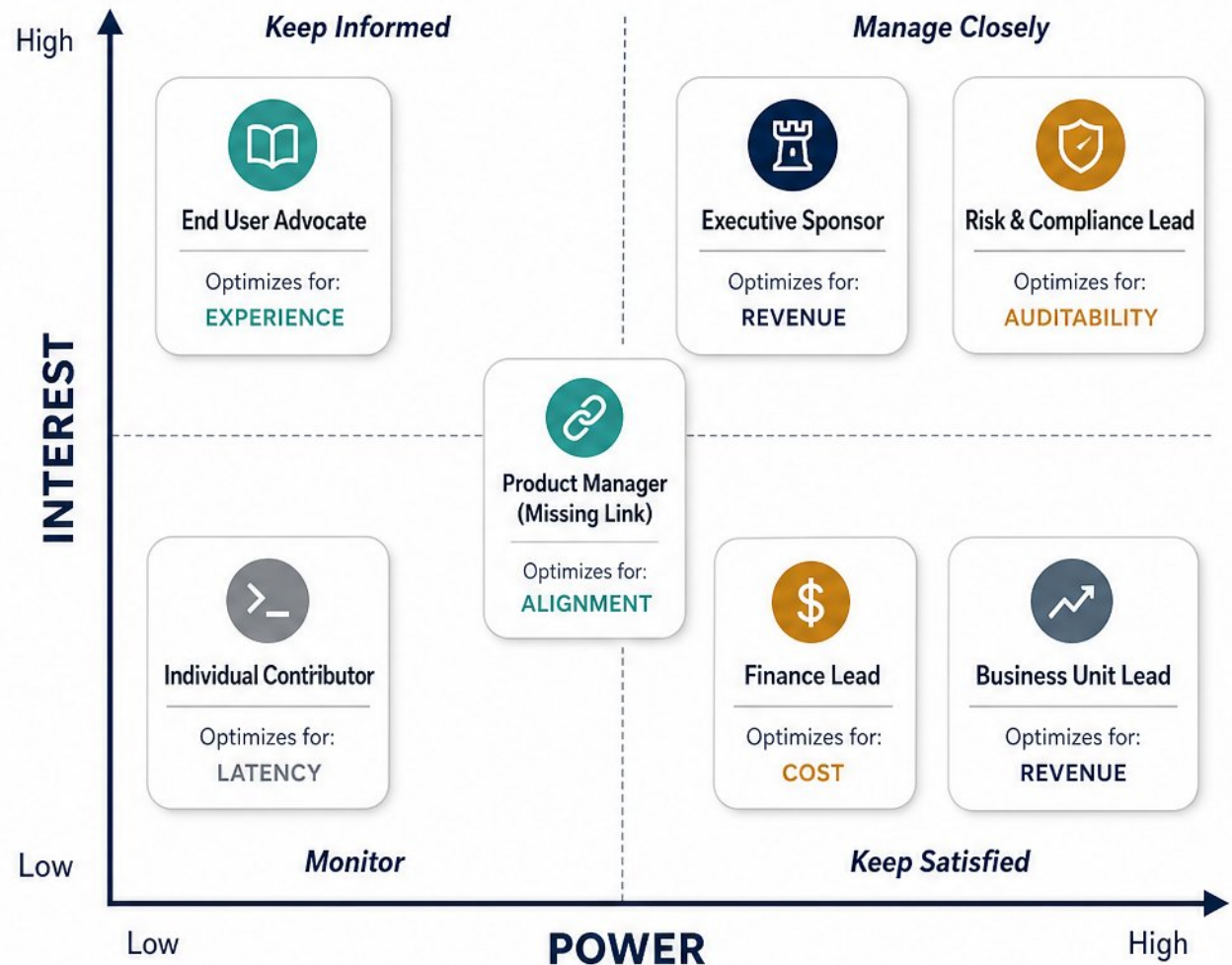
DECISION-MAKER

Carries the mandate
and bears the risk.



Stakeholder Archetypes and What Each One Optimizes For

- Map stakeholders by decision role, not by org chart
- Each role has a currency: risk, revenue, cost, latency, experience, auditability
- Power–Interest grid: manage closely, keep satisfied, keep informed, monitor
- Stakeholder Saliency Model adds urgency and legitimacy to raw power
- Product management is the missing link between technical and business sides
- Assess statistical literacy by asking "what would change your mind?"



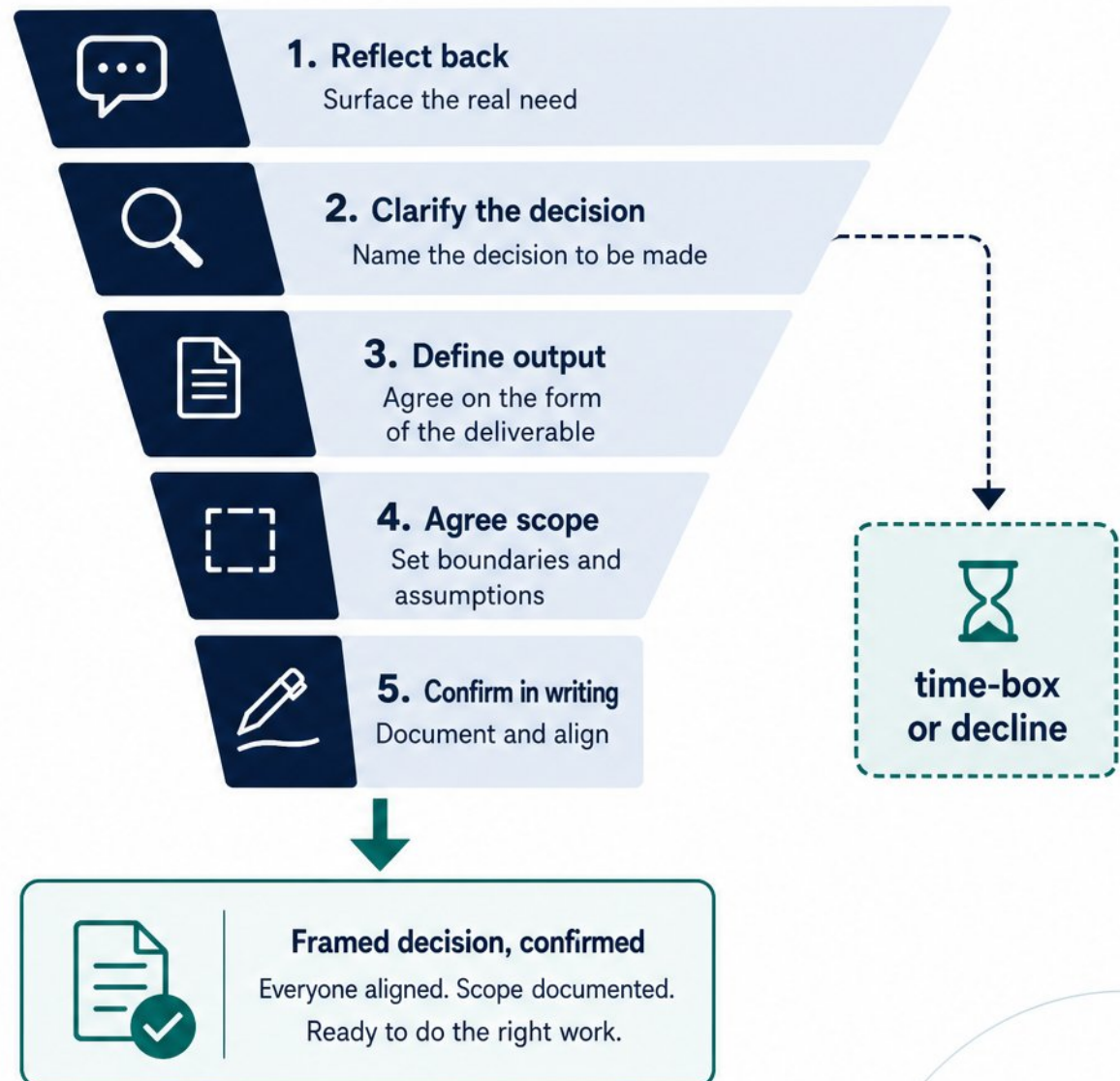
Choose the right path.

Frame the decision. Align the stakeholders.

Translating Vague Requests into Decisions

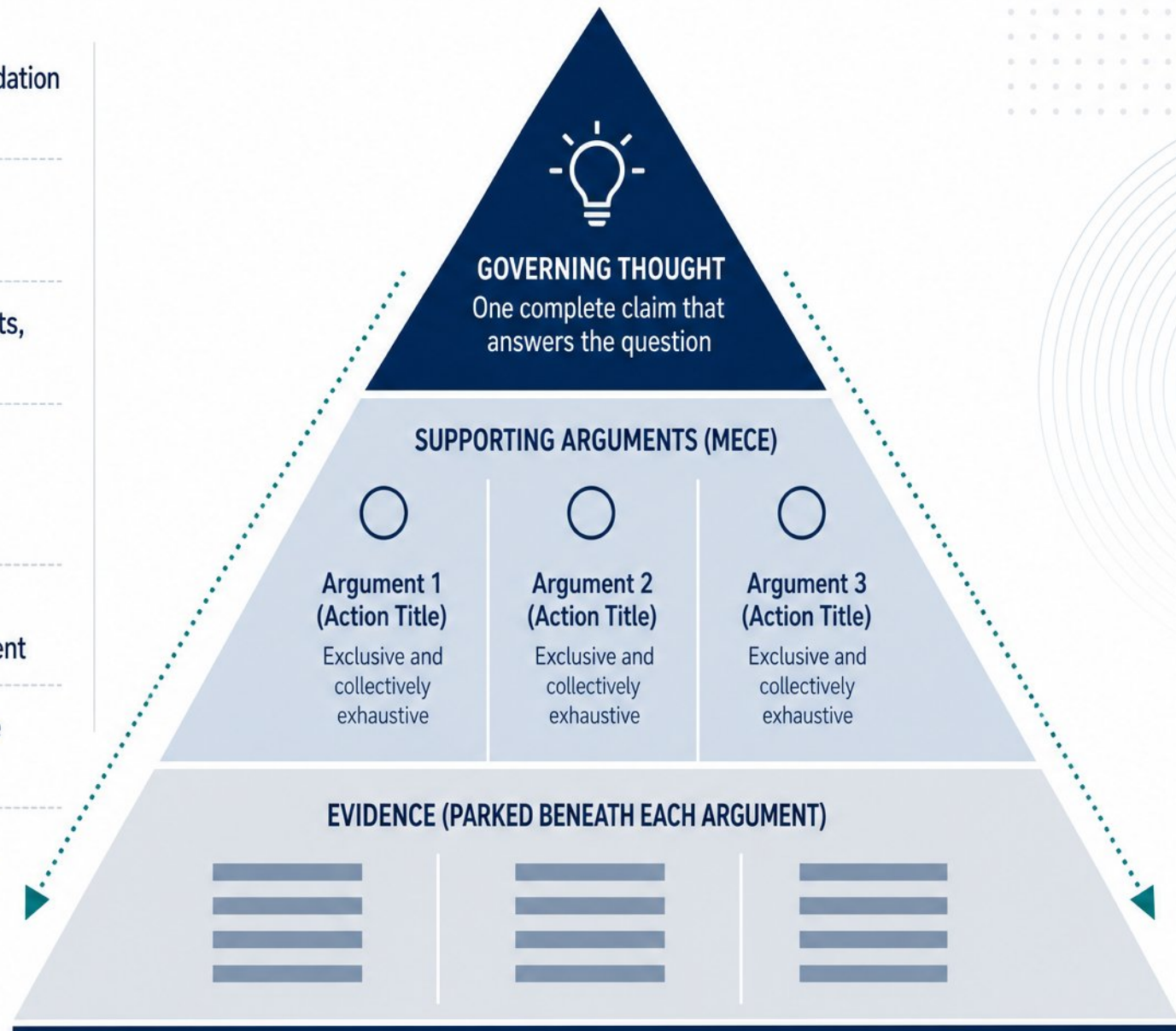
- Every vague request hides a specific decision waiting for a frame
- Five-step intake: reflect back, clarify the decision, define output, agree scope, confirm in writing
- Ask "what would change your mind?" — if nothing would, the analysis is performative
- Capture context on a Decision Context Canvas: objective, decision type, horizon, risk, metrics
- Separate exploratory work (hypotheses, time-boxed) from decision support (recommendation)
- Documented scope makes the stakeholder a co-owner and blocks scope creep

Five-step intake: from vague request to framed decision

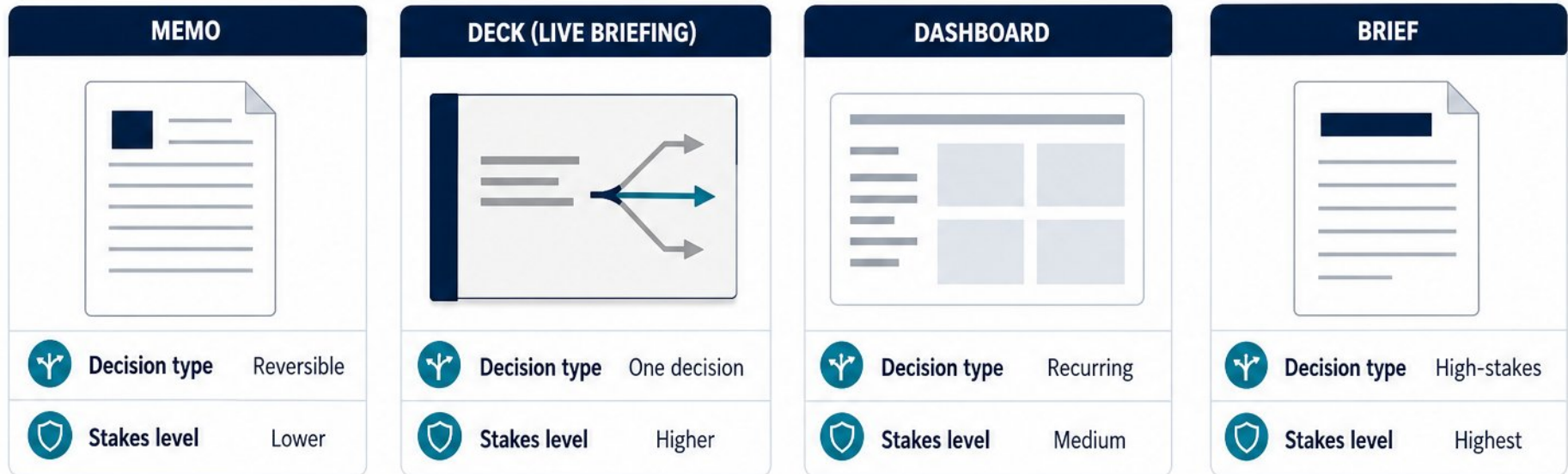


Message Architecture: Answer First, Evidence Second

- ✓ Lead with the answer: recommendation first, not a journey (BLUF)
- ✓ Governing thought on top: one complete claim, not a topic
- ✓ Support with 3–5 MECE arguments, evidence parked beneath each
- ✓ Open with SCQA when context is missing: Situation, Complication, Question, Answer
- ✓ Action titles: an executive reading only your titles gets the full argument
- ✓ One message per slide – if the title needs 'and,' split it
- ✓ You think bottom-up; you present top-down



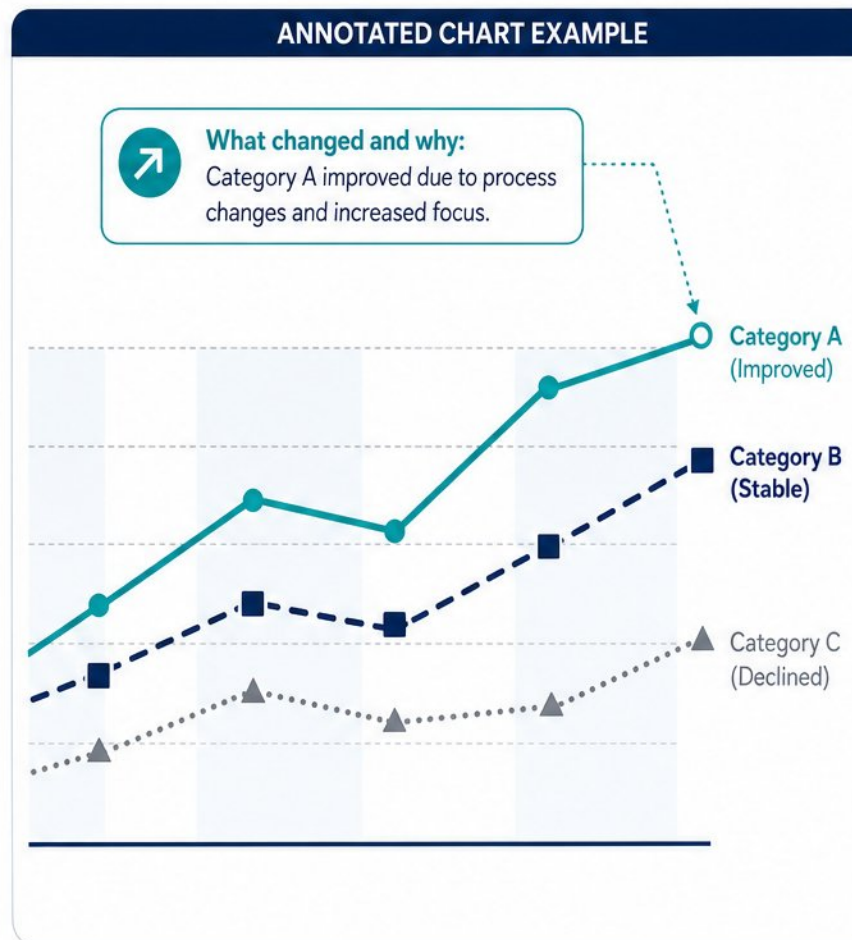
Choosing the Format: Memo, Deck, Dashboard, or Briefing



- Match format to decision: reversible favors memos, irreversible favors live briefings
- A briefing moves one decision — approve, fund, choose, kill, or accept risk
- 8 to 12 slides in 15 to 20 minutes; state the ask, cost, and deadline first
- Plan for interruption: half presenting, half answering questions
- Briefing flow: ask, why now, 2–3 options, evidence, risks, next steps
- Dashboards suit recurring decisions, not one-time political recommendations

Decision-Grade Visualization and Accessibility Basics

-  - Match chart to intent: bar for comparison, line for trend, scatter for relationship
-  - Three-second rule: if the insight isn't clear in three seconds, redesign the chart
-  - Color must never carry meaning alone—pair hues with labels, patterns, or shapes
-  - Keep text and graphical elements at or above a 4.5:1 contrast ratio
-  - Every chart needs a text alternative: short summary plus structured data table
-  - Direct annotation beats legend-hunting: put 'what changed and why' on the chart



TEXT ALTERNATIVE

Short Summary

Category A shows improvement over time due to process changes and increased focus. Category B remains stable. Category C declines slightly.

Structured Data Table

			
	—	—	—
	—	—	—
	—	—	—

Note: Table includes values in reading order for assistive technologies.

ACCESSIBILITY AT A GLANCE

Aa

Use clear, simple language in titles and labels.



Use patterns and shapes in addition to color.



Maintain strong contrast for all text and shapes.



Annotate directly to communicate insight and reason.

Communicating Uncertainty, Limitations, and Model Risk



- **Lead with the recommendation,** then quantify uncertainty with a calibrated range



- **Translate jargon:** "we're confident this is real," not "statistically significant"



- **Name the uncertainty type:** measurement, parameter, input, structural, scenario, decision



- **Don't confuse model confidence with statistical uncertainty or data quality**



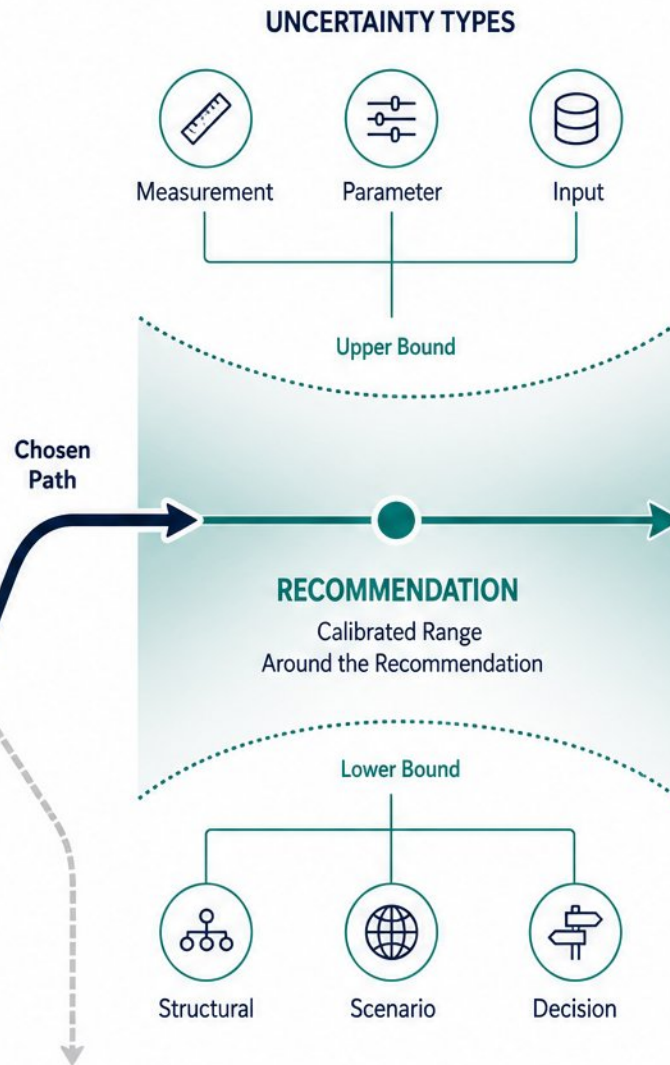
- **Say it concretely:** missing data, noisy labels, rare events, concept drift



- **Write specific use limits,** not vague "use with caution"



- **Govern proportionate to risk:** success metrics, named owner, kill criteria, evidence trail



USE LIMITS

- Define when and where the model applies
- Define the population, context, and conditions
- State exclusions explicitly
- State monitoring needs while in use



KILL CRITERIA

- Predefine failure signals
- Define the action when triggered
- Escalate and stop when needed
- Document and learn



GOVERN PROPORTIONATE TO RISK



Success Metrics



Named Owner

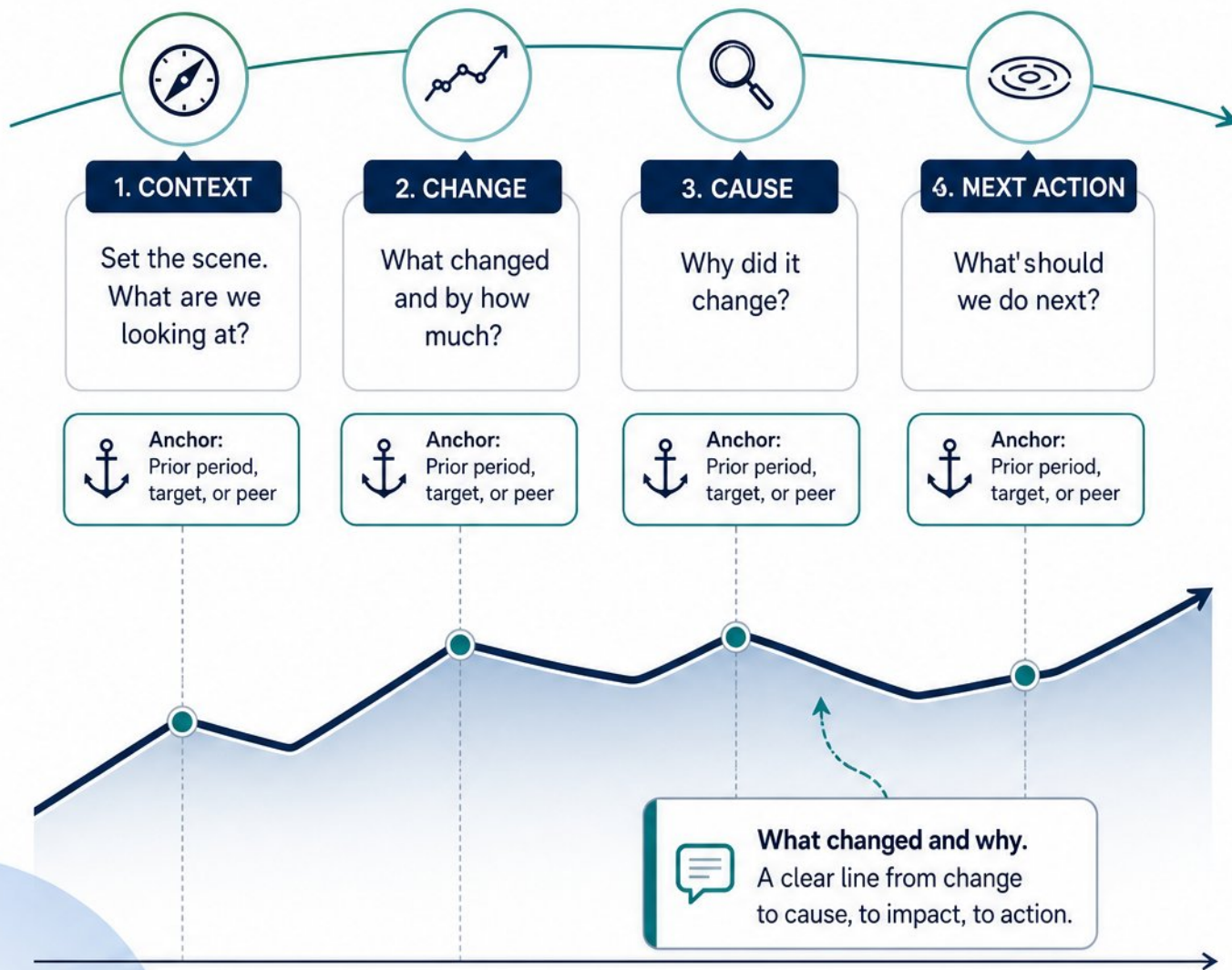


Kill Criteria



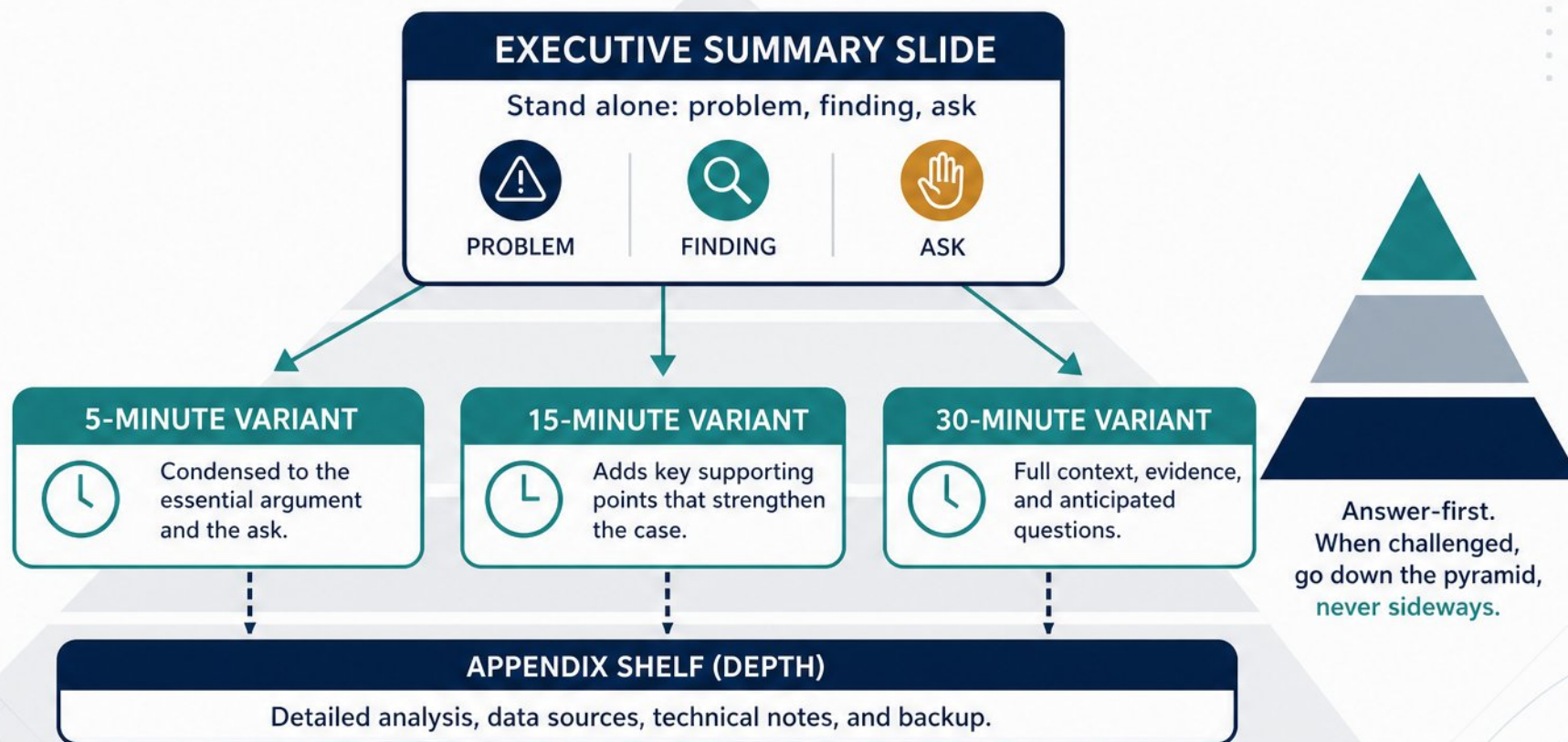
Evidence Trail

Data Storytelling Without Manipulation



- Structure every story: context, change, cause, impact, next action.
- A number without a comparison is noise—anchor to prior period, target, or peer.
- Supply the cause: the analyst's job, and the part most often skipped.
- Always end with a "so what"—an action, or "within normal variance."
- Use narrative arc deliberately: setting and hook, rising findings, aha moment, solution.
- Persuasion helps the audience reach a supported conclusion faster; manipulation selects evidence.
- Don't force a story: keep exploratory work and self-serve dashboards neutral.

Presenting to Executives and Mixed-Literacy Rooms



- ✓ Executive summary slide must stand alone: problem, finding, ask
- ✓ Prepare 5-, 15-, and 30-minute variants for every room
- ✓ When challenged, go down the pyramid, never sideways
- ✓ Expect: total 3-year cost, cost of doing nothing, data sources
- ✓ Park interruptions, state impact on recommendation, return to ask
- ✓ Leave behind a one-pager or FAQ so the argument survives

Dashboards, Metric Governance, and Self-Service Trust

- ✓ Design backward from one decision, not a topic like "Sales Overview"
- ✓ Cap primary view at 5–9 KPIs; every metric needs a comparison
- ✓ Match type to cadence: strategic weekly, operational live, analytical on demand
- ✓ Govern metrics first: semantic layer defines formula, grain, owner once
- ✓ "Three revenue numbers" is a governance failure that destroys trust
- ✓ Ship nothing without owner, "as of" timestamp, and sunset criteria
- ✓ One line of "what changed and why" on every tile



DECISION FOCUS

Make the right call on our next resource commitment.

AS OF
Timestamp



KPI 1

Comparison: vs. Prior

Owner: Owner Name
As of: Timestamp

What changed and why.



KPI 2

Comparison: vs. Prior

Owner: Owner Name
As of: Timestamp

What changed and why.



KPI 3

Comparison: vs. Prior

Owner: Owner Name
As of: Timestamp

What changed and why.



KPI 4

Comparison: vs. Prior

Owner: Owner Name
As of: Timestamp

What changed and why.



KPI 5

Comparison: vs. Prior

Owner: Owner Name
As of: Timestamp

What changed and why.



KPI 6

Comparison: vs. Prior

Owner: Owner Name
As of: Timestamp

What changed and why.



KPI 7

Comparison: vs. Prior

Owner: Owner Name
As of: Timestamp

What changed and why.

TREND INSIGHT (EXAMPLE)

What changed and why.



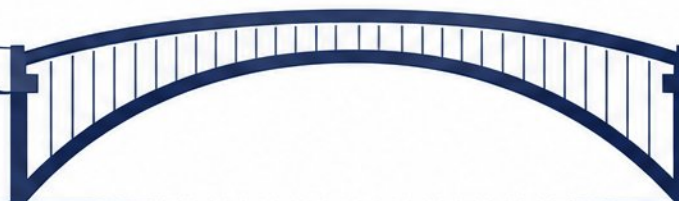
Handling Pushback and Difficult Conversations

- Pushback is engagement: treat challenges as new hypotheses, not attacks.
- Start with curiosity: listen fully, ask for specifics, separate results from assumptions.
- Three responses: stand by, revise with context, or rerun a targeted piece.
- When analysis contradicts a decision already made, acknowledge tension and offer alternatives.
- Log disagreements, decisions, and caveats so the record stays honest and revisitable.



TECHNICAL PRACTITIONER

Brings evidence, methods, and rigor.



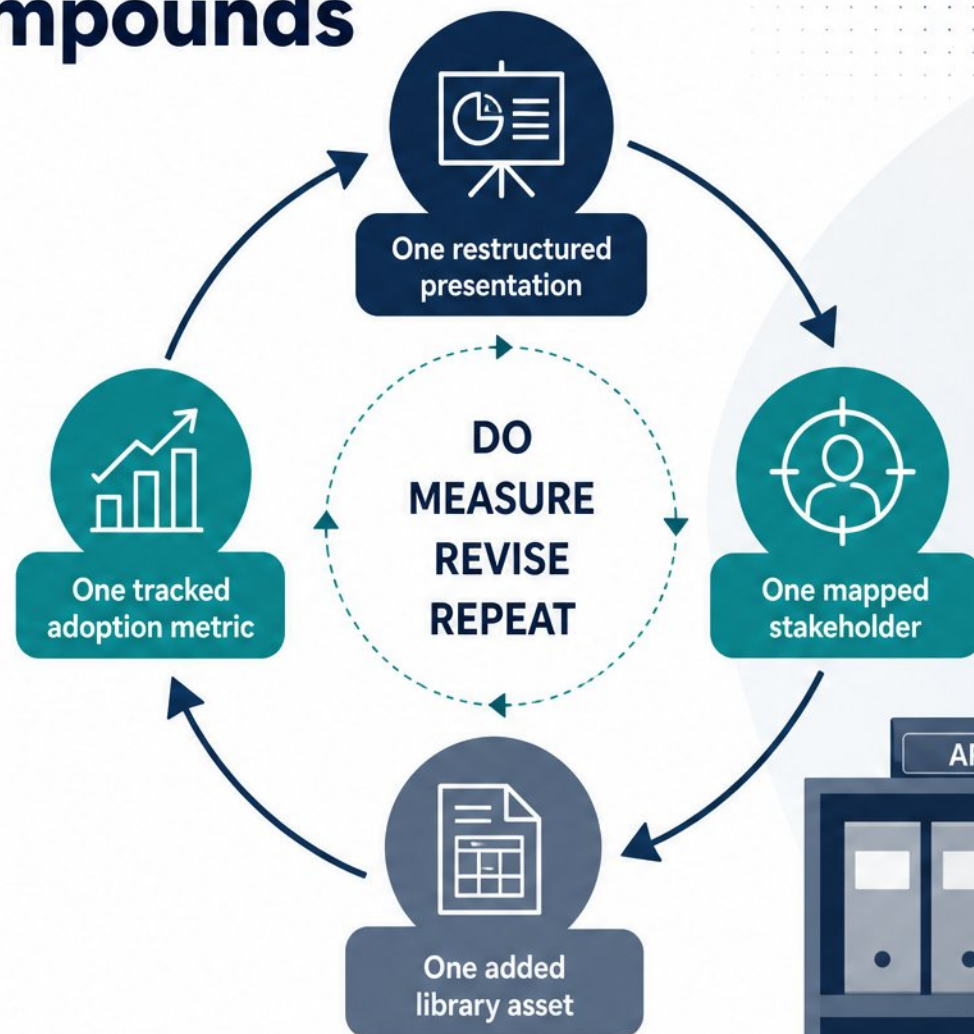
DECISION-MAKER

Holds context, priorities, and accountability.



Building a Communication Practice That Compounds

- Instrument adoption, not output: unique viewers, repeat viewers, time on view
- Measure impact: decision adoption, usage, fewer "wrong number" tickets
- Separate outputs from outcomes: "deck sent" vs. "budget approved"
- Build a reusable asset library: templates, chart standards, metric conventions
- Run peer reviews and dry runs before high-stakes presentations
- Solicit feedback on clarity, relevance, and actionability
- Sweep quarterly: archive dashboards with under three viewers monthly
- Close with a 30-60-90 day plan to make one improvement each month



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