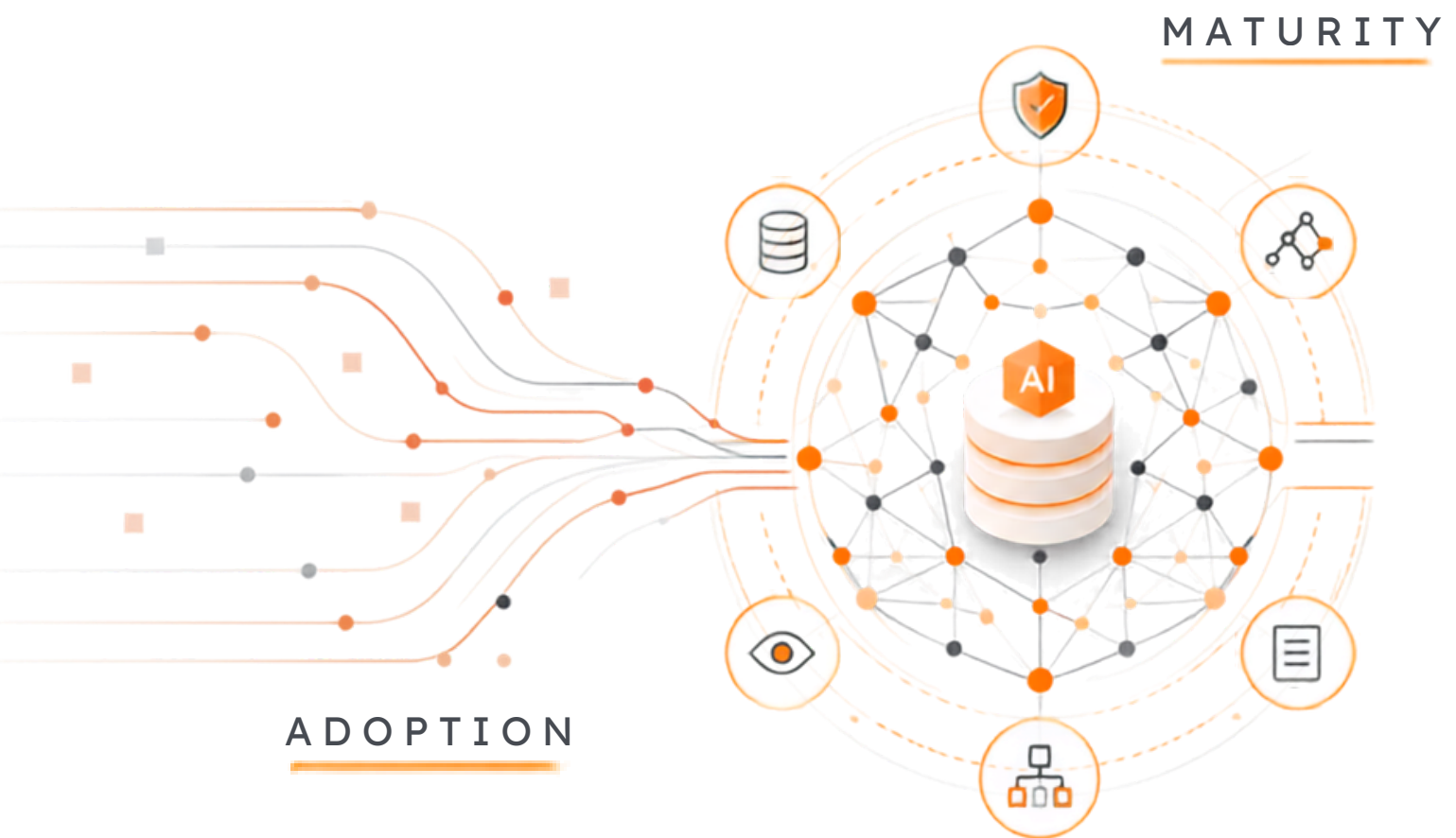


Why **AI Adoption** and **AI Maturity** Are Two Different Curves



88% adoption hasn't produced 88% capability, here's the gap in between

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Executive Summary

From The Modern Data 101 Community

AI adoption hit 88%, yet only 29% report substantial GenAI ROI. This issue explores cross-industry research from Cognizant, INSEAD, and CMU defines real AI capability.

Organisational AI adoption reached 88% in 2025, and 77% of companies have used or explored AI in their operations.

What hasn't happened at anywhere near the same pace is maturity: the ability to convert access into governed, repeatable, financially accountable capability.

Only 29% of organisations report substantial ROI from generative AI, and just 23% from AI agents, evidence that adoption and maturity are now two separate curves, not one. This brief traces that gap across three independently built research frameworks and extends Modern Data 101's prior brief, one level up: data architecture is the foundation AI runs on; maturity is the discipline needed to actually climb it.

2

AI Adoption Numbers

By the numbers, 2025 was the year AI adoption became unremarkable. Generative AI reached 53% global adoption in three years, faster than PCs or the internet reached the same milestone, and ChatGPT alone now counts roughly 700 million weekly active users. Inside the enterprise, 83% of companies now name AI a top business priority, and 34% say they rely on it to “deeply transform” their business.

78% of businesses lack a data foundation that is “very ready” to support generative AI. Source: MIT Technology Review Insights & Snowflake

52% vs. 17.4%

The enterprise-size gap remains wide: 52% of large firms use AI versus just 17.4% of small firms, up from a national base rate of 20.2% of all firms in 2025, itself roughly double the 2023 rate. Adoption is broad, but far from even.

3

The Maturity Gap: Why Adoption Metrics Mislead

Adoption counts access. It does not measure whether that access produces anything. 75% of executives admit their company’s AI strategy is “more for show” than actual internal guidance, and 48% now call AI adoption a “massive disappointment,” up from 34% just a year earlier. Carnegie Mellon’s Software Engineering Institute, working with Accenture on a field-tested AI Adoption Maturity Model, defines the difference precisely: maturity means AI capability that is scalable, repeatable, measurable, and governed, however widespread that experimentation becomes.

The Maturity Gap: Why Adoption Metrics Mislead

Enthusiasm isn't the bottleneck

As one framing puts it plainly, adoption means running pilots and testing tools in isolation; maturity means AI integrated into core workflows, with infrastructure that supports continuous learning. Most organisations have plenty of the former and very little of the latter, which is why 79% now report AI adoption challenges, a double-digit jump from the year before.

It's an architecture gap wearing a company-size costume

The 52%-vs-17.4% enterprise-size divide looks like a resources story, but it is more precisely a data-architecture story. Large firms spent the last decade building governed data platforms for other reasons, compliance, BI, ERP consolidation that AI now rides on top of. Most smaller firms never built that foundation, so for them “adopting AI” means doing the architecture work and the AI work at once. That is a structurally harder problem than an adoption percentage suggests.

4

Three Models, One Convergent Pattern for AI Adoption

Three research groups, working independently, in different industries, using different methods, describe the same underlying shape. Their language differs; the architecture they describe does not.

AI Adoption's Maturity Path

Cognizant's cross-industry research tracks five sequential stages; awareness, skilling, adoption, productivity, and ROI, and finds that industries which score well on awareness and adoption often rank lowest on productivity and ROI. Life sciences illustrates the pattern precisely: 77% of employees believe AI can help their work, yet only 35% have access to the tools, and just 33% of executives report measurable productivity gains, 9 points below the cross-industry average. 31% of the sector's AI deployments have been paused or discontinued outright.

Three Models, One Convergent Pattern for AI Adoption

INSEAD's AI maturity pyramid

INSEAD's research describes four levels: individual productivity, group productivity, business process efficiency, and business model transformation, and argues the top level "cannot be mandated into existence; it emerges from mastery of the levels below." Energy firm Yinson built broad fluency first (employees used AI across 6 of 10 work activities on average) before automating processes; only then did transformation-level bets, the kind that took DBS from a bank into a consumer marketplace, and Rolls-Royce from selling engines to selling "power by the hour" become viable.

The pattern that repeats

Skipping a stage moves the failure downstream. An organisation that jumps to INSEAD's level-3 process automation without level 1–2 fluency is the organizational mirror of what Cognizant finds in life sciences: strong awareness and adoption scores sitting on top of weak productivity and ROI. Both describe the same failure, measured two different ways.

5

The Proficiency Curve: AI Adoption to AI Maturity

The same gap shows up one level down, inside individual usage. Organisations typically report 50–70% AI adoption, but proficiency analysis reveals only 15–25% of users generating real business value from it; the rest have access without capability. Power users, meanwhile, generate 10–50x more value than beginners from identical tools, yet make up only 1–3% of users without deliberate development.

The shape will be familiar to anyone who has plotted a classic technology-adoption curve: a long tail of casual users below a thin layer of power users, with most of an organization's workforce clustered in the middle, technically adopted, not yet proficient. Read alongside INSEAD's pyramid and Cognizant's five stages, the proficiency curve is the same maturity pattern restated as a distribution of individual habits rather than organisational capability, fractal.

6

Governance: The Skipped Dimension

Nowhere is the adoption-maturity gap wider than in agentic AI. 97% of executives say their company deployed AI agents in the past year, but only 21% report having a mature governance model for them.

36% of executives don't follow a formal supervision plan for their agents, and 35% admit they couldn't immediately shut down a rogue one. Analysts project 40% of agentic AI projects will be cancelled by 2027 on cost and ROI grounds, the same productivity-and-ROI stall Cognizant documents, arriving one technology cycle later.

7

Strategic Imperatives for AI Maturity

Five moves that separate compounding capability from stalled adoption

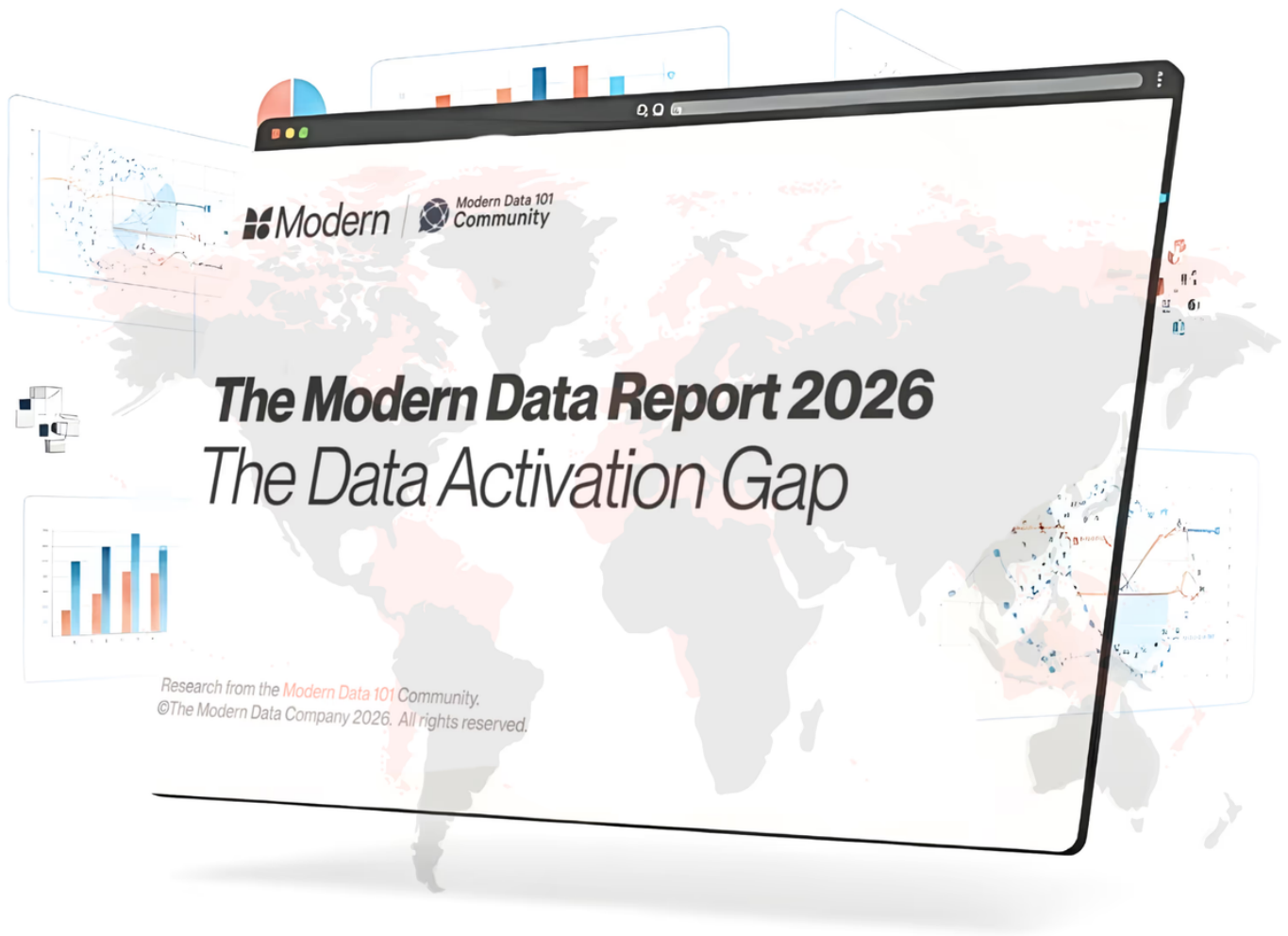
1. Measure proficiency and productivity instead of adoption: An 88% access rate says nothing about the 29% ROI rate sitting underneath it.
2. Treat maturity as sequential: Build fluency (levels 1–2) before automating core processes (level 3), before betting the business model (level 4).
3. Close the data-architecture gap first, especially in smaller firms: Adoption without a governed data foundation just moves the failure from pilot stage to scale stage.
4. Govern agents like a system: The 21% with a mature governance model are the ones positioned to survive the cancellation wave headed for the other 79%.
5. Systematically cultivate power users rather than waiting for them to emerge: Moving users from beginner to intermediate proficiency is the highest-ROI AI investment most organisations aren't making.

Conclusion

Adoption was the easiest part of the climb. Across Cognizant, INSEAD, CMU SEI, and Larridin, the same conclusion holds regardless of which altitude the research was taken from: capability compounds through stages that most organisations are skipping, not through faster access. The firms that pull ahead over the next few years won't be the ones with the highest adoption numbers to report; they'll be the ones treating maturity as sequential infrastructure, built stage by stage on the same governed data architecture Modern Data 101 examined in our report on [Data Architectures for AI](#). Adoption gets an organisation into the room. Maturity is what it does once it's there.

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