



Capvion Insights

Strategic perspectives on capital, growth and transformation

The Enterprise AI Adoption Gap

Why Most Companies Fail to Move from Pilots to Production

Process readiness, data quality, and infrastructure maturity matter more than model selection

Sander Barens | April 20, 2026

with associates

Capvion Insights provides strategic perspectives on value creation, transformation, and leadership in technology and telecommunications businesses.

Each publication examines how strategy, capital, and execution interact to shape enterprise value in complex markets.

Drawing on extensive board-level, advisory, and operational experience, Capvion and its associates combine strategic thinking with real-world execution across numerous M&A transactions, platform integrations, and growth transformations in the technology and telecom sectors.

Our insights are designed to support founders, executives, and investors in navigating complex growth, restructuring, and transaction environments.

Each publication reflects Capvion's commitment to clarity, independence, and practical relevance.

Executive Insight

Artificial Intelligence has moved rapidly from experimentation to expectation, from boardroom enthusiasm to operational reality. Yet across the technology and telecommunications sectors, a striking pattern persists: most enterprise AI initiatives stall between pilot and production. The gap is not about the technology itself. It is about whether the organisation is built to absorb and operationalise AI.

Boards and executive teams have committed capital. Vendors have delivered platforms. Proof-of-concept projects have demonstrated what AI can do in controlled environments. But when organisations attempt to operationalise these initiatives, embedding AI into live workflows, production systems, and customer-facing processes, most stall or fail entirely.

The pattern is consistent and the causes are structural. Business processes were never designed for AI. Data is fragmented, inconsistent, or simply not clean enough. Legacy infrastructure, particularly in operational technology environments, lacks the compute capacity to support AI workloads. And under pressure to demonstrate efficiency gains, many organisations deploy too broadly, too quickly, without first building demonstrable, measurable value.

At the same time, the market itself has become a barrier. The proliferation of AI cloud platforms, foundation models, and service providers has created a fragmentation problem that makes architecture and vendor decisions unnecessarily complex. In practice, what is needed are sovereign, controlled AI deployments, not consumer-grade public models, yet clarity on how and where to begin remains elusive.

The organisations that will capture real value from enterprise AI are not the ones that move fastest. They are the ones that prepare best.

Key Takeaways

- Most enterprise AI projects never move beyond the pilot phase, not because the technology fails, but because the organisation is not ready to operationalise it.
- Business processes are often not designed for AI. They need to be reviewed, simplified, and standardised before automation or intelligence can be meaningfully layered on.
- Data quality remains the single largest barrier to enterprise AI adoption. AI cannot deliver value when the underlying data is incomplete, inconsistent, or poorly structured.
- Legacy infrastructure, particularly in operational technology environments, often lacks the compute capacity, connectivity, and architecture to support AI workloads at production scale.
- Under pressure to demonstrate efficiency gains, many organisations deploy AI too quickly and too broadly, without first establishing demonstrable, measurable benefits in a controlled scope.
- The proliferation of AI cloud platforms, foundation models, and service providers has created a fragmentation problem.
Architecture and vendor decisions have become unnecessarily complex.
- Across industries, what is required are sovereign, controlled AI deployments rather than consumer-grade public models, but clarity on where to begin remains scarce.
- The organisations that succeed start small, get expert guidance early, and invest in data and process readiness before attempting to scale AI initiatives across the enterprise.

Context

The enterprise AI conversation has evolved. Two years ago, the focus was on whether AI could revolutionise business operations. Today, the question is why this transformation has not happened at the scale many expected.

Although organisations invest heavily in AI platforms, tools, and talent, most initiatives remain stuck in pilot mode. Proof-of-concept projects generate excitement and achieve promising results, but often fail to progress to full production.

This occurs across sectors, but is particularly common in industries with complex operations, such as telecommunications, utilities, manufacturing, and infrastructure-focused technology businesses.

The obstacles are usually structural, not technical, and follow a familiar pattern:

- Processes designed for people, not machines

- Fragmented, inconsistent, or ungoverned data estates
- Infrastructure unable to support AI beyond lab settings
- Deployment strategies valuing speed over clear benefits
- A fragmented market that complicates vendor choices

Recognising these barriers is the first step towards overcoming them.

Analysis

The gap between AI ambition and AI execution is driven by several interconnected barriers that together create an adoption wall many organisations underestimate.

Processes Are Not AI-Ready

Enterprise processes were overwhelmingly designed for human execution. They rely on tacit knowledge, informal handoffs, manual exceptions, and institutional memory that no algorithm can interpret.

Before AI can automate, augment, or optimise a process, that process needs to be documented, standardised, and structured in a way that a machine can parse. In practice, this means simplifying workflows, eliminating redundant steps, defining clear inputs and outputs, and removing the ambiguity that human operators navigate intuitively but AI cannot.

This is not an AI project. It is a process excellence project. And it needs to happen before, not alongside, the AI deployment.

AI adoption also requires behavioural change. Employees need to trust, understand, and integrate AI into their workflows, which takes time and deliberate change management.

Organisations that skip this step consistently find that their AI models are learning from noise rather than signal, and the outputs reflect it.

Data Quality: The Foundation That Is Not There

There is a simple truth that the AI industry has been reluctant to state plainly: there is no AI without clean data.

Enterprise data estates are typically fragmented across multiple systems, formats, and governance regimes. Customer records conflict. Operational data is incomplete. Financial data sits in spreadsheets that no one has reconciled. Metadata is inconsistent or absent entirely.

AI models trained on poor-quality data do not produce poor-quality insights. They produce confident, plausible, and wrong insights, which is significantly more dangerous.

Data readiness is not a technical prerequisite. It is a strategic one. Organisations must invest in data governance, quality frameworks, and integration architectures before expecting AI to deliver meaningful results. This investment is neither glamorous nor fast, but it is non-negotiable.

Legacy Infrastructure and OT Constraints

In many industries, particularly those with significant operational technology environments, telecommunications networks, manufacturing floors, energy grids, logistics operations, the compute infrastructure was never designed for AI workloads.

AI at production scale requires significant processing capacity, low-latency data pipelines, and architecture that can support continuous model inference. Legacy OT systems, often running on embedded hardware with limited connectivity and proprietary protocols, simply cannot accommodate this.

The gap is not just about computing power. It is about architecture. Moving from isolated, purpose-built OT systems to an environment that can ingest, process, and act on AI-driven insights requires fundamental infrastructure modernisation, a multi-year investment that cannot be shortcut by adding a cloud AI layer on top.

In simple terms, the environment in which AI needs to operate was never built to support it.

The Complexity Trap: Too Much, Too Fast

Under pressure from boards and shareholders to demonstrate efficiency gains, many organisations attempt to deploy AI across too many use cases simultaneously. The result is predictable: resources are spread thin, no single initiative reaches production quality, and the organisation loses confidence in AI as a value driver.

The most common pattern is a proliferation of disconnected pilots across different departments, each using different tools, vendors, and methodologies. Without a coherent enterprise strategy, these pilots compete for resources and attention, generate contradictory results, and create technical debt that makes future scaling harder, not easier.

The discipline to start small, to identify one or two use cases with clear, measurable benefits, demonstrate value, and then expand systematically, is the single most underrated capability in enterprise AI adoption.

Market Fragmentation: Too Many Choices, Too Little Clarity

The AI vendor landscape has become overwhelming. Multiple cloud infrastructure providers, dozens of foundation model vendors, hundreds of AI service providers, and an ever-expanding ecosystem of tools, frameworks, and platforms compete for enterprise attention and budget.

For a mid-market technology or telecom company, navigating this landscape is a strategic challenge in itself. Which cloud platform? Which models? Build or buy? Open source or proprietary? On-premise or cloud? Multi-model or single-vendor?

The fragmentation creates decision paralysis. Organisations delay commitments, run parallel evaluations, and end up with hybrid architectures that are more complex than the problems they were designed to solve.

What organisations actually need is not more choice. It is a clear, opinionated architecture strategy that aligns with their specific operational reality, data estate, and regulatory environment.

The Sovereignty Question: Enterprise vs. Consumer AI

There is a fundamental distinction that the market has not yet fully absorbed: enterprise AI and consumer AI are fundamentally different propositions.

Consumer AI tools, large language models, general-purpose chatbots, public cloud AI services, are designed for broad applicability, ease of use, and rapid adoption. Enterprise AI, by contrast, must operate within strict governance, compliance, and data sovereignty frameworks. It must integrate with existing systems. It must produce auditable, explainable outputs. And in many jurisdictions, it must ensure that sensitive data never leaves the organisation's control.

In practice, sovereign AI deployments are increasingly what the market demands: models trained or fine-tuned on proprietary data, running within controlled environments, governed by clear policies, and auditable by regulators. The public, consumer-oriented AI products that dominate the headlines are rarely suitable for this purpose.

The challenge for many organisations is not whether they need sovereign AI, but how and where to start building towards it. This is where external expertise, from advisors, system integrators, and specialist AI consultancies, can compress timelines and reduce risk significantly.

"The organisations that will capture real value from AI are not the ones that move fastest. They are the ones that prepare best, starting with clean data, sound processes, and the discipline to scale only what works."

Capvion Perspective

In our experience advising companies, investors, and operators across technology and telecommunications markets, the companies that extract real, sustained value from AI share three characteristics. None of them involve selecting the right model.

Start Small, Build Incrementally

The most effective enterprise AI deployments begin with a single, well-defined use case where value can be measured and demonstrated. One process. One dataset. One measurable outcome. Once the organisation has proven that AI delivers tangible benefits in a controlled scope, it earns the credibility and the operational knowledge to expand. Attempting to boil the

ocean, deploying AI across multiple functions simultaneously, almost always ends in stalled pilots and eroded confidence. Baby steps first. Real benefits at the end.

Data and Process First, AI Second

AI is not a shortcut around broken processes or dirty data. It is an accelerant. Applied to a well-governed workflow with reliable, integrated data, AI can deliver transformative efficiency and insight. Applied to a fragmented process with inconsistent inputs, it will amplify the existing problems. The organisations that succeed treat data quality and process optimisation as the first phase of their AI journey, not as a parallel workstream, and certainly not as an afterthought. Review, clean, and optimise your data and processes as part of, or preferably before, embarking on the AI journey.

Get Help, You Do Not Need to Become a Global AI Expert

One of the most persistent misconceptions in enterprise AI adoption is that the organisation must build deep internal AI expertise before it can act. This is neither realistic nor necessary for the vast majority of companies. The AI landscape is moving too fast for any single organisation to master independently. What matters is having enough internal understanding to ask the right questions, make informed decisions, and govern AI initiatives effectively, combined with the right external partners who bring domain expertise, implementation experience, and the ability to compress timelines that would otherwise stretch into years.

The smartest organisations are not trying to become AI companies. They are becoming AI-ready companies, and bringing in the right expertise to close the gap.

Conclusion

Enterprise AI will deliver transformative value. The technology is real, the use cases are proven, and the competitive pressure to adopt is only increasing.

Many organisations expect immediate efficiency gains, while AI adoption in practice behaves more like a capability investment with delayed but compounding returns.

The path from pilot to production is not a technology problem, it is an organisational readiness problem. And the organisations that navigate it successfully will be those that resist the pressure to move fast and instead invest in the foundations: governed data, well-designed workflows, appropriate infrastructure, and a clear, opinionated strategy for how AI fits into their operating model.

The AI adoption gap is not a sign that the technology does not work. It is a sign that the unglamorous, essential groundwork required to make it work at scale has not yet been done.

Start small. Get the foundations right. Bring in expertise where you need it. And scale what works.

When done well, the benefits are real and substantial. But it starts with small, deliberate steps.

About Capvion

Capvion is a strategy and capital advisory firm that works with leadership teams, investors, and entrepreneurs on complex growth, transformation, and value creation challenges.

The firm combines strategic insight with hands-on operational and transaction experience across technology and telecommunications markets, advising companies and investors on corporate strategy, mergers and acquisitions, transaction readiness, and enterprise value optimisation.

Capvion operates as a senior-led advisory boutique, working closely with a network of experienced associates and industry specialists. This model allows the firm to bring in the right expertise at the right moment, combining strategic clarity with deep domain knowledge across transactions, integrations, and operational transformation.

Through its advisory work and publications such as Capvion Insights, the firm shares practical perspectives on how strategy, execution, and capital interact to shape enterprise outcomes.

For more information visit www.capvion.com or contact insights@capvion.com