



Tech modernisation: **Data in the era of AI**



Introduction

As artificial intelligence infuses more deeply into enterprise systems and services, its potential will be constrained by the complexity of our existing data environments. It is incumbent on every organisation to solve these complexities as they modernise to take full advantage of the AI opportunity.

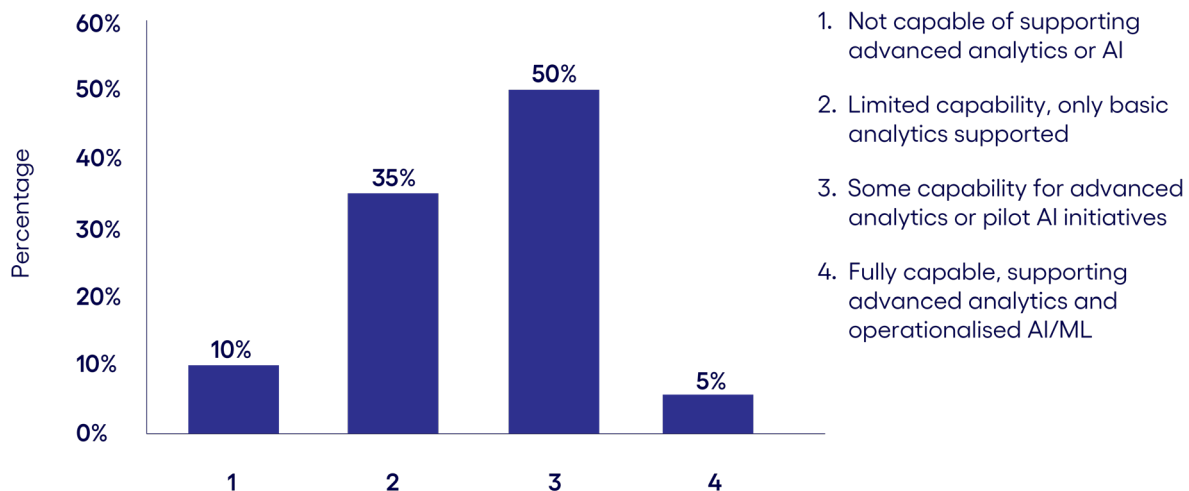
Working with Australian IT research and advisory firm ADAPT, Cognizant has uncovered how few organisations have their data environments prepared for AI. Drawing on our extensive experience with partners in Australia and globally, this article aims to provide practical guidance for leaders seeking to overcome this challenge. We address the fundamentals of how to evolve data governance away from restrictive practices, towards creating flexible, iterative data management approaches, which are linked to business value. It's critical to advance to a new maturity that will transform nascent AI tools into production-scale capabilities.

For more insights into the big picture of Australian CIOs and their goals for 2025, read our full Tech Modernisation guide [here](#).

Enabling data to support AI-empowered enterprise applications

Historically a cost centre, data is a fuel for business outcomes. We must empower the Chief Data Officer to drive new products and environments that become part of our revenue engine.

Has your data environment enabled the adoption of advanced analytics, AI, or machine learning?



45% have limited or no capability to support advanced analytics and AI

ADAPT CIO Edge Survey in Feb 2025. Sample size: 200 Australian CIOs

Data and AI go hand-in-hand for what comes next in business transformation. But data environments are complex, quite like our wider concerns with legacy systems. Data has grown almost exponentially since the cloud era began while the budgets to refine and align this data are heavily constrained.

So how do we maximize the value of our data as it exists today?

We need to understand existing data and APIs that have been tested and productionised, to allow agents to leverage these as tool calls. This will generate additional value from their re-use. At Cognizant we create agentic frameworks to help enrich and accelerate business processes. Agentic frameworks leverage existing data and APIs and help lift the level of integration across applications and data sources.

Restrictive governance as a challenge to scaling production

Feeding data into AI for a proof of concept has been a manageable process to date, but transitioning to production scale is a challenge. We see many organisations arriving at a conflict between data governance systems that can either be too loose or too restrictive.

There are other ways to approach governance. While some systems may slow or block modes of access, and therefore progress, governance can instead be embedded into your ways of working.

Governance has often been treated as a security problem, which is reflected in how few organisations in ADAPT's research are achieving high levels of data integration. Only 32% of CIOs report that most of their data sources are connected. If it is governed, it must be locked down.

At Cognizant we understand that lightweight, agile, iterative approach to data governance allows for adaptability that maintains due care while responding to business needs.

Not all data is equal. Finance and marketing data, for example, require different governance

models to enable the right restrictions and freedoms to deliver value in and around the business. In all organisations, marketing needs to be able to move fast to create personalised dynamic campaigns on constantly evolving customer signals. In contrast, Finance needs to be able to have absolute confidence in revenue and costs to support their stakeholders making critical decisions on.

Assigning clear roles and accountability for data governance is also relatively immature.

In working with our clients, we observed that organisations with clear ownership and accountability for data assets perform better as it supports data quality, ensures compliance and fosters data-driven culture.

Barriers to AI adoption

After funding, data security is reported as #2 barrier to scaling AI to production.

ADAPT CIO Edge Survey in Feb 2025

One standard means too many exceptions

The new era requires a move away from “one standard plus exceptions” to stop many exceptions from becoming the norm. Designing a small number of governance models to suit all core needs and user personas gives you the data access control you need to meet all obligations and enjoy full data value wherever you need it.

It can be difficult to identify target outcomes for data systems and services. But there are tasks every enterprise can target to improve data maturity that will always hold value for scaled integration with AI.

Map data fundamentals

Understand how data is captured, stored and presented to stakeholders across the business, whether to use in new data models, via APIs or feeding advanced analytics tools. Data must also be mapped to business value, both for current usage and its future potential.

Identify mission critical data

Ensure the right data is accessible to the right stakeholders and systems. Clarify your stakeholders – scientists, analysts, dashboards. Mapping data to outputs and insight value adds confidence to how you plumb your data into AI-enabled tools and services.

Generate data value maps

Going further, data value maps can give greater focus to how data will be used and help to balance data security and accessibility. Data value maps should be coupled with DevOps patterns for data or DataOps. This includes applying data interface contracts, adding the ability to leverage data masking and test data creation to help unblock innovation.

Example of a conceptual data map at a bank

		Master data entities				
		Customer	Account	Product	Balances	Transactions
Regulatory requirements	APRA - Liquidity/EPS capital		●	●	●	
	APRA - Fin claims scheme	●	●	●	●	
	AUSTRAC -AML TMP	●	●	●	●	●
Key business processes	Marketing	●		●	●	
	Sales	●	●	●		●
	Servicing	●	●	●	●	●
	Finance/Risk		●	●	●	
IT systems	Product - Deposits, lending, insurance...	●	●	●	●	●
	CRM	●	●			
	Finance/Risk	●	●	●	●	●
	Treasury		●	●	●	

The above is an example of how you can conceptually map requirements, processes and systems with key data entities, to clarify where effort should be applied, and who should be engaged as stakeholders to evolve data governance and where there is data opportunity value.

As AI capabilities have evolved, data value possibilities have shifted. There are new ways to extract value for internal or customer needs and new paths to monetise data. Understanding how to leverage new AI techniques with a map to value release is key.

Some may explore opening broad access to data through business intelligence systems and leave it to individual teams to unlock new value. But teams remain time poor and may not know what is even possible. This makes data literacy programs a powerful opportunity for growth. Advanced LLM-based interfaces that offer natural language assistance will also be a boon for self-service data insights.

Investment priorities of CIOs

62% of CIOs see data literacy, skills and culture as an investment opportunity.

ADAPT CIO Edge Survey in Feb 2025

Cloud and data vendors provide a range of free online training courses as part of the initiative to uplift data literacy. These training programs can be leveraged by organisations to close the gap in the skills required to unlock the value in their enterprise data. They should also ensure that transfer of knowledge takes place on projects involving external technology services consultants, which is a standard practice at Cognizant.

How we turn data into value

We have already been deploying AI agents in our work with Australian clients, aligning data value maps with real opportunities for new operational efficiencies. For one major retailer we have seen AI agents synthesising disparate data sets across stock levels, logistics, distribution centre data, and cold chain requirements to improve inventory replenishment planning across their store network. When managing thin margins, good data is critical to effective operations.

Across sectors as diverse as fashion and banking, the demonstrations we bring to life through the Cognizant Neuro® AI platform at our AI Studio transform theoretical considerations into tangible examples of rapid value delivery. By combining these demonstrations with structured interviews and workshops with key stakeholders to build data value maps, we achieve measurable improvements to business outcomes faster than expected.

Bringing AI empowered data to life

There is no standard solution to improve data flows and controls for every enterprise. Identifying the real problem is critical to finding the right way to unlock data value. At Cognizant, we know where to begin investigating the status quo for an enterprise and uncover the problems and opportunities throughout its data systems and processes.

Leveraging **Cognizant Neuro® AI tools**, we work with CIOs to explore options in real-time that bring the art of the possible to life. We can demonstrate how AI can be applied to your data environment to unlock its true value with direct reference to desired business outcomes.

Along with offering external credibility, our strategic support can help you to understand and achieve your target data access and control scenarios without locking you into any ongoing commitments. And we can offer commercial models that are outcome based and zero risk to your organisation.

To learn more how Cognizant can help establish modern engineering in the era of AI:

Email: contact_au@cognizant.com

www.cognizant.com/au/en/cmp/technology-modernisation-data-in-the-era-of-ai



Cognizant (Nasdaq-100: CTSH) engineers modern businesses. We help our clients modernize technology, reimagine processes and transform experiences so they can stay ahead in our fast-changing world. Together, we're improving everyday life. See how at www.cognizant.com or [@cognizant](https://twitter.com/cognizant).

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