LUMO INSIGHTS

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AI’s great Data divide: why leaders win and others lag

Executive Summary

A wave of new findings this week highlights a clear reality: data strategy and architecture are now the decisive factors in enterprise AI success. Only a small fraction of companies with robust, well-governed data foundations are capturing the lion’s share of AI’s value (www.pwc.com [1]), while others find their efforts stalled by poor data quality, integration gaps, and governance roadblocks (www.cloudera.com [2]). In response, leading organisations - and even regulators - are making data readiness, infrastructure modernisation, and responsible data use top priorities to unlock AI’s full potential.

References:

[1] www.pwc.com — https://www.pwc.com/gx/en/news-room/press-releases/2026/pwc-2026-ai-performance-study.html#:~:text=technology,The%20research%20shows%20that%20these

[2] www.cloudera.com — https://www.cloudera.com/about/news-and-blogs/press-releases/2026-03-05-only-7-percent-of-enterprises-say-their-data-is-completely-ready-for-ai-according-to-new-report-from-cloudera-and-harvard-business-review-analytic-services-reveals.html#:~:text=their%20underlying%20data%20foundations%20are,when%20it%20comes%20to%20preparing

The Data readiness gap

Despite surging investments in AI, many organisations are discovering that their data isn’t ready to reap AI’s benefits. A global survey found that only 7% of enterprises consider their data completely ready for AI adoption (www.cloudera.com [1]). More than a quarter (27%) admitted their data is "not very or not at all" ready for AI (www.cloudera.com [2]). This imbalance between AI ambition and data reality - what experts are calling the “data readiness gap” - has become a primary barrier to scaling AI from pilot projects into production (www.cloudera.com [3]).

This gap is creating clear winners and losers. According to PwC’s 2026 AI Performance Study, nearly three-quarters (74%) of AI’s total economic value is now captured by just 20% of companies (www.pwc.com [4]). This small cadre of AI leaders has figured out how to move beyond proofs-of-concept and achieve real business impact with AI, while the majority of firms remain stuck in perpetual pilots and experiments. The leading 20% treat data as a strategic asset - they have unified and cleaned their data, and they organise and govern it so that AI applications can actually use it to deliver insights at scale.

For these leaders, the critical factor isn’t having the most sophisticated algorithms, but having the right data foundation. As a Stanford study of 51 AI deployments concluded, 'the difference was never the AI model - it was always the organisation: its readiness, its processes, its leadership' (digitaleconomy.stanford.edu [5]). In practice, AI front-runners prioritise data readiness by connecting both structured and unstructured information into governed, reusable data platforms (www.mckinsey.com [6]). By ensuring that AI systems have access to complete, trusted data - and by fostering a culture of data governance and collaboration - they can scale up successful AI solutions faster than their peers.

References:

[1] www.cloudera.com — https://www.cloudera.com/about/news-and-blogs/press-releases/2026-03-05-only-7-percent-of-enterprises-say-their-data-is-completely-ready-for-ai-according-to-new-report-from-cloudera-and-harvard-business-review-analytic-services-reveals.html#:~:text=their%20underlying%20data%20foundations%20are,Data%20Quality
[2] www.cloudera.com — https://www.cloudera.com/about/news-and-blogs/press-releases/2026-03-05-only-7-percent-of-enterprises-say-their-data-is-completely-ready-for-ai-according-to-new-report-from-cloudera-and-harvard-business-review-analytic-services-reveals.html#:~:text=their%20underlying%20data%20foundations%20are,Data%20Quality
[3] www.cloudera.com — https://www.cloudera.com/about/news-and-blogs/press-releases/2026-03-05-only-7-percent-of-enterprises-say-their-data-is-completely-ready-for-ai-according-to-new-report-from-cloudera-and-harvard-business-review-analytic-services-reveals.html#:~:text=their%20underlying%20data%20foundations%20are,Data%20Quality
[4] www.pwc.com — https://www.pwc.com/gx/en/news-room/press-releases/2026/pwc-2026-ai-performance-study.html#:~:text=technology,The%20research%20shows%20that%20these
[5] digitaleconomy.stanford.edu — https://digitaleconomy.stanford.edu/publication/enterprise-ai-playbook/#:~:text=stories%20of%20transformation%20measured%20in,serve%20as%20both%20a%20mirror
[6] www.mckinsey.com — https://www.mckinsey.com/capabilities/mckinsey-technology/our-insights/ai-data-readiness-the-key-to-scaling-impact#:~:text=readiness%3A%20The%20key%20to%20scaling,Listen%20to%20the%20article%3A%20AI

Data quality & governance - AI’s Achilles heel

Fundamental data issues are frequently at the heart of AI struggles. An industry report revealed that 72% of IT leaders encounter at least three major challenges when trying to scale AI initiatives (www.hpcwire.com [1]). Tellingly, the top obstacles they cite are data-related: inadequate real-time data infrastructure (72%), unclear data lineage and poor quality (66%), and fragmented data ownership across the organisation (65%) (www.hpcwire.com [2]). These shortcomings - in data speed, trustworthiness, and governance - mean even promising AI pilots often get bogged down or fail to reach production.

Studies confirm that such data deficiencies are the foremost cause of AI failures. Analysts estimate that over 80% of AI projects ultimately fail to deliver their intended business value (www.pertamapartners.com [3]). More often than not, these failures stem from data problems rather than algorithmic shortcomings. Research has identified poor data readiness as the #1 reason long-term AI initiatives stall out (intuitionlabs.ai [4]), with data quality and governance issues ranking above actual technical errors as the leading causes of project breakdowns (intuitionlabs.ai [5]). The old adage 'garbage in, garbage out' still applies: even the most advanced AI will produce misleading or useless results if it’s fed with erroneous, biased, or siloed data.

On the flip side, organisations that tackle data quality and governance head-on are seeing their AI investments pay off. These companies invest early in cleaning and integrating data, establishing clear data ownership, and enforcing strong data governance practices. The result is AI systems that are both innovative and reliable. As one CIO observed, when IT and business teams work together to maintain clean, secure and well-curated data, AI projects 'are far more likely to succeed' - and good governance 'doesn’t slow progress; it makes it sustainable' (www.cio.com [6]). In short, solving data bottlenecks turns a potential AI stumbling block into a source of sustainable competitive advantage.

References:

[1] www.hpcwire.com — https://www.hpcwire.com/bigdatawire/this-just-in/confluent-report-finds-72-of-it-leaders-say-data-infrastructure-is-slowing-ai-scale/#:~:text=According%20to%20the%20research%2C%2072,report%20having%20agentic%20AI%20in
[2] www.hpcwire.com — https://www.hpcwire.com/bigdatawire/this-just-in/confluent-report-finds-72-of-it-leaders-say-data-infrastructure-is-slowing-ai-scale/#:~:text=According%20to%20the%20research%2C%2072,report%20having%20agentic%20AI%20in
[3] www.pertamapartners.com — https://www.pertamapartners.com/insights/ai-project-failure-statistics-2026#:~:text=%2A%201.More%20than%2080,return%20from%20their%20generative%20AI
[4] intuitionlabs.ai — https://intuitionlabs.ai/articles/enterprise-ai-rollout-failures#:~:text=unreliable%20outputs,studies%20show%20dire%20consequences%3A%20a
[5] intuitionlabs.ai — https://intuitionlabs.ai/articles/enterprise-ai-rollout-failures#:~:text=unreliable%20outputs,studies%20show%20dire%20consequences%3A%20a
[6] www.cio.com — https://www.cio.com/article/4083265/why-80-of-ai-projects-fail-and-how-smart-enterprises-are-finally-getting-it-right.html#:~:text=compliance%20and%20business%20operations,decide%20which%20use%20cases%20to

Upgrading Data architecture for AI

The race is on to modernise data infrastructure in order to support AI at scale. Instead of keeping separate, siloed systems for operational data and analytics, enterprises are migrating to unified platforms that can handle both. One emerging approach is the data “lakehouse” - which combines the vast, raw storage of data lakes with the structured querying and governance capabilities of data warehouses in a single architecture. At recent industry summits, vendors unveiled technologies to collapse the gap between real-time transaction databases and analytical stores (www.aytac.dev [1]) (www.aytac.dev [2]), eliminating latency and redundant data copies. The goal is to ensure AI models and business intelligence applications can draw from one authoritative, up-to-date source of truth.

Two examples illustrate this shift. At its 2026 user conference, Snowflake announced 26 new product features centred on providing a 'governed enterprise context' for AI agents - essentially, making an organisation’s data readily accessible to AI in real time, but with full security, compliance, and audit controls in place (atlan.com [3]). Around the same time, Databricks introduced Lakehouse//RT, a real-time analytics engine for its lakehouse platform that delivers millisecond query performance on fresh data without requiring separate operational databases (www.aytac.dev [4]) (www.aytac.dev [5]). These investments by major cloud data platforms signal a broader shift: the most advanced enterprises will demand data architectures that seamlessly serve high-quality data to AI applications as quickly and safely as it’s generated.

Businesses are also adopting new tools to handle the explosion of unstructured and text data for AI. One fast-growing technology is the vector database - a specialised data store built to index and search 'embeddings' (numeric representations of text, images, and other unstructured content). This enables generative AI systems to retrieve knowledge from company documents, emails, and other records to provide more relevant answers and insights. By 2026, vector databases have matured into an essential component of the AI tech stack for tasks like semantic search and recommendation engines (devstarsj.github.io [6]). Still, experts caution that the true competitive edge comes not from any single new database, but from the quality of the data pipeline and preparation behind it (devstarsj.github.io [7]). In other words, a cutting-edge data platform only yields value if the data itself is accurate, well-integrated, and available in real time.

References:

[1] www.aytac.dev — https://www.aytac.dev/en/news/databricks-dais-2026-lakebase-rt-lakehouse-ttl/#:~:text=traditional%20lakehouse,for%20Delta%20and%20Iceberg%20tables

[2] www.aytac.dev — https://www.aytac.dev/en/news/databricks-dais-2026-lakebase-rt-lakehouse-ttl/#:~:text=with%20their%20analytical%20lakehouse,cost%20of%20separate%20data%20silos

[3] atlan.com — https://atlan.com/know/snowflake/summit-2026-announcements/#:~:text=Summit%202026%20%28June%201,keynoted%20alongside%20CEO%20Sridhar

[4] www.aytac.dev — https://www.aytac.dev/en/news/databricks-dais-2026-lakebase-rt-lakehouse-ttl/#:~:text=traditional%20lakehouse,for%20Delta%20and%20Iceberg%20tables

[5] www.aytac.dev — https://www.aytac.dev/en/news/databricks-dais-2026-lakebase-rt-lakehouse-ttl/#:~:text=with%20their%20analytical%20lakehouse,cost%20of%20separate%20data%20silos

[6] devstarsj.github.io — https://devstarsj.github.io/2026/02/24/vector-databases-ai-applications-production-guide/#:~:text=Vector%20databases%20are%20mature%20infrastructure,your%20engineering%20investment%20should%20go

[7] devstarsj.github.io — https://devstarsj.github.io/2026/02/24/vector-databases-ai-applications-production-guide/#:~:text=Vector%20databases%20are%20mature%20infrastructure,your%20engineering%20investment%20should%20go

Data as strategic asset - and liability

With AI’s rise, organisations are recognising that their data is both a crown jewel and a potential Achilles heel. Now that advanced AI models are widely available as commoditised services, companies are doubling down on their proprietary data as a competitive moat. As one analysis put it, competitors may have access to similar algorithms, but 'the one thing they cannot buy … is your data' (aiireland.ie [1]). It’s no surprise that 78% of Chief Data Officers (CDOs) now say that leveraging

unique first-party data is a top strategic priority to differentiate their firms in the market (newsroom.ibm.com [2]). Forward-looking enterprises are investing in ways to protect and capitalise on this precious asset - from consolidating customer data and domain-specific datasets to establishing data marketplaces and monetisation strategies - effectively treating data as valuable intellectual property.

The flip side of data's growing value is increased scrutiny on its use. Organisations collecting massive datasets for AI must navigate a complex web of regulations and ethical expectations. Privacy laws like GDPR, consumer data protections, and emerging AI-specific rules mean that mismanaging data can lead to fines and brand damage. Regulators are actively updating policies: in Europe, a newly passed Digital Omnibus has postponed some of the EU AI Act's stricter requirements (for high-risk AI systems) to 2027 - 2028 (www.technology.org [3]), even as new transparency obligations - such as disclosing AI-generated content and labelling deepfakes - take effect this August (www.technology.org [4]). These moves aim to reduce compliance burdens on businesses and encourage innovation (www.vktr.com [5]), but they also signal that governments expect companies to build robust data governance and oversight into any AI initiative.

For the C-suite, the mandate is clear: treat data governance and quality as integral to AI strategy, not an afterthought. Leading firms are turning privacy and security requirements into strengths by investing in advanced data management and compliance. Some are exploring privacy-preserving techniques like federated learning and homomorphic encryption to enable AI training on sensitive data without exposing personal information (gaireview.com [6]). Notably, 84% of CDOs in one global survey said their organisations' own data products have already given them significant competitive advantage (newsroom.ibm.com [7]) - underscoring how proper data strategy can become a growth engine. By building a trusted, well-governed data foundation, companies position themselves to innovate faster with AI, create proprietary insights, and stay on the right side of evolving regulations.

References:

[1] aiireland.ie — https://aiireland.ie/2026/03/25/the-new-moat-why-proprietary-data-is-your-only-durable-competitive-advantage-in-ai/#:~:text=are%20becoming%20a%20commodity,benchmarks%2C%20and%20which%20vendor%20has

[2] newsroom.ibm.com — https://newsroom.ibm.com/2025-11-13-ibm-study-chief-data-officers-redefine-strategies-as-ai-ambitions-outpace-readiness#:~:text=that%20accelerate%20AI%20capabilities%20and,Y

[3] www.technology.org — https://www.technology.org/2026/07/17/eu-ai-act-what-actually-applies-on-2-august-2026/#:~:text=Transparency%20obligations%20under%20Article%2050,AI%2C%20signed%20on%208%20July

[4] www.technology.org — https://www.technology.org/2026/07/17/eu-ai-act-what-actually-applies-on-2-august-2026/#:~:text=What%20Actually%20Applies%20on%202,over%20vertically%20integrated%20AI%20providers

[5] www.vktr.com — https://www.vktr.com/ai-ethics-law-risk/eu-proposes-major-rewrite-of-ai-and-data-laws/#:~:text=package%2C%20released%20this%20week%20as,Article%20Contents

[6] gaireview.com — https://gaireview.com/the-gap-between-ai-leaders-and-laggards-widens-as-infrastructure-becomes-competitive-advantage/#:~:text=match%20at%20L230%20healthcare,federated%20learning%20to%20enhance%20privacy

[7] newsroom.ibm.com — https://newsroom.ibm.com/2025-11-13-ibm-study-chief-data-officers-redefine-strategies-as-ai-ambitions-outpace-readiness#:~:text=agree%20they%20can%20clearly%20convey,data%20as%20a%20top%20strategic

Key Statistics

- 7% of enterprises say their data is completely ready for AI, while 27% report their data is not very or not at all ready ([www.cloudera.com](https://www.cloudera.com/about/news-and-blogs/press-releases/2026-03-05-only-7-percent-of-enterprises-say-their-data-is-completely-ready-for-ai-according-to-new-report-from-cloudera-and-harvard-business-review-analytic-services-reveals.html#:~:text=their%20underlying%20data%20foundations%20are,Data%20Quality)).
- 72% of global IT leaders report that a lack of real-time data infrastructure is stalling their efforts to scale AI initiatives ([www.confluent.io](https://www.confluent.io/press-release/2026-data-streaming-report/#:~:text=it%20MOUNTAIN%20VIEW%2C%20Calif.,Among%20the)).
- Over 80% of AI projects fail to deliver their intended business value ([www.pertamapartners.com](https://www.pertamapartners.com/insights/ai-project-failure-statistics-2

026#:~:text=%2A%201.More%20than%2080,return%20from%20their%20generative%20AI)) - roughly twice the failure rate of other IT projects without AI.

- Nearly 74% of AI's economic value is captured by just 20% of companies ([www.pwc.com](https://www.pwc.com/gx/en/news-room/press-releases/2026/pwc-2026-ai-performance-study.html#:~:text=technology,The%20research%20shows%20that%20these)), reflecting a widening divide between a small group of AI leaders and firms still struggling with data bottlenecks.

KEY TAKEAWAY

New evidence confirms that data excellence - not just advanced algorithms - separates AI winners from losers ([www.pwc.com](https://www.pwc.com/gx/en/news-room/press-releases/2026/pwc-2026-ai-performance-study.html#:~:text=technology,The%20research%20shows%20that%20these)). To capture AI's value and avoid failure, C-suites must prioritise data quality, integration, modern infrastructure and governance.

Sources

Only 7% of Enterprises Say Their Data Is Completely Ready for AI (Cloudera & HBR Analytic Services Report)
https://www.cloudera.com/about/news-and-blogs/press-releases/2026-03-05-only-7-percent-of-enterprises-say-their-data-is-completely-ready-for-ai-according-to-new-report-from-cloudera-and-harvard-business-review-analytic-services-reveals.html

Confluent 2026 Data Streaming Report: 72% of IT Leaders Say Poor Data Infrastructure Is Stalling AI Growth (Press Release via HPCwire)
https://www.hpcwire.com/bigdatawire/this-just-in/confluent-report-finds-72-of-it-leaders-say-data-infrastructure-is-slowing-ai-scale/

AI data readiness: The key to scaling impact (McKinsey & Company, June 23, 2026)
https://www.mckinsey.com/capabilities/mckinsey-technology/our-insights/ai-data-readiness-the-key-to-scaling-impact

Three-quarters of AI's economic gains are being captured by just 20% of companies – PwC 2026 AI Performance Study
https://www.pwc.com/gx/en/news-room/press-releases/2026/pwc-2026-ai-performance-study.html

IBM Study: Chief Data Officers Redefine Strategies as AI Ambitions Outpace Readiness
https://newsroom.ibm.com/2025-11-13-ibm-study-chief-data-officers-redefine-strategies-as-ai-ambitions-outpace-readiness

Data Preparation for Machine Learning: The Ultimate Guide (Pecan AI Blog)
https://www.pecan.ai/blog/data-preparation-for-machine-learning/

Enterprise AI Rollout Failures: Causes and Case Studies – IntuitionLabs (April 2026)
https://intuitionlabs.ai/articles/enterprise-ai-rollout-failures

AI Project Failure Statistics 2026: The Complete Picture – Pertama Partners
https://www.pertamapartners.com/insights/ai-project-failure-statistics-2026

The Enterprise AI Playbook: Lessons from 51 Successful Developments – Stanford Digital Economy Lab
https://digitaleconomy.stanford.edu/publication/enterprise-ai-playbook/

Snowflake Summit 2026: Key Announcements and What They Mean – Atlan
https://atlan.com/know/snowflake/summit-2026-announcements/

Introducing Lakehouse//RT: Real-Time Performance on a Unified Lakehouse – Databricks Blog
https://www.databricks.com/blog/introducing-lakehousert-real-time-performance-unified-lakehouse

EU AI Act: What Actually Applies on 2 August 2026 – Technology.org
https://www.technology.org/2026/07/17/eu-ai-act-what-actually-applies-on-2-august-2026/

EU Proposes Major Rewrite of AI and GDPR Laws – VKTR
https://www.vktr.com/ai-ethics-law-risk/eu-proposes-major-rewrite-of-ai-and-data-laws/

Why 80% of AI projects fail — and how smart enterprises are finally getting it right – CIO.com
https://www.cio.com/article/4083265/why-80-of-ai-projects-fail-and-how-smart-enterprises-are-finally-getting-it-right.html