The future is here: Five ways AI will redefine technology in 2025

With an introduction by Stijn (Stan) Christiaens, Collibra Co-Founder and Chief Data Citizen

Table of contents

> **"Prediction is not just about anticipating the future; it's about shaping it."**
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> Unknown

My fellow data citizens,

The year 2024 has been nothing short of amazing. Data leaders, especially, have had a front-row seat to a truly transformative innovation story: AI.

At Collibra, we're thrilled because data—lots of data—is obviously essential to AI development, and AI is fueling innovations that were once the stuff of science fiction. To bring the future to life, data leaders like yourself must build a culture of trusted data—and that has been at the core of our mission since we founded the business nearly two decades ago.

But with great power comes great responsibility. As AI becomes more deeply integrated into our lives and businesses, the quality and governance of data have emerged as imperatives. High-profile incidents of biased algorithms and data breaches underscore the consequences of neglecting data governance. It's clear that the effectiveness of AI is intrinsically tied to the integrity of the data that powers it.

The truth is we've observed a consistent, yet pivotal shift in understanding over many years. Today, it is commonplace for organizations to treat data as more than a secondary consideration. Rather, data is widely acknowledged as a strategic asset and also, when a culture of data health is absent or lacking, a potentially significant source of legal and reputational risk. It is in our work with countless global enterprises that we've seen how the convergence of trends around AI, data quality and data governance present a pragmatic path for a more productive, more innovative 2025 (and beyond).

As I thought about our 2025 predictions, I arrived at three important conclusions:

- **AI adoption is widespread and growing:** Accelerating innovation and offering unprecedented capabilities

- **Successful AI demands data quality:** Ensuring that decisions made by AI are based on accurate, reliable data

- **Ensuring AI data quality requires AI governance:** Establishing frameworks to manage data ethically and comply with evolving regulations

To me, the important takeaway is not that these conclusions are surprising. They are surely ideas every data leader can agree on. The most important question for data leaders is what will you do now? That is your challenge and the challenge for all of us.

Now, I invite you to explore our 2025 predictions and consider their relevance for your organization. Together, let's welcome the new year with clarity and the future with confidence!

Warm regards,

Stijn (Stan) Christiaens
Co-founder and Chief Data Citizen, Collibra
November 2024, Brussels, Belgium

Our 2025 predictions

1. Data marketplaces will emerge as a competitive advantage as catalogs become ubiquitous and data products become the norm

2. Enterprises embrace "data-as-a-product" as generative AI applications reach mainstream adoption

3. Automation of decision-making by AI expands across industries, elevating the role of the CIO and heightening concerns about transparency and accountability

4. AI agents will bring AI to the mainstream, but create a world of governance headaches

5. AI governance will become essential for compliance and confidently scaling AI capabilities—and creating business value

1

Data marketplaces emerge as a competitive advantage as catalogs become ubiquitous and data products become the norm

By 2025, data marketplaces are expected to become a significant competitive advantage for organizations. As data catalogs become ubiquitous and managing "data-as-a-product" becomes the norm, companies will increasingly leverage data marketplaces to monetize their data assets, foster innovation and stay ahead of the competition. The growth of the data catalog market is fueled by organizations increasingly seeking efficient data management solutions to handle the complexity and volume of data, which drives the adoption of data catalogs.

What is a data catalog? Data catalogs serve as centralized repositories that help organizations manage and discover data assets efficiently:

- **Enhancing data accessibility:** Making it easier for stakeholders to find and use relevant data

- **Improving data governance:** Ensuring data quality, compliance and security across the organization

- **Facilitating collaboration:** Enabling teams to share insights and leverage collective knowledge

What is a data marketplace? A data marketplace is a platform where data products are bought, sold or exchanged. In other words, it's a centralized hub for data transactions. Data marketplaces enable the monetization of data assets by allowing organizations to generate new revenue streams through the sale of their proprietary data. They also provide access to diverse datasets, permitting companies to acquire data from external sources to enhance their analytics capabilities and inform better decision-making. The bottom line is that data marketplaces foster innovation by facilitating collaboration with other entities to develop new products and services, leveraging shared data to drive advancements that might not be possible in isolation.

The convergence of ubiquitous data catalogs and the surge of data products is paving the way for data marketplaces to become a cornerstone of competitive strategy by 2025.

Learn more about the Collibra Data Catalog and Collibra Data Marketplace.

2 Enterprises embrace "data-as-a-product" as generative AI applications reach mainstream adoption

It has been a concept in data professionals' circles for many years. But in 2025, the idea of managing data-as-a-product is poised to move to an operational reality, driven by the widespread adoption of generative AI applications. The "data-as-a-product" paradigm treats data not just as a byproduct of business operations but as a valuable asset that can be developed, marketed and monetized like any other product.

By 2026, IDC predicts that 50% of large enterprises will adopt this model, aiming to break down silos and foster more integrated data environments. (Source: IDC FutureScape: Worldwide Data and Analytics 2025 Predictions)

How is the popularity of gen AI linked to an emergence of data-as-a-product? According to Gartner, by 2025, 90% of current analytics content consumers are predicted to become content creators, enabled by AI. This significant increase points to a democratization of data creation and consumption within organizations. As more employees leverage AI tools to generate insights and content, data becomes a central product that drives decision-making and innovation. Organizations that adapt to this shift will be better positioned to leverage data products for strategic growth and innovation in an increasingly data-driven world. And their AI will perform better with data managed as a product, instead of an exhaust.

Learn more about how to build and deploy effective data products here.

How popular is gen AI? AI innovation and investment is booming. And adoption and workplace integration are surging, as the following demonstrates.

Consumer adoption: 39.4% of Americans between the ages of 18 and 64 used generative AI within two years after ChatGPT's November 2022 launch. This number is nearly double the 20% of Americans who used the internet after two years of its launch and PCs after three years (Source: Harvard Crimson, Oct 2024)

Workplace integration: Nearly all respondents (91%) reported using generative AI for work, with the vast majority expressing enthusiasm about its potential. They believe these tools can positively impact their work experience and enhance a range of skills, from critical thinking to creativity (Source: McKinsey, Aug 2024)

Organizational use: 65% of respondents reported that their organizations are regularly using generative AI, nearly double the percentage from the previous survey just ten months prior. Three-quarters predict that generative AI will lead to significant or disruptive change in their industries in the years ahead (Source: McKinsey, May 2024)

3

Automation of decision-making by AI expands across industries, elevating the role of the CIO and heightening concerns about transparency and accountability

By 2025, AI-driven decision-making will permeate across the economy on an unprecedented scale—from finance and healthcare to logistics and manufacturing. As AI adoption accelerates, Chief Information Officers (CIOs) will play an increasingly central role. Once primarily responsible for overseeing IT infrastructure, CIOs are now key to managing the integration of AI systems and balancing innovation with governance.

The expanded role will be challenging, especially around issues of transparency and accountability. With AI responsible for decisions that affect everything from patient outcomes in healthcare to financial forecasting, organizations must ensure that these systems are explainable, unbiased and compliant with emerging regulations.

As the automation of decision-making expands, the challenge for CIOs will be to address transparency and accountability head-on. Proactive governance will be crucial for ensuring AI systems operate ethically and effectively, protecting both businesses and consumers in an increasingly AI-driven world. CIOs are uniquely positioned to lead this charge, given their role in balancing innovation with oversight. The rise of the CIO as a strategic leader, especially in navigating the complexities of AI, underscores their importance in shaping the future of AI governance.

The regulatory environment is shifting. The European Union's AI Act highlighted the growing focus on AI governance. But the truth is many organizations are calling for tighter regulations. In fact, a Collibra survey found that 84% of tech executives support overhauling U.S. copyright laws to safeguard against AI-related infringements (Source: Collibra).

AI investment and adoption growth

Global investment: AI investment is forecasted to approach $200 billion globally by 2025 (Source: Goldman Sachs)

Organizational adoption: A McKinsey survey found that AI adoption jumped from about 50% to 72% among respondents' organizations. This growth is truly global, with more than two-thirds of organizations in nearly every region implementing AI solutions. The professional services sector has seen the most significant increase in adoption

Organizations that prioritize governance and transparency, guided by visionary CIOs, will turn accountability into a competitive advantage. With purpose-built solutions like Collibra AI Governance, CIOs can confidently navigate these challenges, ensuring compliance and remaining competitive.

Learn more about Collibra AI Governance.

4

AI agents bring AI to the mainstream but create a world of governance headaches

They're coming. From customer service to supply chain management and the legal profession, AI agents are set to transform industries across the board. And by 2025, AI agents could become pervasive across both consumer and enterprise environments, bringing AI fully into the mainstream. Unlike chatbots and image generators, which provide answers, but require prompts, AI agents execute multistep tasks on behalf of users.

While the full impact of AI agents may be difficult to grasp today (although in October 2024, Anthropic announced plans to release a series of AI agents), these autonomous software programs will dramatically change how people interact with technology and how businesses operate.

Gartner predicts that by 2028, at least 15% of day-to-day work decisions will be made autonomously through agentic AI, up from 0% in 2024.

(Source: Gartner)

Yet, their widespread adoption introduces complex governance challenges. The very qualities that make AI agents powerful—autonomy, learning capabilities and decision-making—also raise critical issues around transparency and accountability. To address these concerns, organizations must adopt comprehensive governance frameworks that ensure AI agents operate responsibly and in alignment with organizational standards and external regulations.

What can you do now? For starters, the governance of AI agents starts with clarity and commitment. Establishing guidelines that define acceptable use and assign accountability is essential. Risk management is another cornerstone of effective governance. Regular assessments help identify and mitigate potential threats before they escalate. Involving stakeholders—whether employees, customers or partners—fosters transparency and builds trust in how AI agents are used within the organization.

Additionally, implementing explainable AI techniques is crucial. With AI agents making decisions autonomously, ensuring their processes are understandable to human stakeholders is key to maintaining accountability and trust. Proactive AI governance not only mitigates risks but allows organizations to leverage the full potential of AI agents; so you can innovate and manage risk.

Want to learn more about AI governance? Check out Collibra AI Governance, which improves AI model effectiveness and reduces data risk.

Agentic AI will drive the need for new governance approaches. As more applications include embedded AI and AI Agents, the line between applications and AI use cases will become increasingly blurred.

Sunil Soares
Founder, YDC

AI agents in 2025

As AI agents become integral to business operations, companies that prioritize governance will be well-positioned to reap the benefits. Here are some potential examples of AI agents:

- **Personal health AI coach:** An AI agent that continuously monitors an individual's health metrics via wearable devices and offers personalized wellness advice, exercise routines and diet plans. This agent could detect early signs of health issues and recommend medical checkups or lifestyle changes

- **AI-powered legal assistant:** An AI agent designed for legal professionals, capable of drafting documents, analyzing case law and providing recommendations based on legal precedents. This agent could streamline contract review and legal research, saving time and reducing human error

- **Autonomous supply chain manager:** A smart AI agent that monitors global supply chains in real-time, predicting and responding to disruptions by automatically adjusting orders, logistics and inventory levels, ensuring continuous operation with minimal human intervention

- **Personalized learning AI tutor:** An AI tutor that adapts to each student's learning style, offering customized lessons and exercises in subjects ranging from math to languages. This agent could track progress, identify gaps and provide real-time feedback to improve learning outcomes

- **AI travel concierge:** A virtual travel planner that creates customized itineraries based on user preferences, local events and weather forecasts. The agent could handle everything from booking flights and accommodations to suggesting dining options and activities in real time

5

AI governance becomes essential for compliance and confidently scaling AI capabilities— and creating business value

> **"AI governance is the cornerstone of successful innovation, ensuring compliance with upcoming and existing regulations while unlocking scalable AI capabilities across the organization. By embedding robust governance mechanisms companies can unlock value while mitigating risks, allowing for sustainable long-term growth with AI."**

Atrak Yadegari
Director Data & AI Governance, Deloitte Germany

And our final prediction is that, by 2025, AI governance will not only become essential for compliance with evolving regulations but also for confidently scaling AI capabilities and creating business value.

This shift reflects reality. With the rapid evolution of AI technologies and the growing recognition of the risks associated with their unregulated use, it's no wonder that many experts cite AI governance as a critical technology (Gartner identified AI governance as one of the top strategic trends of 2025.) And just as cloud adoption and data security saw increasing regulation in the past decade, the same pattern is emerging for AI, driven by both regulatory developments and internal organizational pressures. Globally, we are already witnessing the rise of regulatory frameworks aimed at governing AI practices, as discussed earlier. In 2025, internal pressures within enterprises will accelerate the move to mandatory AI governance.

Of course, companies need to mitigate risks by avoiding legal liabilities and reputational damage that could result from unregulated AI use. Moreover, stakeholders are demanding higher levels of accountability, with customers, partners and investors expecting transparency in how AI systems operate.

However, AI governance addresses more than just compliance. AI governance is also a strategic enabler. By implementing robust governance frameworks, your organization is ready to confidently scale AI capabilities and create new avenues for lasting business value. Effective AI governance ensures your AI initiatives support business goals.

When implementing effective AI governance, we recommend these strategic steps, including:

- **Prioritizing data quality:** Ensure data accuracy and reliability to reduce bias and improve model performance

- **Establishing frameworks:** Develop policies for responsible AI practices aligned with legal and ethical standards (Learn more about our 4-step AI governance framework)

- **Enhancing transparency:** Use explainable AI techniques to make decision-making processes understandable to stakeholders

- **Investing in compliance:** Allocate resources for monitoring and audits to ensure adherence to regulations and internal policies

- **Educating colleagues:** Train employees on data governance and ethical considerations to foster a culture of responsibility

- **Engaging stakeholders:** Build trust through open communication, ensuring AI initiatives align with the expectations of customers, partners and regulators

Ready to accelerate all your data and AI use cases, without the risk? Start here with Collibra AI Governance.

2025: The year of AI and AI Governance

Our 2025 predictions underscore a unifying theme: the critical importance of robust data and AI governance in the face of rapid technological advancement.

In 2025, organizations that successfully navigate the rapid advancements in AI and data governance will be those that embrace a strategic, governance-first approach. As data continues to fuel AI innovation, Collibra is committed to helping organizations like yours accelerate all your data and AI use cases, safely and with well-understood data.

That's data confidence.
Ready to ride the AI wave? Learn more about Collibra AI Governance.