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Catch the Rising Tide of Generative AI

The Domino Data Lab REVelate 2023 Survey

revelate

Executive Summary

Generative AI is top of mind with every board member, C-level exec and investor. But what do those in charge of implementing it think of its opportunity, risks and the best path forward?

This survey report reveals a burgeoning interest in Generative AI among enterprises, with management beginning to match practitioners' enthusiasm for the technology. While inspired by consumer Generative AI solutions, most companies believe their specific needs surpass the capabilities of commercial offerings, prompting one-third to plan for full in-house development.

Key concerns flagged by C-suite executives include governance, responsible AI practices, security, reliability, and privacy. As such, the preference is towards in-house Generative AI development as a risk mitigation strategy, providing better control over data management and ensuring regulatory compliance.

Respondents also indicated that companies foresee wider adoption of data science tools, increased training, and clear governance frameworks as vital elements for effective Generative AI integration. Short-term strategies include incorporating off-the-shelf Generative AI models, while longer-term plans focus on creating more comprehensive, in-house solutions.

In conclusion, **the interest in Generative AI is strong and growing, with enterprises committed to preparing for widespread use** by favoring a balanced approach that includes adaptations of commercial solutions along with in-house development, underpinned by a strong focus on governance, security, and responsible AI practices.

We asked data science and IT leaders, as well as their teams, involved in AI projects:

01 How great an impact they expect Generative AI to have on their company, and when.

02 Which level of control they anticipate needing over Generative AI.

03 What challenges stand in the way of Generative AI's business impact.

04 What risks are top-of-mind for using commercial Generative AI solutions.

05 What strategies will best mitigate Generative AI's risks.

HYPE AND IMPACT

The Generative AI Groundswell is Real

Contrary to the skepticism that often surrounds nascent technologies, the majority of AI professionals believe that Generative AI is not overhyped.

An overwhelming majority of respondents (90%) believe the technology will have impact equal to or greater than its current attention warrants, illustrating the industry's confidence in Generative AI's promise. Sensing an urgency and a permanency, respondents indicated a strong belief in Generative AI's near-term impact, and nearly as many predict that the technology will have lasting power. Interestingly, 55% of data science leaders anticipate a significant near-term (1-2 years) impact on their industries. 53% of data science executives anticipate the impact to be more long term.
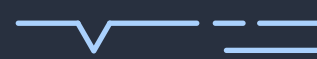
This small gap suggests that while executives understand the transformative power of Generative AI, they might be slightly more cautious about its immediate implementation. Yet, the overarching consensus remains: Generative AI is on the brink of profoundly reshaping the way we operate. Businesses need to be prepared.

55%

Of data science leaders anticipate a significant **near-term** (1-2 years) impact on their industries.

53%

Of data science executives anticipate the impact to be more **long term.**

Is Generative AI overhyped?

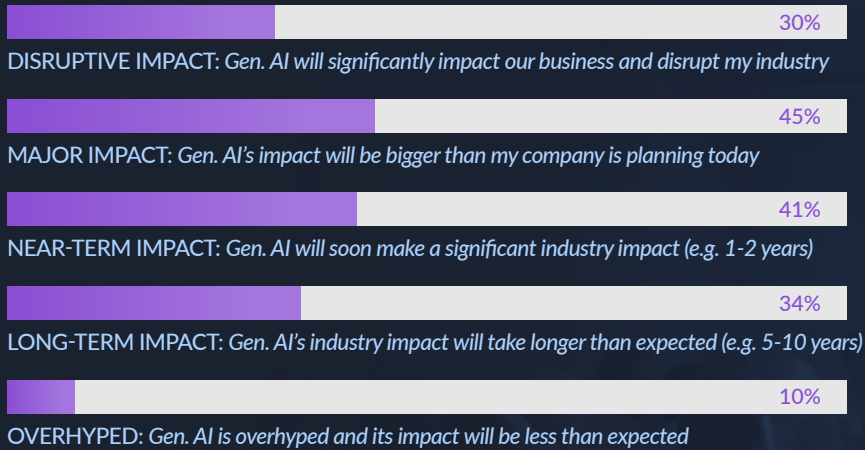## 90% Of AI professionals say Generative AI is not overhyped.

30% Of C-level/VP data execs say Generative AI is mostly hype.

Only 10% believe it is overhyped, i.e. nearly all of the respondents think that Generative AI will have significant impact. However, a higher percentage of C-level/VP respondents (30%) indicated that Generative AI is overhyped.

Which, if any, of the following statements about Generative AI's impact do you agree with?

30%

DISRUPTIVE IMPACT: *Gen. AI will significantly impact our business and disrupt my industry*

45%

MAJOR IMPACT: *Gen. AI's impact will be bigger than my company is planning today*

41%

NEAR-TERM IMPACT: *Gen. AI will soon make a significant industry impact (e.g. 1-2 years)*

34%

LONG-TERM IMPACT: *Gen. AI's industry impact will take longer than expected (e.g. 5-10 years)*

10%

OVERHYPED: *Gen. AI is overhyped and its impact will be less than expected*

Generative AI is not overhyped and belief in both a short-term and long-term impact is nearly equal.

02

Build or Buy?

AI teams are starting to come to grips with the level of control for acquiring Generative AI capabilities.

Teams are looking to balance adoption speed with their obligations to create AI responsibly. In this way, respondents highlighted the criticality of developing Generative AI models in-house while also adapting commercial Generative AI models for production use cases.

The survey underscores the importance of customization and control in AI operations. **A whopping 94% of respondents believe they need to go beyond the capabilities of commercial Generative AI provided in tools like ChatGPT. Additionally, 39% see the necessity to develop and manage their proprietary Generative AI models from the ground up.**

These figures illustrate a potential enterprise strategy: Nurture in-house AI development while adapting commercial solutions to gain expertise and reduce internal friction.
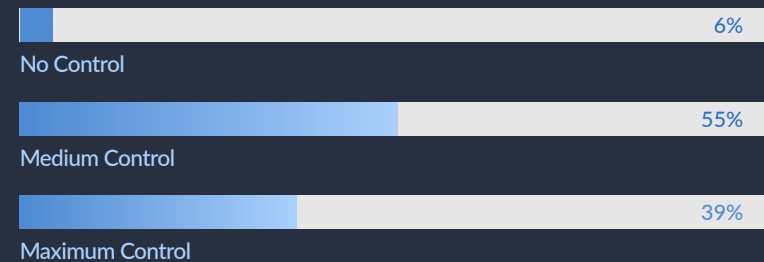
94%

Of AI teams believe they need to **enhance off-the-shelf Generative AI offerings** for their use cases.

39%

Over one-third say they plan to steer their efforts **fully towards in-house development of Generative AI.**

Which level of control over Generative AI models do you anticipate adopting?

6%
No Control

55%
Medium Control

39%
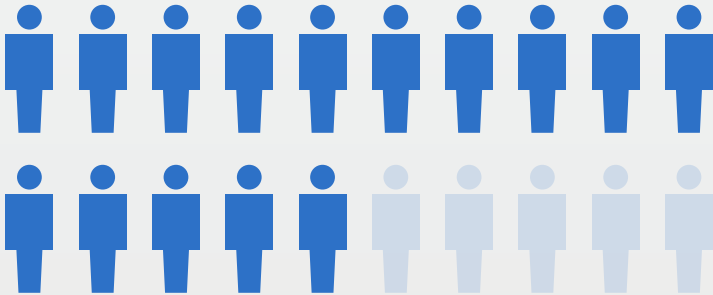Maximum Control

BIGGEST HURDLES

Governance, Responsible AI, and Security

Despite the excitement surrounding Generative AI, it's clear that several hurdles need to be cleared before wide adoption can take place.
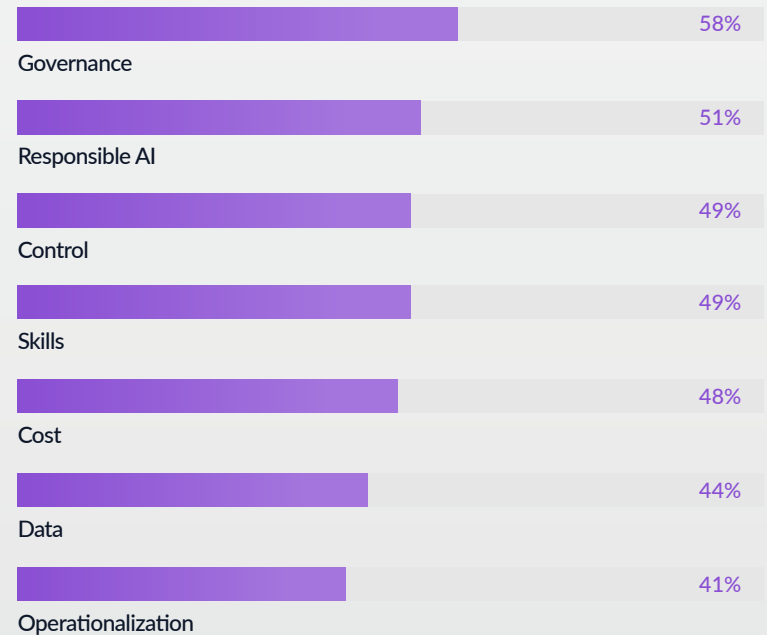
For 58% of respondents, governance poses the most significant challenge, while 51% highlight responsible AI as a crucial issue. The concern for governance is even more pronounced among data science executives, with 76% seeing it as the biggest hurdle.

Added to this is the issue of security. IT professionals are particularly concerned about having control over Generative AI models, with **65% citing lack of privacy, security, and IP protection over third-party models.** Given this grave concern, these results point to a need by enterprises to leverage Generative AI's benefits without compromising on safety and control.

76% Of C-level/VP data science executives call governance one of their most significant hurdles when it comes to Generative AI.

What are the biggest challenges to driving impact with Generative AI?

Challenge	Percentage
Governance	58%
Responsible AI	51%
Control	49%
Skills	49%
Cost	48%
Data	44%
Operationalization	41%

Why Responsible AI is a Concern

Generative AI model usage is not without risks, especially around Responsible AI practices.

Bias and Fairness

Model providers may compromise on data quality, resulting in embedded biased or controversial points of view in outputs.

Security and Privacy

Foundation models may be vulnerable to security attacks, allowing attackers to manipulate the output of the models or to steal sensitive data.

Lack of Transparency

Virtually all large models are complex and problematic for humans to understand. This makes risk assessment near impossible.

Accountability

Companies must address issues affecting customers and individuals impacted by AI. Foundation models' opaqueness makes correcting such concerns extremely difficult, risking recurrence.
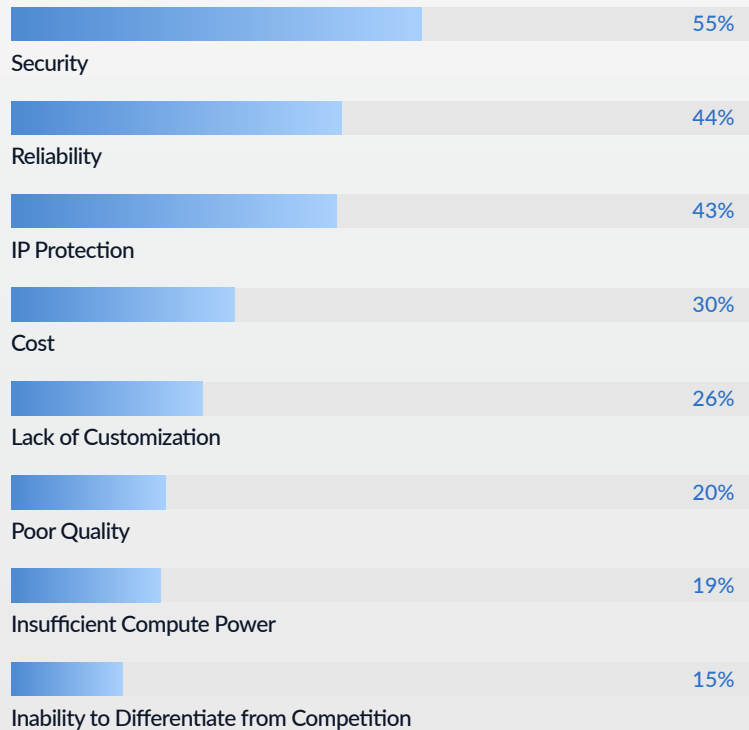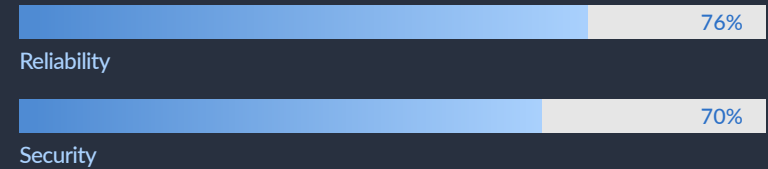
Privacy, Performance, Intellectual Property

Security, reliability, cost, and IP protection rank top amongst respondent's concerns about using current off-the-shelf Generative AI offerings.

Other concerns involve business performance, and reputational impact.

What limitations of existing Generative AI offerings are holding you back from doing more with it?
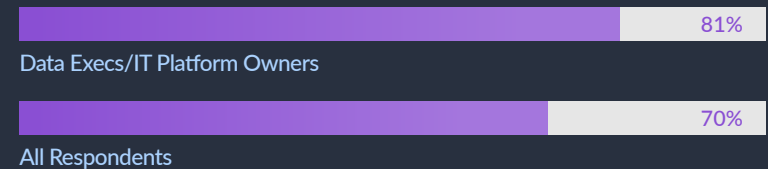
Security	55%
Reliability	44%
IP Protection	43%
Cost	30%
Lack of Customization	26%
Poor Quality	20%
Insufficient Compute Power	19%
Inability to Differentiate from Competition	15%

C-Level and VP data execs' top concerns regarding off-the-shelf Generative AI.

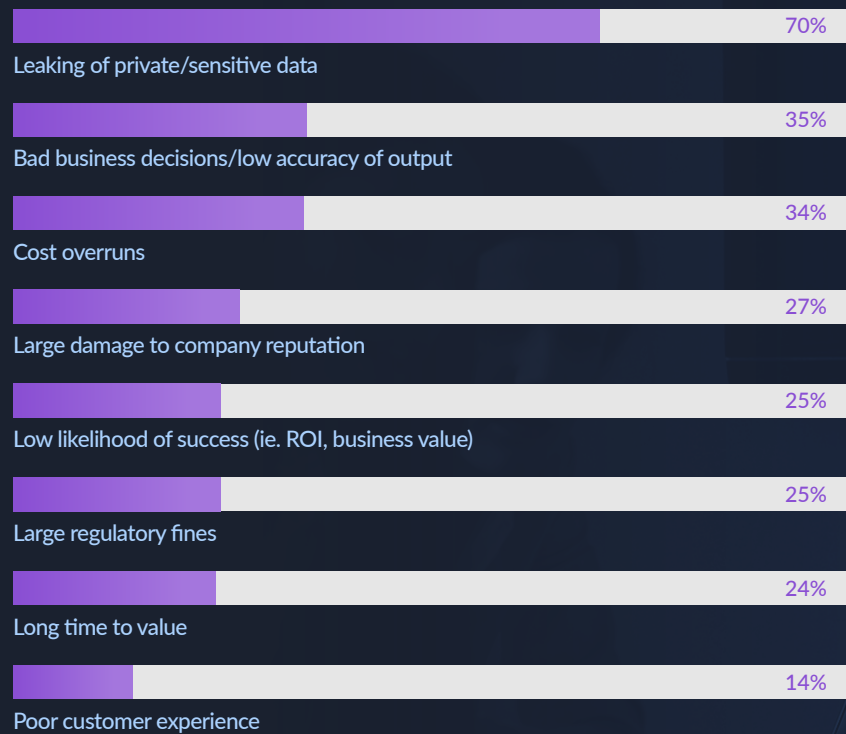|	
Reliability	76%
Security	70%

Generative AI: A Double-Edged Sword?

When it comes to implementing Generative AI solutions, privacy is one of the highest risks, followed by business performance and cost.

Percentages naming privacy a top risk of Generative AI solutions.

Data Execs/IT Platform Owners	81%
All Respondents	70%

Over two thirds of all respondents and over 80% of IT and C-level/VP data exec respondents are worried about the leaking of private/sensitive data

What are the major risks of implementing Generative AI solutions?

Leaking of private/sensitive data — 70%

Bad business decisions/low accuracy of output — 35%

Cost overruns — 34%

Large damage to company reputation — 27%

Low likelihood of success (ie. ROI, business value) — 25%

Large regulatory fines — 25%

Long time to value — 24%

Poor customer experience — 14%

One third of respondents are worried about the risk of poor business decisions and associated cost coming from Generative AI.

05

In-house Tools and Fine-tuning FTW

When it comes to mitigating Generative AI risks, a two-fold approach is evolving.

In the near term, companies are looking to incorporate off-the-shelf Generative AI models while they build longer-term, in-house strategies.

This reinforces the control theme: twice as many respondents were looking to explore their own Generative AI solutions than those interested in testing off-the-shelf offerings. At the same time, respondents are aware it will take them time to ramp up on the technology.

This is especially pronounced among data science leaders and executives. Two-thirds of respondents in such roles look to take an in-house approach to Generative AI.

Concurrently, 42% of all respondents plan to deploy easy-to-use tools for fine-tuning off-the-shelf Generative AI models.

Leaders' focus on this balancing between these strategies surpasses even their interest in training and skills development (38%) as a risk mitigation approach.

49% Plan to develop Generative AI in-house

42% Plan to fine-tune commercial Generative AI models

38% Plan to hire and train for Generative AI skills

35% Will deploy governance and model development tracking tools

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Additional Information

Domino Data Lab provides a number of resources for data science leaders and practitioners, and for IT leaders who support and promote data science programs, including the following:

- The Data Science Innovator's Playbook, a look at top innovators in several different industries

- The Top 5 AI Considerations for Chief Data and Analytics Executives looking to accelerate enterprise data science in the hybrid cloud with MLOps

- The Domino Data Lab blog, featuring technical content, thought leadership, and strategic insights on the effective use of data science in all facets of business

- Specialized insights and help for Data Science Executives and for specific types of business, including life sciences, insurance, financial services, and more

- Information on ways that the Domino Enterprise MLOps Platform accelerates time to value for companies looking to unleash data science at scale

- Case studies documenting how companies like yours have employed Enterprise MLOps to attack the world's biggest challenges and realize outsized returns

- Forrester's report, "The Total Economic Impact™ of the Domino Enterprise MLOps Platform," which explains how Domino drives 542% ROI for customers

- A white paper introducing Enterprise MLOps, a holistic approach to scaling the production of models across modern enterprises

- The Data Science Leaders podcast, featuring in-depth conversations with executives across industries

Methodology

In June 2023 Domino Data Lab surveyed 162 attendees at its Rev 4 conference, the largest enterprise AI and MLOps conference. The survey, titled REVelate, examined the impact, adoption plans, limitations, risks and related mitigation strategies that AI professionals see, or expect to see, as they adopt or develop Generative AI technologies across their employer's organization.

Respondents self-identified as one of the following: Data Science Executive (C-level/VP), Data Science Leader, Data Science Practitioner, IT Platform Owner. Due to sample size, findings specific to respondents in one these roles are directional.

About Domino

Domino Data Lab provides the Enterprise AI platform trusted by over 20% of the Fortune 100. Our products enable thousands of data scientists to develop better medicines, grow more productive crops, adapt risk models to major economic shifts, build better cars, improve customer support, or simply recommend the best purchase to make at the right time.

At Domino, our mission is to unleash the power of data science to address the world's most important challenges.

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