Prophecy

WAKEFIELD

The Impact of GenAI on Data Teams

A survey of data leaders on overcoming challenges & unlocking opportunities in data and workflow transformation

February 2025

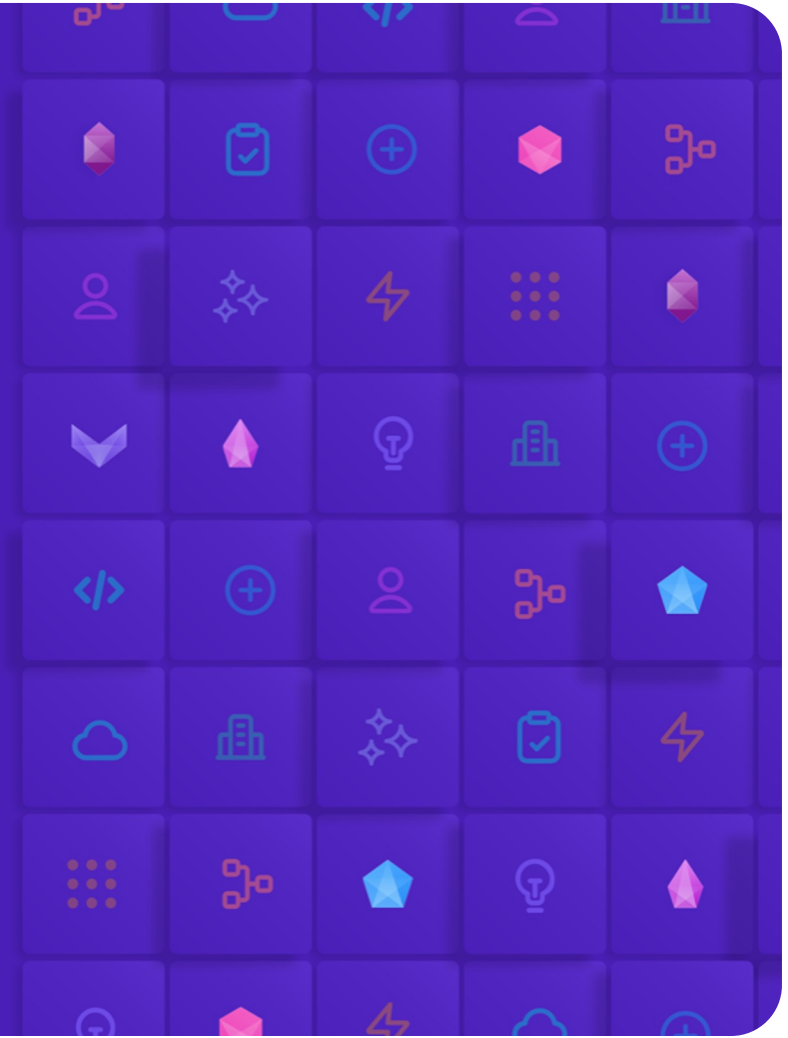


Table of contents

SECTION	SLIDE
Executive Summary	**3**
Key findings	**4**
Detailed findings	**8**
GenAI Seen as transformative, but challenges remain	9
Embracing GenAI for efficiency, productivity, and innovation	15
GenAI in workflows: automation, governance, and cautious adoption	21
Research objectives & methodology	**29**
About Prophecy	**30**
About Wakefield	**31**
Appendix	**32**

Executive Summary

As more GenAI projects move from pilots to full-scale deployments, all eyes are on the data team to deliver clean, high-quality data. Data teams are also uniquely positioned to leverage GenAI to reimagine data processing and deliver greater productivity.

Having struggled for years with increasing complexity and persistent skills gaps, can GenAI provide the breakthroughs needed to help data teams meet the AI moment?

In this survey, we asked data leaders how GenAI was impacting them. The responses from 500 central data team and line of business leaders at large enterprises were dramatic:

- Data executives view GenAI as transformative but its impact depends on overcoming challenges with data quality and speeding up pipeline creation.
- Organizations are embracing GenAI to enhance efficiency while also hiring experts to keep up.
- GenAI is becoming a key part of automating data tasks and improving governance, with data transformation as the area with the biggest impact.

GenAI is reshaping every part of the data world. We hope these findings are helpful as you navigate these changes.

- The Prophecy Team

Prophecy

Key findings

GenAI is transformative for the data space and its impact depends on tackling challenges

Executives are enthusiastic about GenAI and adopting it as soon as possible. A notable 25% of leaders are so committed to its potential that they are **ready to approve any project** with AI at its core. A significant **34% see its greatest impact in data transformation and preparation**, aligning with their hopes for growth in these areas. Organizations are already starting to realize gains, with 45% of executives expecting or experiencing a 15-30% boost in productivity, while 46% of those who are already using GenAI are getting an even higher **boost of 31-50%.**

As GenAI tools become more integrated, organizations face several challenges to their data systems. **Ensuring data scalability** tops the list for 42% of executives, a challenge equally shared by LOB (Line of Business) data team leaders (42%) and central data team leaders (42%).

GenAI is well-positioned to address these hurdles, especially in streamlining data processing. With **excessive time spent building new data pipelines** cited as the top obstacle for 47%, leveraging GenAI offers a clear path to greater efficiency.

Organizations are embracing GenAI to enhance efficiency and decision-making and are hiring and increasing investment

The majority of organizations (51%) **describe themselves as innovators**, with clear plans for leveraging AI to drive progress. Their strategies focus on enhancing internal efficiencies, advancing software and data development, creating customer-facing applications, improving decision-making with advanced data insights, and automating routine tasks to boost productivity.

There is a **skills gap** that executives need to address. Hiring, training, and developing the right talent is a significant challenge. To make GenAI initiatives more effective, 54% **plan to hire data experts**, while 52% are focusing on recruiting AI specialists. Still, more than half (53%) report **difficulties in finding highly skilled data engineers** to support these efforts.

When it comes to how GenAI should be implemented – 51% favor assistive approaches, while 49% lean toward autonomous solutions. In either scenario, **GenAI is a key tool**.

Some leaders remain cautious about its adoption but GenAI is becoming a key part of workflows including data transformation

GenAI implementation is not without its challenges. Executives are working to identify stable and valuable uses for GenAI, with **improving data governance emerging as a top priority** for 36% of organizations. This issue is particularly significant for central data team leaders, where 40% highlight it as a key concern.

Despite these challenges, outright resistance to GenAI is relatively rare. Only 9% of organizations have banned its use entirely, though skepticism is slightly higher among LOB data team leaders, with 12% avoiding AI in their processes. A strong majority (78%) are **proactively establishing governance** for their organizations' internal use of GenAI. However, a significant 37% are implementing a companywide review of all GenAI projects, possibly slowing adoption.

And while some companies are still in the pilot phase of adopting GenAI, many (27%) are **planning to integrate GenAI into their workflows**. Among the most popular use cases is automating data curation, reported by 58% of executives as a key task well-suited to GenAI's capabilities. Leaders also said **data transformation** is the part of the data and analytics process where GenAI can make the biggest impact.

Detailed findings

GenAI seen as transformative, but challenges remain

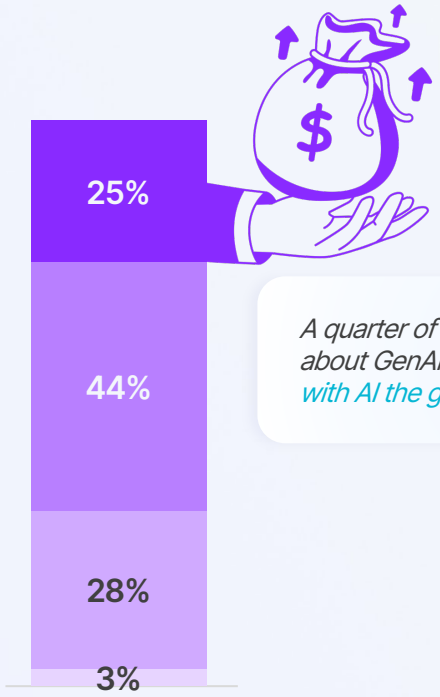
Support for GenAI

Leadership is enthusiastic about GenAI – in fact, 25% go so far as to approve any project with AI at its core. The enthusiasm is even higher for companies that already use GenAI (33%) and for ones with higher revenues (38%).

How leadership is financially supporting GenAI adoption

N=500

- They're enthusiastic, approving any project with AI as a core component
- They understand the need for investing in data infrastructure
- They want AI capabilities but are cautious about additional spending
- They do not see the need to invest in data infrastructure to support AI adoption



A quarter of leaders are so enthusiastic about GenAI they're giving any project with AI the greenlight.

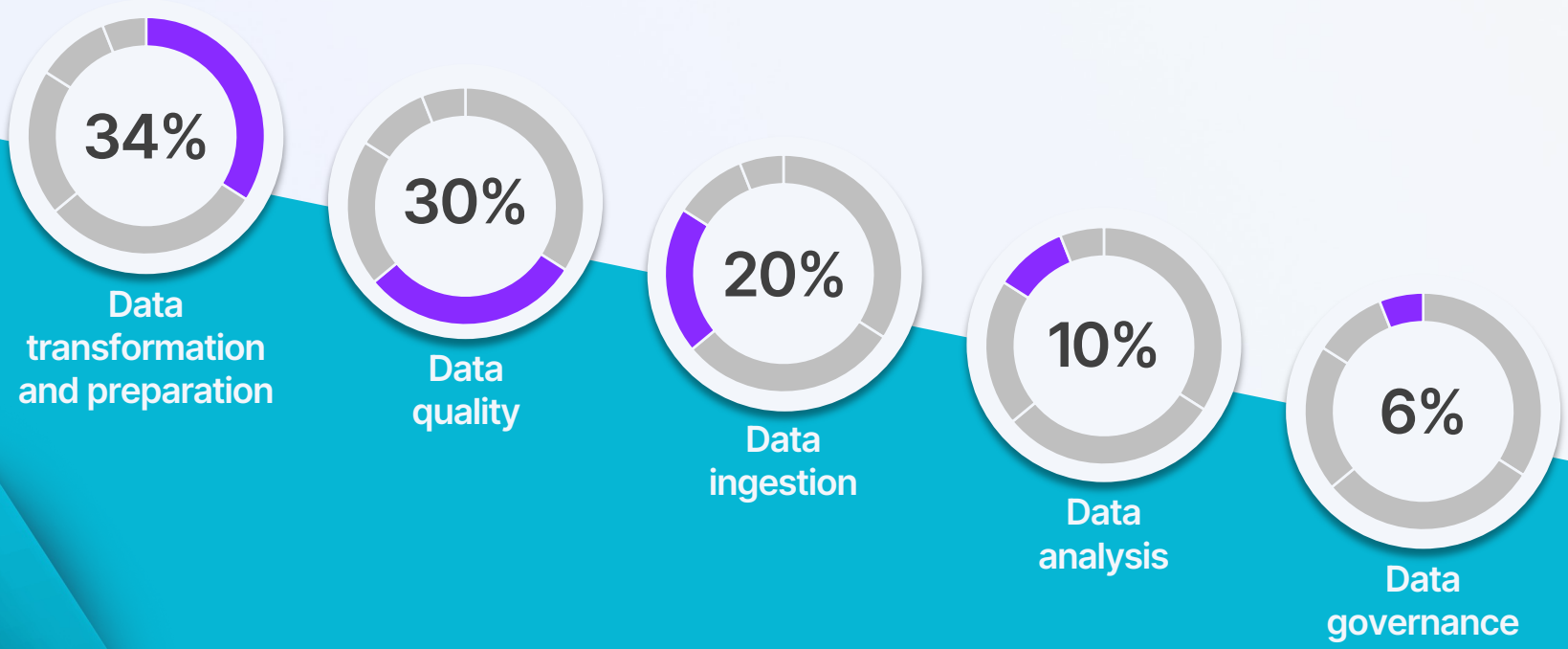
20. Which best describes how leadership is financially supporting your team's GenAI adoption?

GenAI's main areas of impact

GenAI will have far-reaching effects, but the main area will be data transformation and preparation. This was followed by data quality, which would be improved by GenAI.

The top data and analytics process that will see the most impact from applying GenAI

Among those currently using or planning to adopt GenAI, top ranked responses shown, N=499



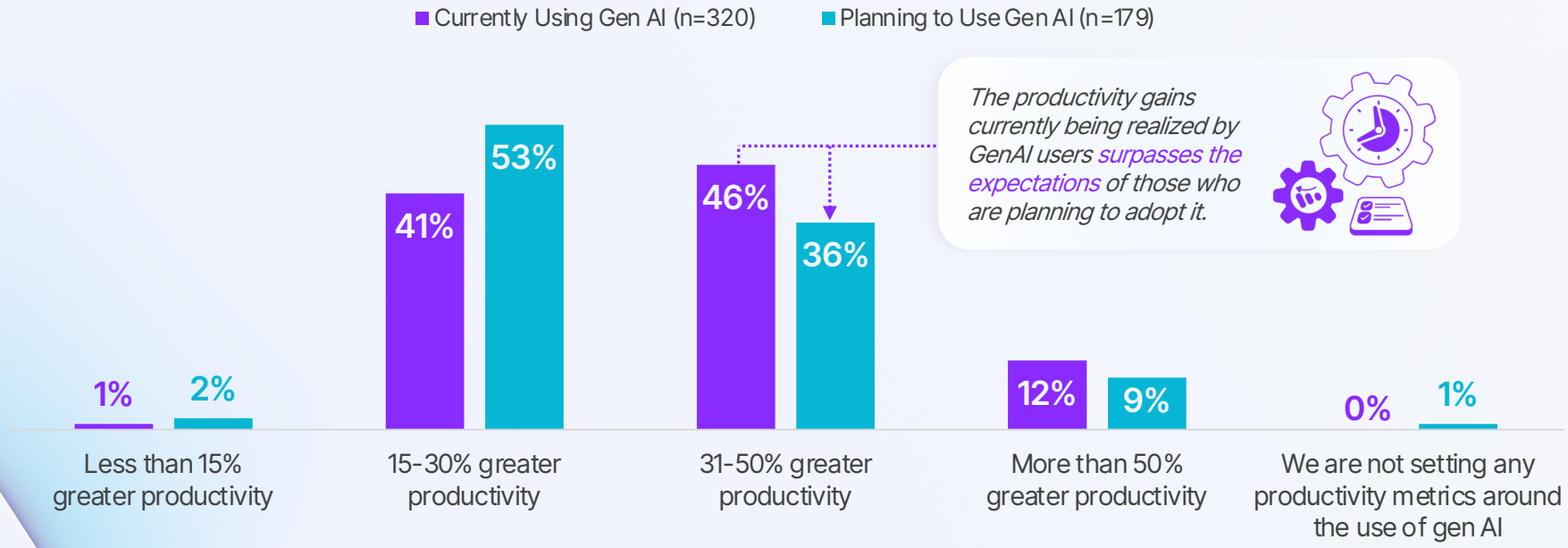
12. What part of the data and analytics process will see the most impact from applying GenAI?

Productivity gains

An increase in productivity is a top reason for GenAI adoption and those who are already using it have seen a difference. Among those who have yet to implement GenAI, expectations are generally high.

Productivity gains organizations are currently seeing or expecting to see

Among those currently using or planning to adopt GenAI, N=499



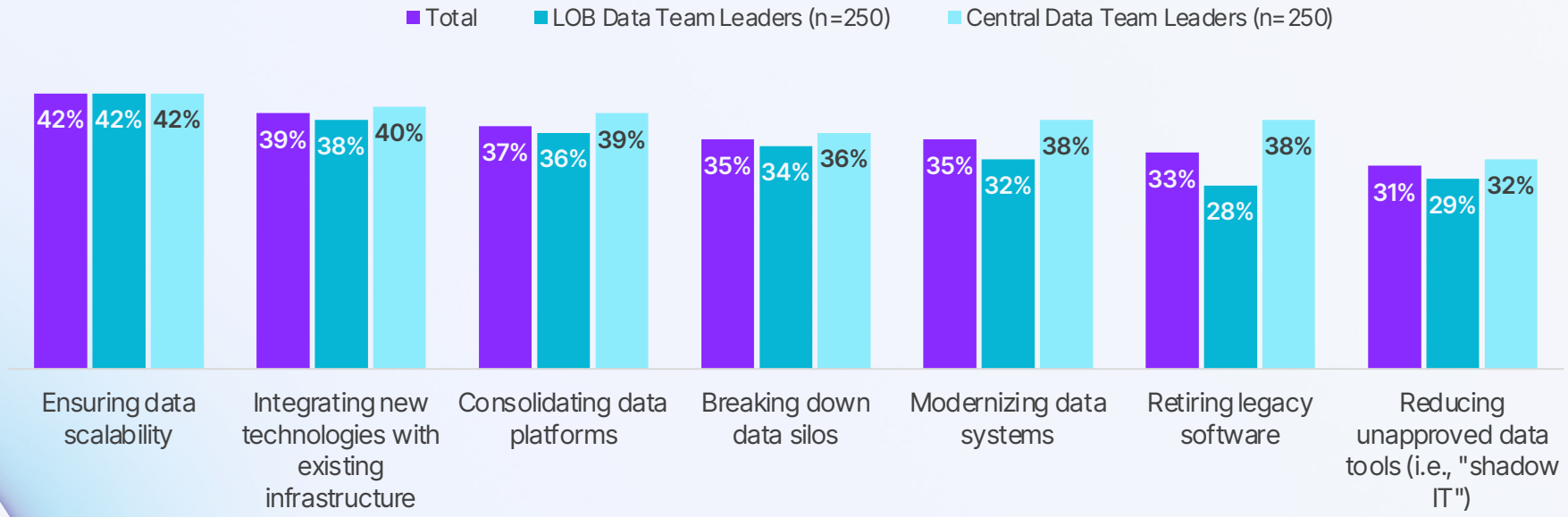
13. What productivity gains is your organization currently seeing/expecting to see from use of GenAI in overall data delivery?

Data system challenges

Ensuring data scalability (42%) is the most common challenge. This is the case for LOB data team leaders (42%) as well as central data team leaders (42%).

Top data systems challenges

N=500



17. What are your top data systems challenges?

Data processing challenges

The top challenge experienced by organizations is the excessive time it takes to create new data pipelines. Communication is another area where GenAI can help as frequent back-and-forth with business teams on requirements and delivery times is a challenge (45%).

Organizations' top data processing challenges

N=500

47%

Excessive time required to create new data pipelines

45%

Frequent back-and-forth with business teams on requirements and delivery timelines

45%

Challenges in ensuring data quality and accuracy

41%

Complex, multi-step processes that slow down data workflows

41%

Inadequate tools or technology to support data scalability

Embracing GenAI for efficiency, productivity, and innovation

Plans for GenAI

A strong 63% of executives plan to use GenAI to improve decision-making with advanced data insights. This is followed by enhancing internal efficiencies in software development and data management (61%)

Organizations' plans for GenAI
N=500

63%

Improving decision-making with advanced data insights

61%

Enhancing internal efficiencies in software development and data management

57%

Developing customer-facing applications

56%

Automating routine tasks to increase productivity

6. What are your organization's plans for generative AI (GenAI)?

Using and supporting GenAI

The majority of companies plan to use GenAI to make existing resources more efficient (58%) – and to upskill existing resources (50%). This suggests that AI is not necessarily there to replace people or tools, but to enhance their capabilities.

Organization plans for data team resources to use and support GenAI

Among those currently using or planning to adopt GenAI, N=499

Not only are organizations planning to use tools to make existing resources more efficient, but they're planning to make more data and AI hires.

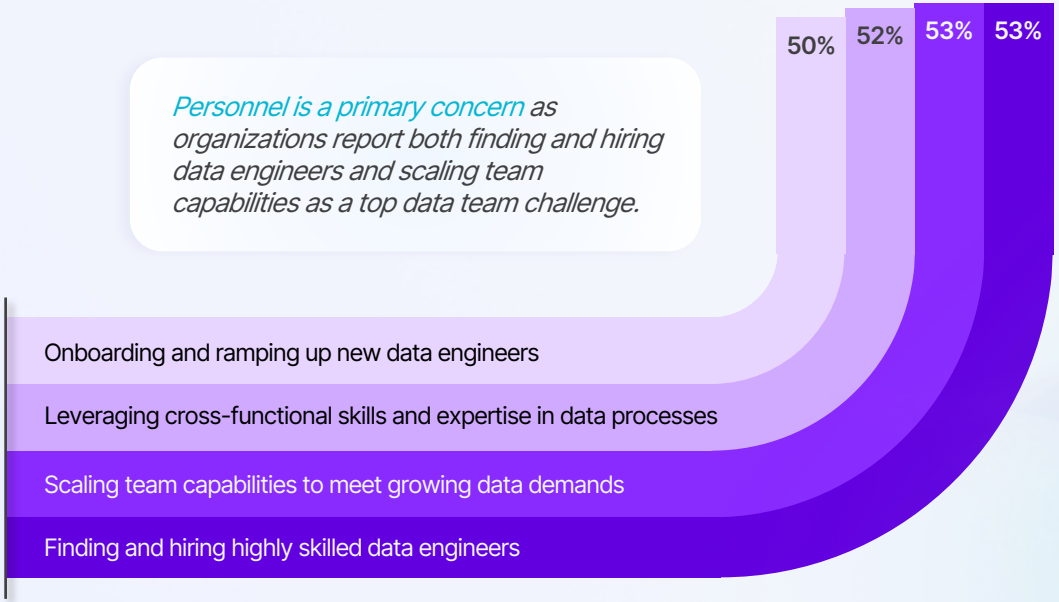
14. What plans does your organization have for your data team resources to use and support GenAI?

Top data team challenges

For a majority of executives, hiring, training, and growing the right talent presents a challenge. More than half (53%) struggle with finding and hiring highly skilled data engineers.

Top data team challenges
N=500

Personnel is a primary concern as organizations report both finding and hiring data engineers and scaling team capabilities as a top data team challenge.



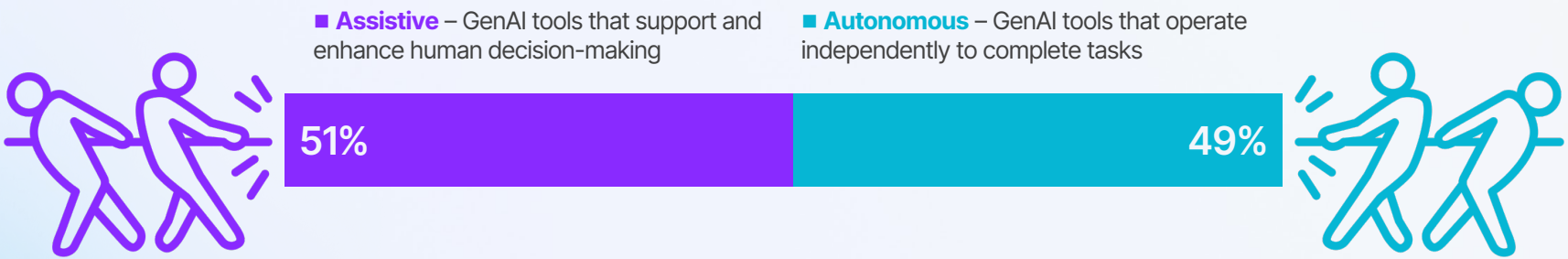
18. What are your top data team challenges?

Assistive or autonomous?

When it comes to GenAI, executives are nearly split on whether they want to be assistive or autonomous. This shows that there can be potential benefits to both types of GenAI, though execs may be unsure if they are ready to turn over the reigns.

Whether data team leaders want assistive or autonomous GenAI solutions

Among those currently using or planning to use GenAI capabilities embedded in their tools, N=203



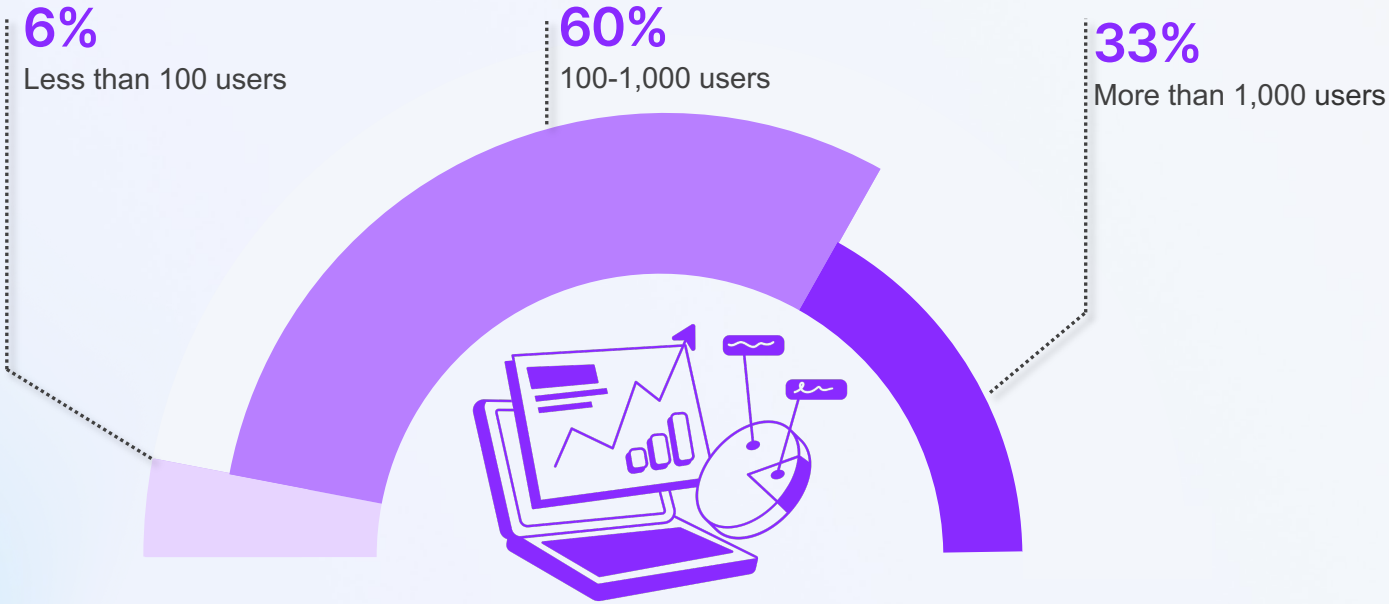
11. Would you want assistive or autonomous GenAI solutions for your data team?

Downstream users

Most organizations (67%) have between 100-1,000 data sources and 60% provide data to 100-1,000 downstream users. Companies with a revenue of $5 billion or more are most likely to provide data to over 1,000 downstream users (44%).

Number of downstream users organizations provide data to

N=500



4. How many downstream users does your organization provide data to?

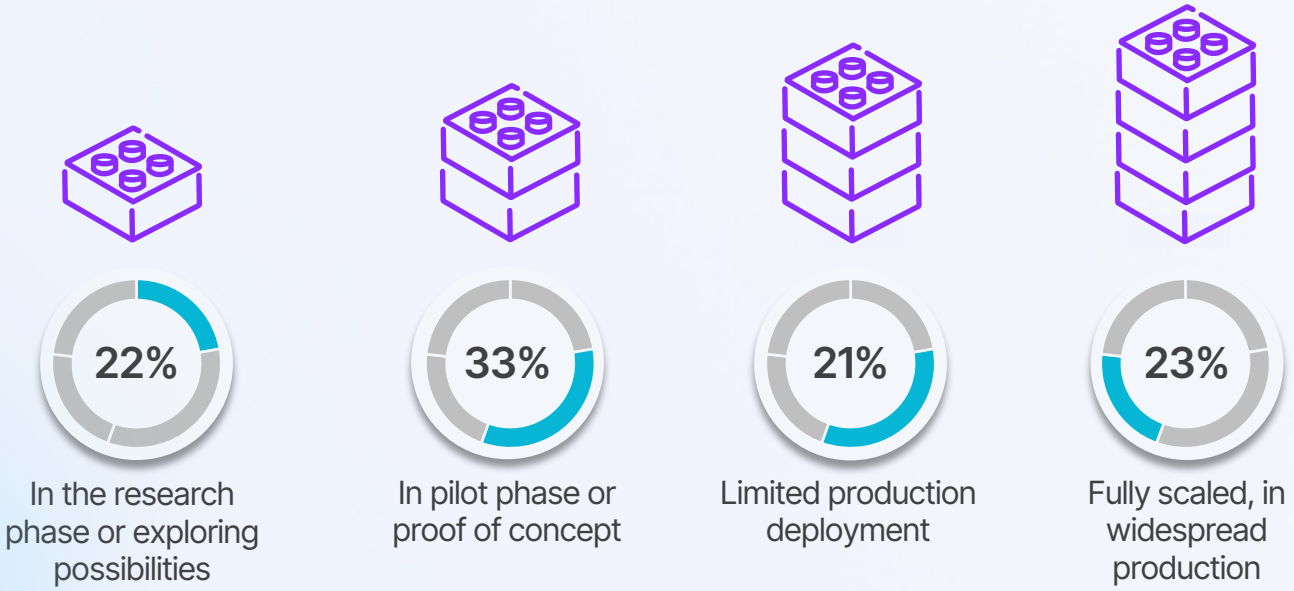
GenAI in workflows: automation, governance, and cautious adoption

Project status report

Executives admit that they are still in the beginning stages of GenAI adoption. A third (33%) believe that GenAI is still in the pilot phase at their companies, while 23% believe it is fully scaled.

Status of GenAI projects across organizations

N=500



7. Which of the following best describes the status of GenAI projects across your organization?

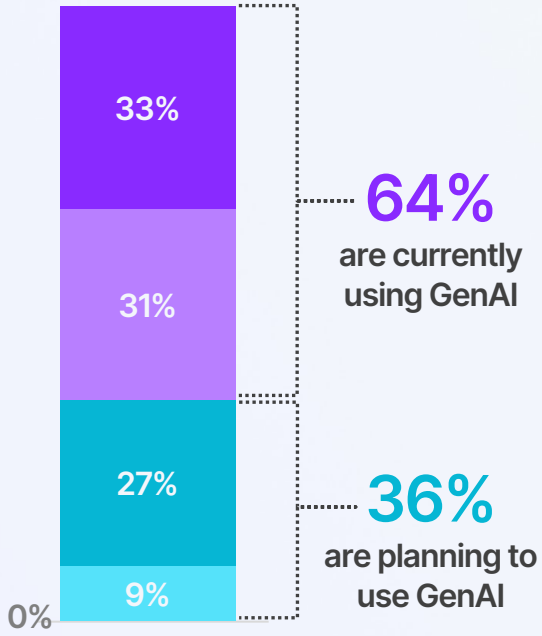
GenAI use cases

The top way to integrate it is by incorporating it directly within workflows (33%). And 31% use GenAI capabilities embedded in the tools they rely on.

How data teams are currently using or planning to adopt GenAI

N=500

- We use GenAI directly within our workflows
- We use GenAI capabilities embedded in the tools we rely on
- We are exploring ways to integrate GenAI into our workflows
- We are considering adopting tools with built-in GenAI capabilities
- We are not currently using or planning to adopt GenAI



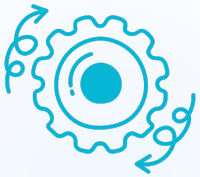
10. Which of the following best describes how your data team is currently using or planning to adopt GenAI?

Data Access and Preparation

The most popular use case is for automatic data curation (58%), a task suited to GenAI. Conversational analytics (51%) and data tests and quality (51%) also made the list of uses. Data tests and quality are especially useful for central data teams (55%) compared to LOB data teams (47%).

GenAI use cases organizations are considering for data access and preparation

Among those currently using or planning to adopt GenAI, N=499



58%

Automatic data curation

51%

Conversational analytics

51%

Data tests and quality

46%

Speed data access with text to SQL

36%

Documentation

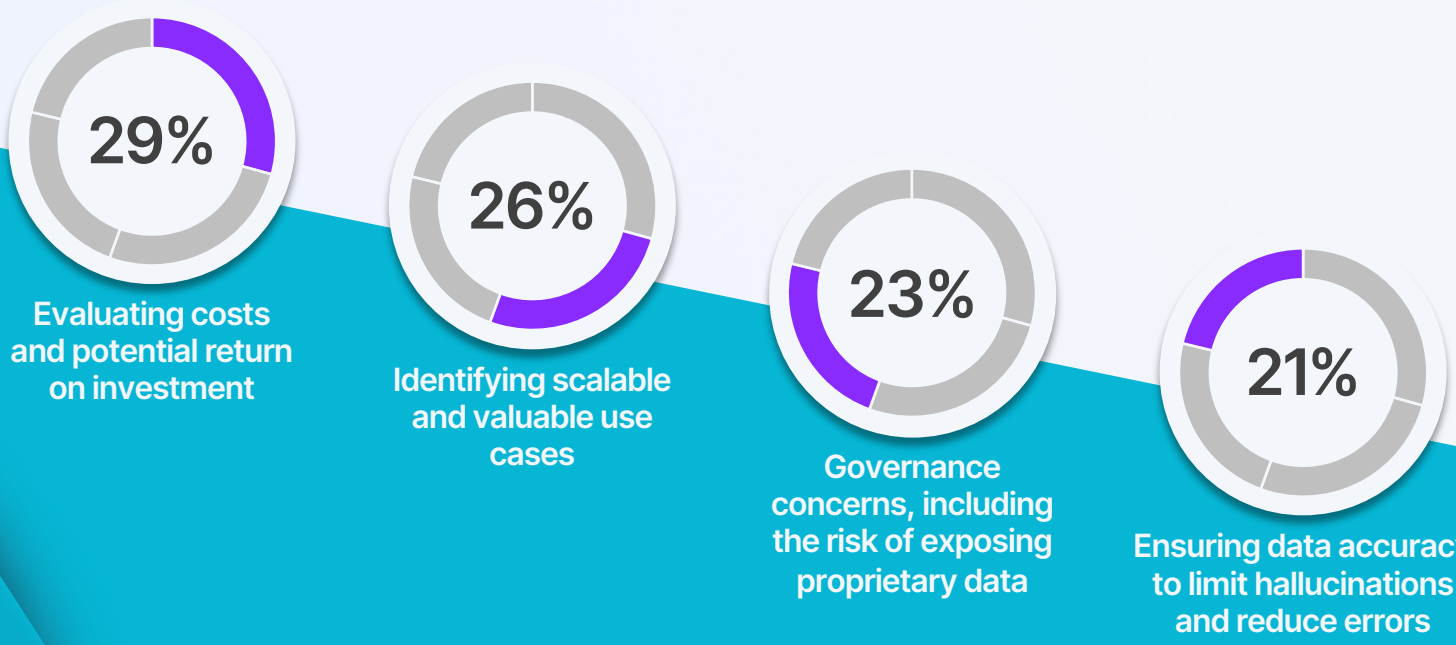
15. What GenAI use cases is your organization considering for data access and preparation?

Hurdles to AI adoption

There are many challenges organizations face when attempting to successfully adopt GenAI. The main hurdle has to do with money as they are most concerned with evaluating costs and potential ROI (29%).

The top hurdles organizations need to overcome to successfully adopt GenAI

Top ranked responses shown, N=500



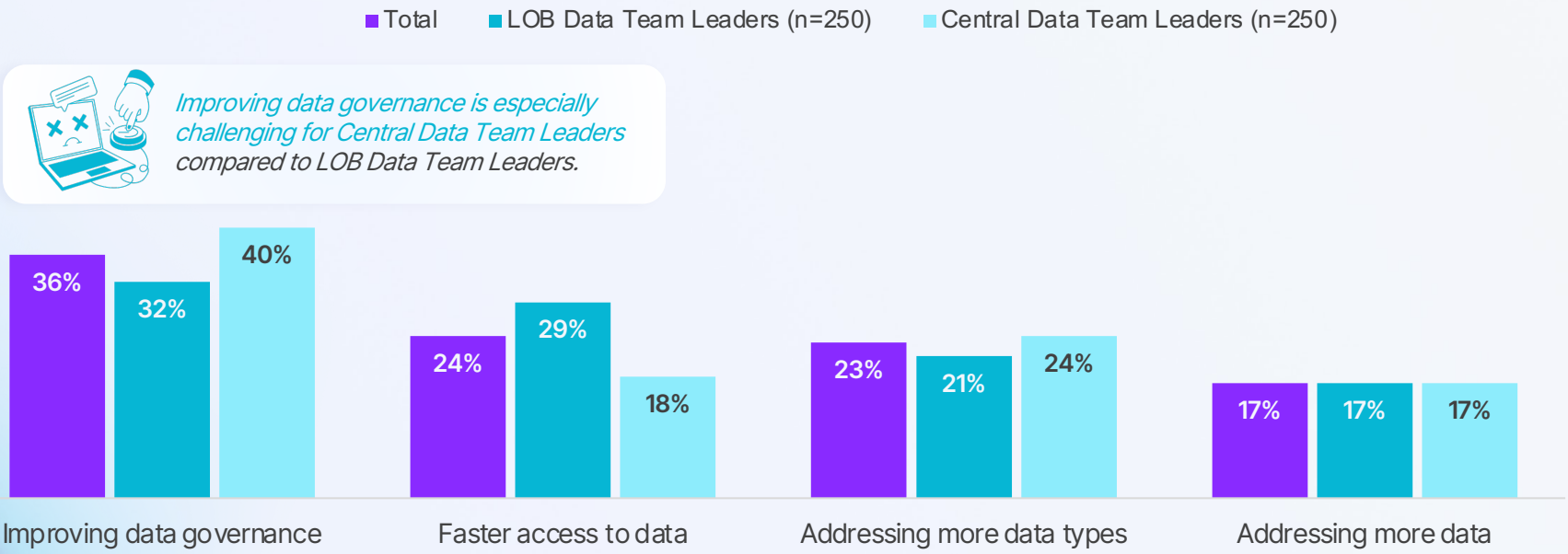
8. Rank the following hurdles your organization needs to overcome to successfully adopt GenAI?

What's impeding AI adoption?

The need to improve data governance is the top issue for organizations (36%). This is especially the case for central data team leaders (40%) who believe it is a significant hurdle.

The data challenge most impeding the adoption of GenAI

N=500



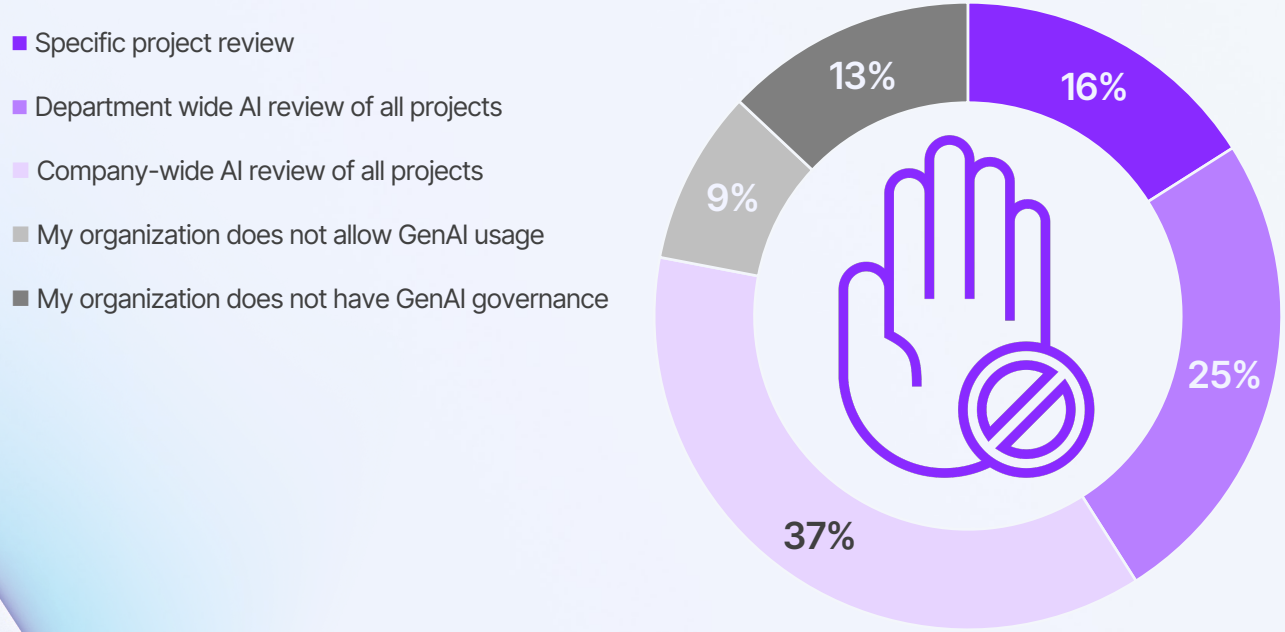
9. Which data challenge is most impeding the adoption of GenAI in your organization?

GenAI Governance

The top way organizations will monitor GenAI is through a company-wide review of all projects (37%). This shows that executives want to keep a close eye on all the different ways AI is influencing their businesses.

Governance being put In place around organizations' internal use of GenAI

Among those currently using or planning to adopt GenAI, N=499



16. What governance is being put in place around your organization's internal use of GenAI?

About the Survey

Research objectives & methodology

Research objectives

Prophecy partnered with Wakefield Research on custom quantitative research to:

- Explore data teams' current use or plans for adoption of generative AI (GenAI)
- Uncover barriers impeding data teams' adoption of GenAI
- Establish the groundwork that needs to be done to realize GenAI's full potential

Research methodology

The Prophecy Survey was conducted by Wakefield Research among 500 US Data & Data Analytics Executives, with a minimum seniority of Director, at companies with a minimum annual revenue of $1B USD, between November 22nd and December 3rd, 2024, using an email invitation and an online survey.

Results of any sample are subject to sampling variation. The magnitude of the variation is measurable and is affected by the number of interviews and the level of the percentages expressing the results. For the interviews conducted in this particular study, the chances are 95 in 100 that a survey result does not vary, plus or minus, by more than 4.4 percentage points overall, 6.2 percentage points in each of the segments from the result that would be obtained if interviews had been conducted with all persons in the universe represented by the sample.

Prophecy

About Prophecy

Prophecy is the data copilot company. Fortune 500 enterprises — including the largest institutions in banking, insurance, healthcare & life sciences, and technology — rely on Prophecy Data Transformation Copilot to accelerate AI and analytics by delivering data that is clean, trusted and timely.

Prophecy enables all data users and makes them productive by helping develop, deploy and observe data pipelines on cloud data platforms. Organizations trust Prophecy for the most demanding workloads, including tens of thousands of data pipelines that deliver massive volumes of data for AI and analytics.

Trusted by top global enterprises to run thousands of mission-critical data pipelines in the cloud

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About Wakefield

Wakefield Research is a leading, independent provider of quantitative, qualitative, and hybrid market research and market intelligence.

Wakefield Research supports the world's most prominent brands and agencies, including 50 of the Fortune 100, in 90 countries. Their work is regularly featured in media.

Nestlé · expedia group · Pfizer · hp · mastercard · Nintendo · View Experience · P&G · Deloitte. · EY Building a better working world · Kellogg's · IKEA · Walgreens

Appendix

Additional questions

Data team organization *N=500*	%
Central team, supporting lines of business	15%
Data teams for each line of business	17%
Central team with members within each line of business	68%

Organizations' unique data sources *N=500*	%
Less than 100	11%
100-1,000	67%
More than 1,000	22%

Organizations' use of data cloud platforms *N=500*	%
They're fully adopted	70%
We're working on adopting them	27%
We do not have any plans to adopt them	3%

Organization descriptor *N=500*	%
A data innovator, adopting new approaches and delivering value from them	51%
A data adopter, adopting proven best practices	38%
A data pragmatist, adopting new approaches when necessary or highly relevant	11%

1. Which best describes how your data teams are organized? / 2. Which best describes your organization's use of data cloud platforms such as Snowflake, Databricks, AWS, Azure, or Google Cloud? / 3. How many unique data sources does your organization have? / 5. Which best describes your organization?

Demographic questions

Revenue *N=500*	%
$1 billion to less than $2 billion	36%
$2 billion to less than $5 billion	30%
$5 billion to less than $7 billion	13%
$7 billion to less than $10 billion	6%
$10 billion to less than $25 billion	9%
$25 billion to less than $50 billion	3%
$50 billion or more	3%

Level *N=500*	%
Director-level (Senior Director, Head of Department, or similar)	27%
Vice President	32%
Senior Vice President or Executive Vice President	27%
C-Level Executive (CEO, CIO, CFO, CTO, Partner, Owner, etc.)	3%15%

What is the highest level of formal education you have completed? / How would you describe your current level or title at your company? / Which of the following categories includes your company's annual sales revenue?

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Thank you!

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