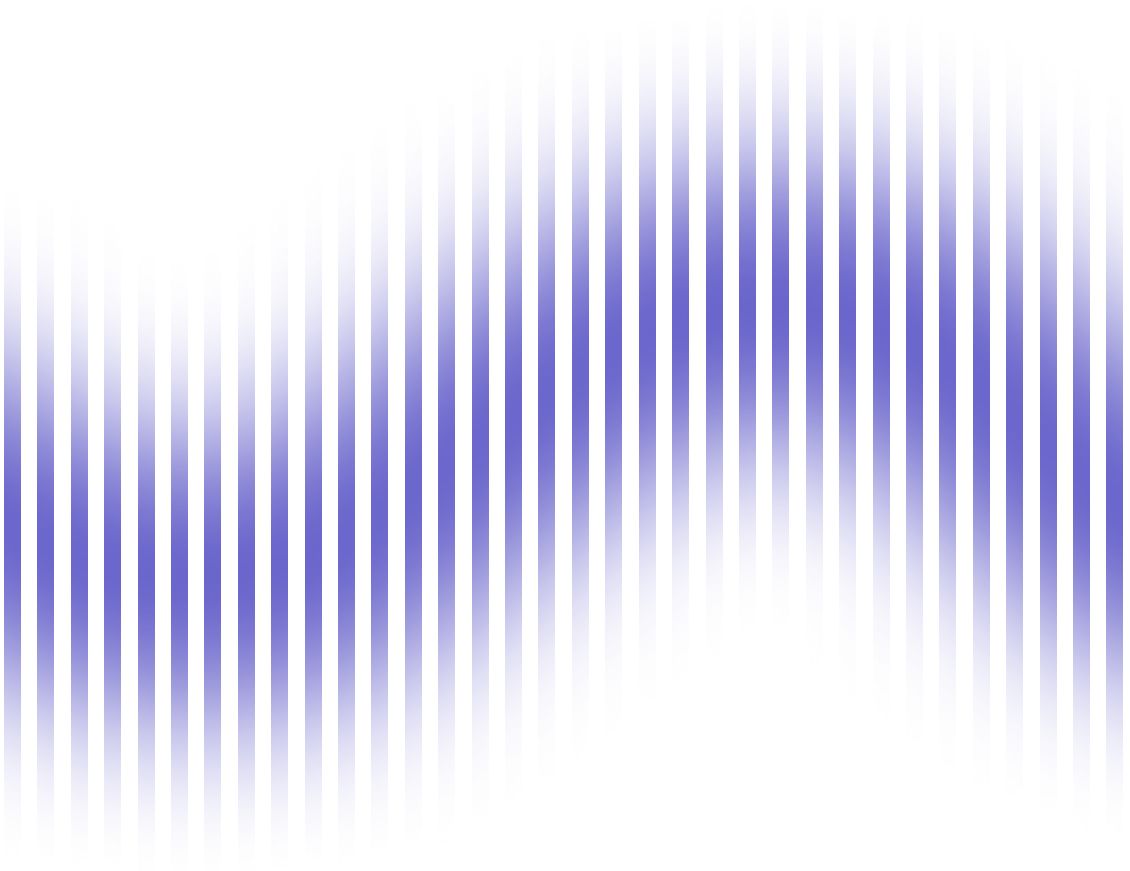
Beyond The Hype

Exploring AI Use Cases that are Delivering Real Business Value



Separating value from hype

There's no question that artificial intelligence (AI) was a primary topic of technology conversations in 2023. OpenAI's ChatGPT became the fastest-growing consumer application of all time. AI startups like Mistral raised enormous funding rounds at huge early-stage valuations. And technology companies of all stripes rushed to incorporate AI features into their product offerings.

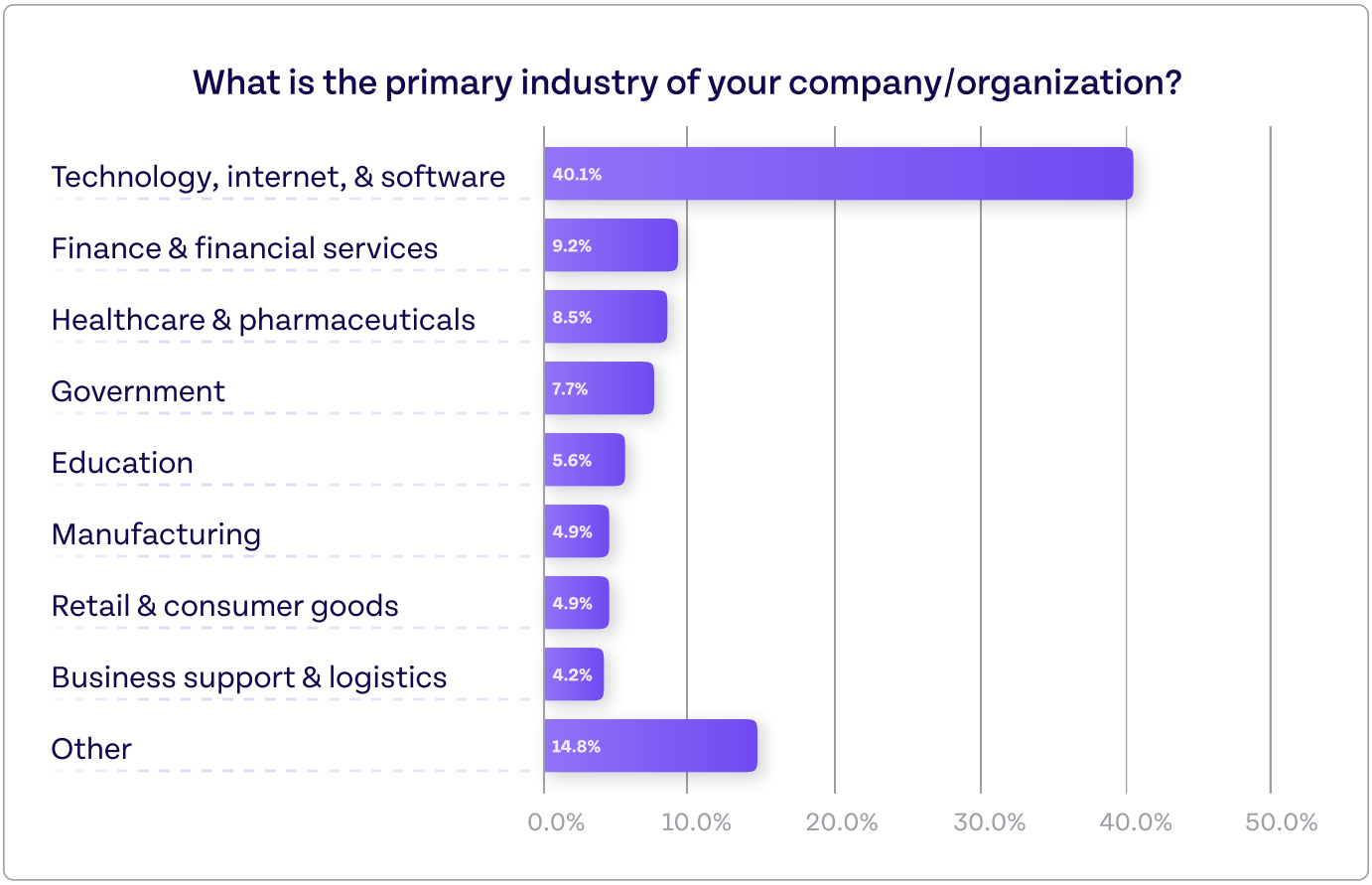
As with any hype cycle, AI certainly has outlandish expectations. But there is also a clear promise of business value. As a technology company, we're deeply interested in the potential of AI, and as a low-code development company, we want to help organizations realize that potential in the applications, tools, and automated business processes that they develop.

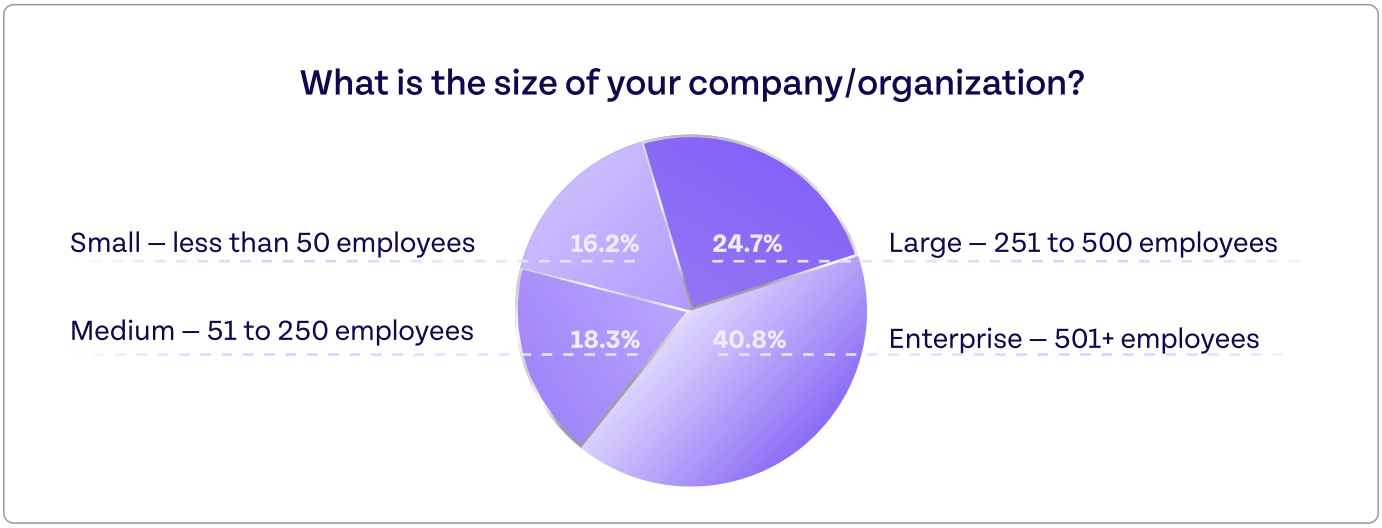
The key is to understand business value and separate it from hype. To explore how AI is being adopted within businesses and identify where they're seeing the biggest returns, we surveyed 140 technology professionals (IT and engineering) across the Appsmith community and businesses in North America. The primary goal of the study was to inform our product roadmap and make sure we're working on features that will support the highest-value AI use cases. However, the results were interesting enough that we decided to share them in this ebook as well.

The survey looks at AI adoption in two ways. One is how individual employees access and use AI tools in their day-to-day work. The second is how companies are integrating AI capabilities into their products, tools, and business processes.

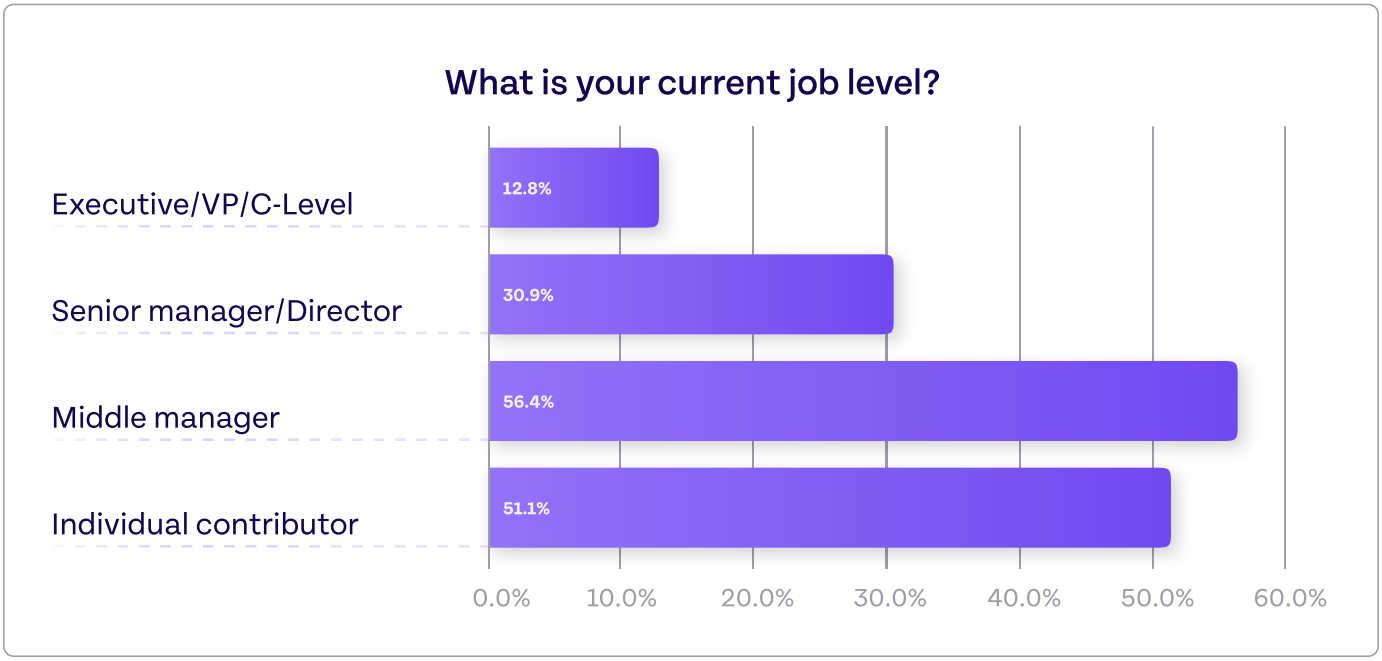
Survey demographics

As the previous section noted, the survey respondents were a mix of North American businesses and global members of the Appsmith community. Technology (hardware, internet, and software) represented the largest industry segment, but respondents work in organizations of all sizes across 17 industries.





Respondents were almost exclusively in technology roles, either IT or engineering/ R&D teams, and ranged in seniority from executives to individual contributors.



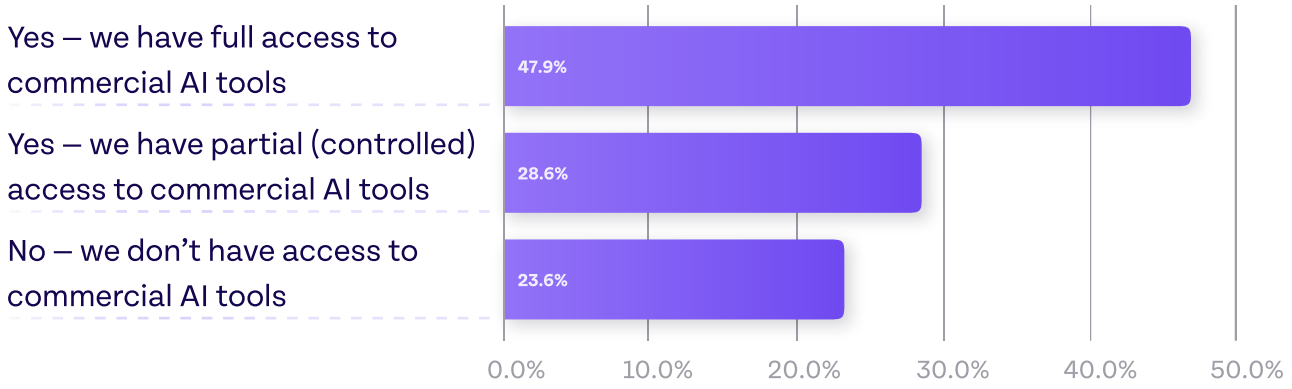
AI access and adoption in the workplace

AI tools are definitely not just a consumer phenomenon. Survey respondents reported broad adoption and usage of AI across their workplaces — especially with commercial offerings such as ChatGPT or GitHub Copilot. 77% of respondents indicated that they have access to one or more of these tools in their workplace.

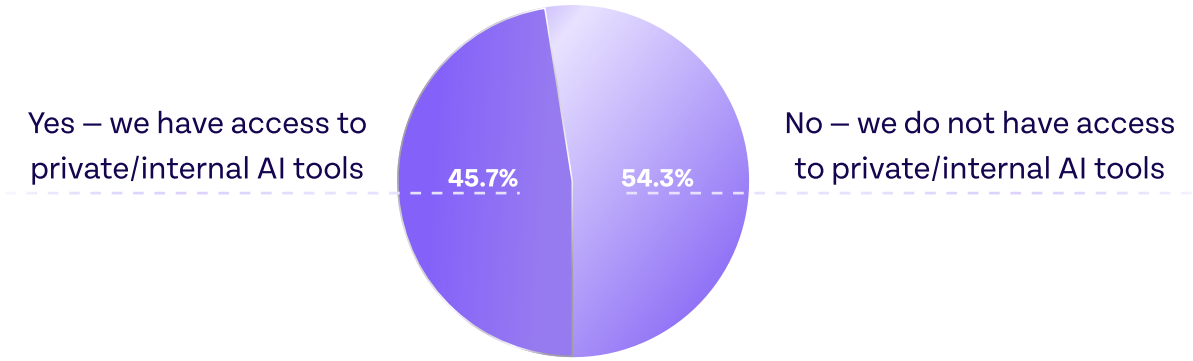
Adoption of private or proprietary AI tools such as internal or self-hosted large language models (LLMs), fine-tuned LLMs, or prompt directories was much lower. Only 46% of respondents reported that they had access to or used these types of tools. Across industries, financial services and business support/logistics companies reported the highest AI adoption/access (90+%) within their businesses while retail and government reported the lowest (<50%).

77% have full or partial access to AI tools in the workplace.

Do you currently have access to commercial AI tools (free or paid versions) such as ChatGPT, Google Bard, or GitHub Copilot in your workspace?

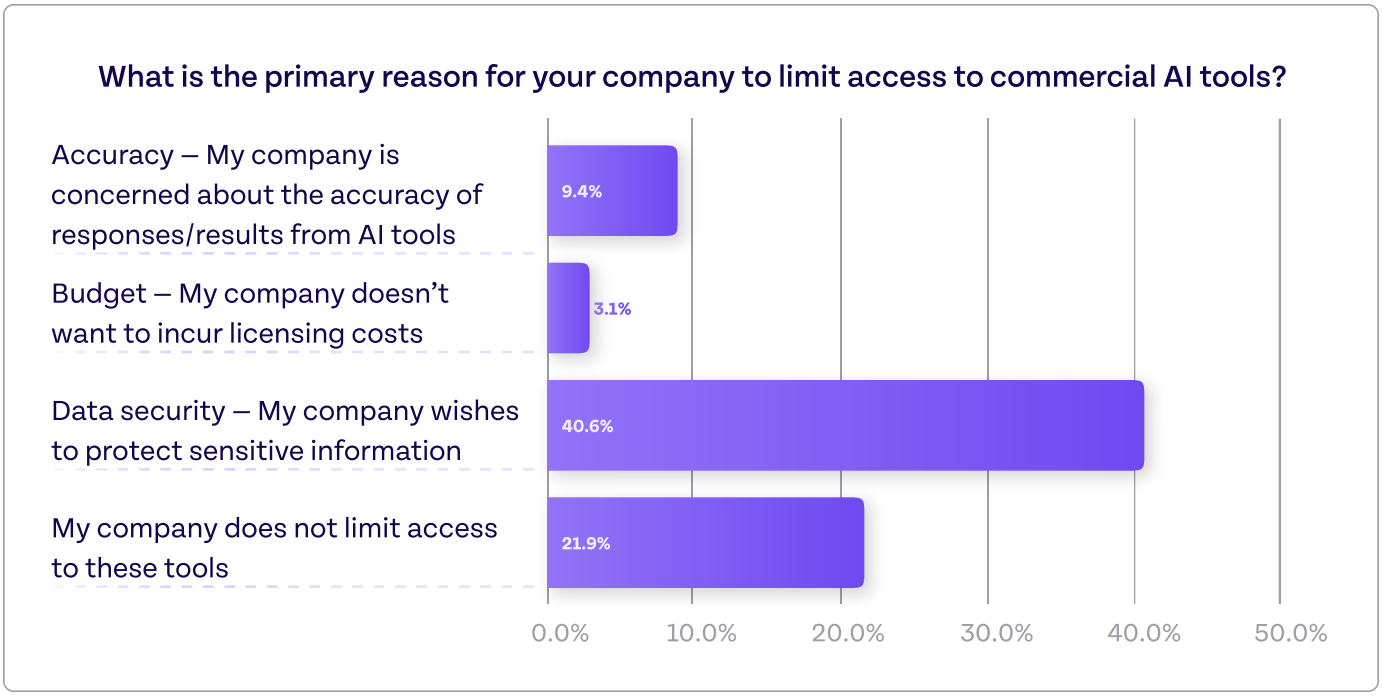


Do you currently have access to proprietary AI tools such as private/internal LLMs, fine-tuned LLMs, or prompt directories?

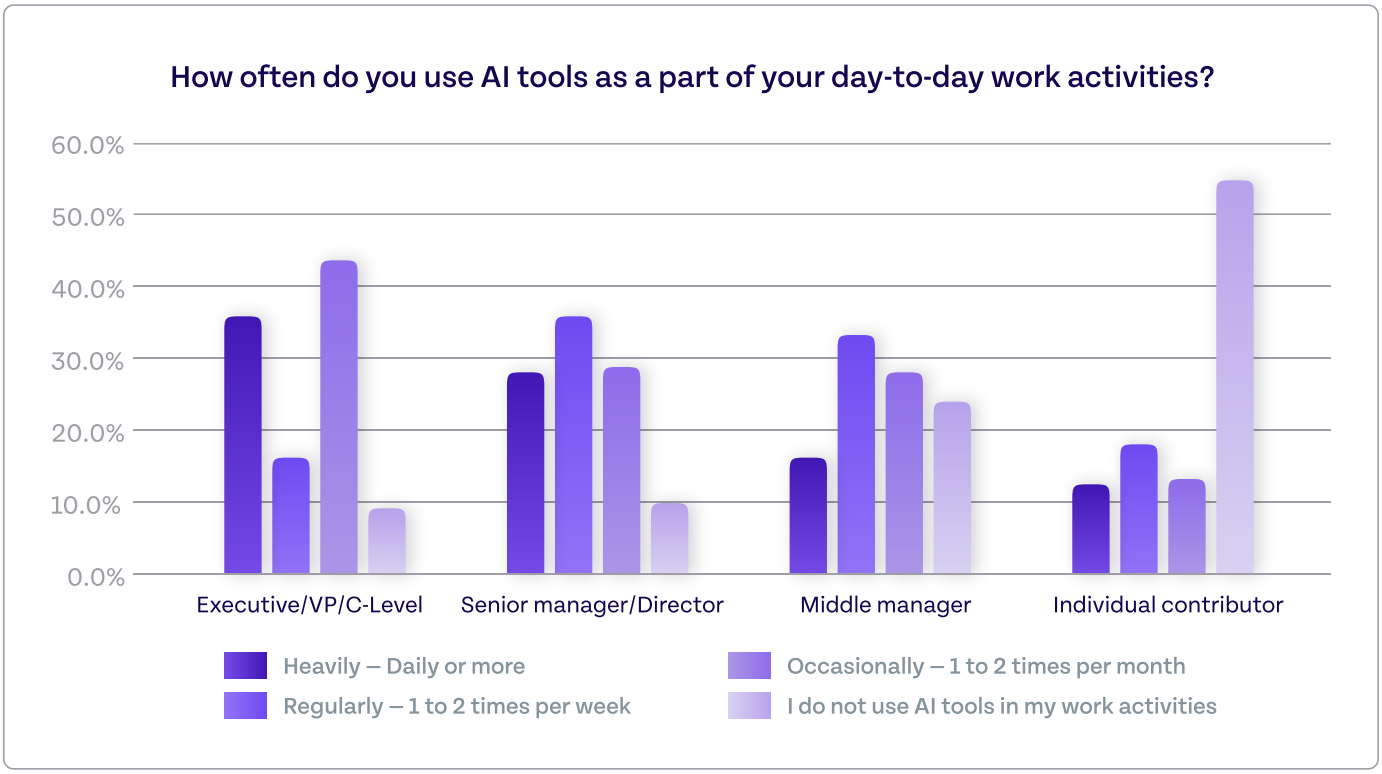


The difference between commercial and private adoption is likely a question of implementation. It seems likely that businesses would prefer to have their teams using private AI tools rather than public ones, but simply haven't fully implemented these solutions. Data and data security remain major concerns. 41% of respondents reported that data security was the primary concern or blocker that prevented their company from providing access to AI tools.

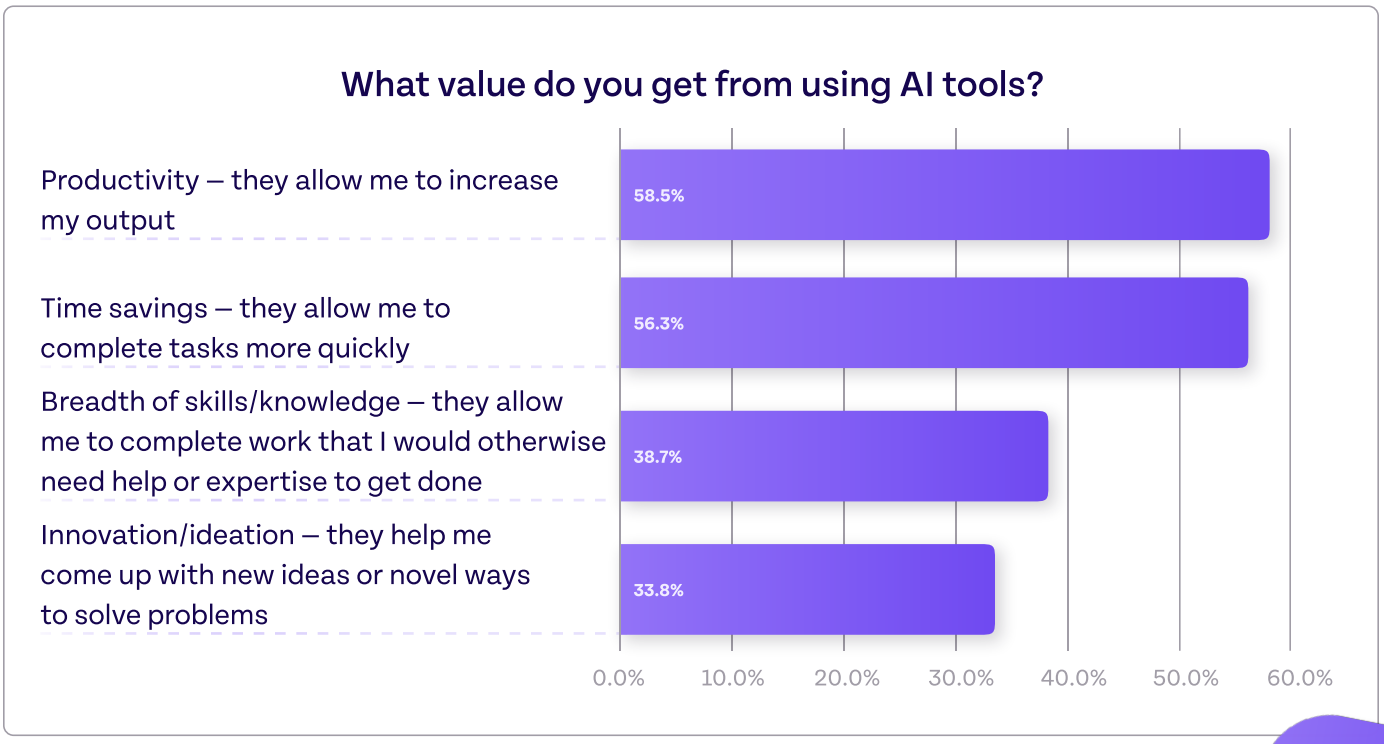
41% **say that data security is the biggest blocker to AI adoption.**



While a large majority of teams have access to AI tools, there is a significant spread in usage across job levels. Respondents in senior management roles were much more likely to be heavy users of AI tools than those in individual contributor roles. Over 30% of executives reported using AI tools daily while only 13% of individual contributors did.



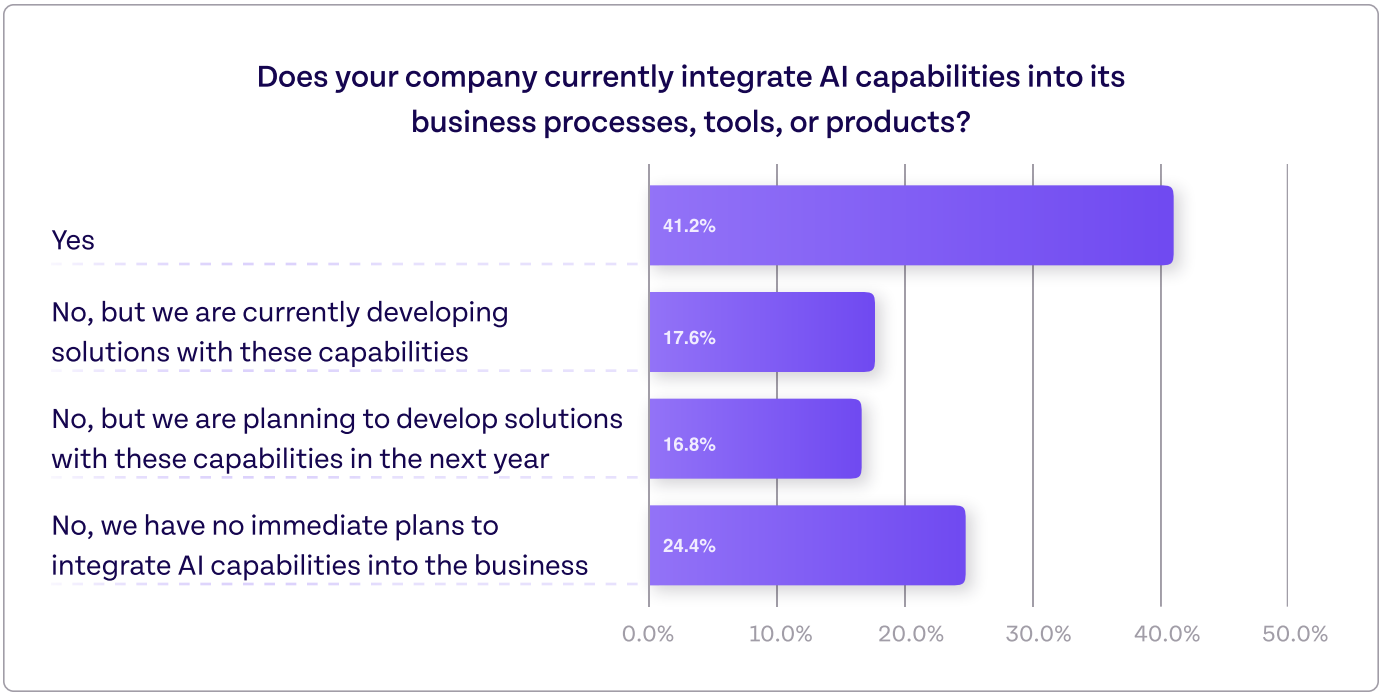
We didn't capture precisely why this spread in usage is occurring, but it's likely that the benefits of AI tools are realized more readily by people in leadership roles. Time savings and productivity gains are the biggest personal benefits that respondents reported seeing from AI tools. These benefits are perhaps more relevant and valuable to time-constrained managers.



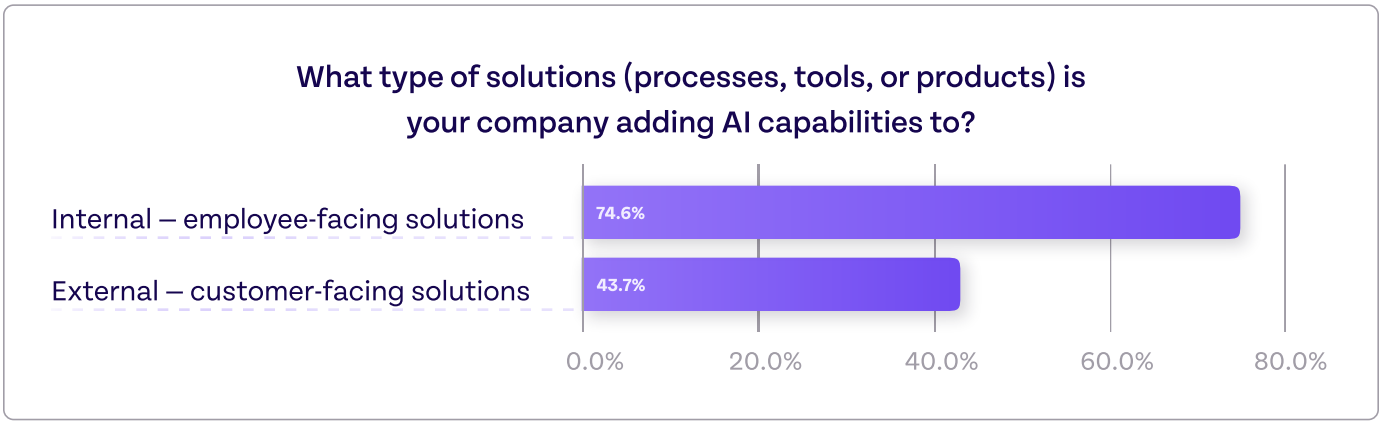
Integrating AI into company tools, processes, and products

In addition to individual employee usage of AI technologies, we asked survey respondents about how their company is building AI solutions – integrating AI capabilities into broader solutions like products, internal tools, and business processes. This information was particularly relevant to us as these are the same types of solutions that Appsmith helps companies develop.

Compared with simply giving employees access to commercial tools, companies are not as far along in building their own AI solutions, but they are investing heavily. While only 41% have active solutions today, 76% plan to have solutions in place in the next 12 months.



Another interesting question is whether companies are more actively building AI capabilities into internal solutions — tools/apps/processes that are primarily employee facing — or integrating them with their customer-facing product offerings. Given the heavy representation of technology companies in the survey, one might expect that there would be a clear focus on external solutions, but that isn't the case. Respondents reported that their companies' AI projects were much more likely to be focused on internal use cases.



76% of companies plan to integrate AI capabilities into their internal tools in the next 12 months.

So why do (even technology) companies see greater value in internal than customer-facing AI tools? The answer may be in the outcomes that they see and/or expect from these initiatives. Companies reported that greater productivity and efficiency were primary outcomes they're tracking for their AI projects.

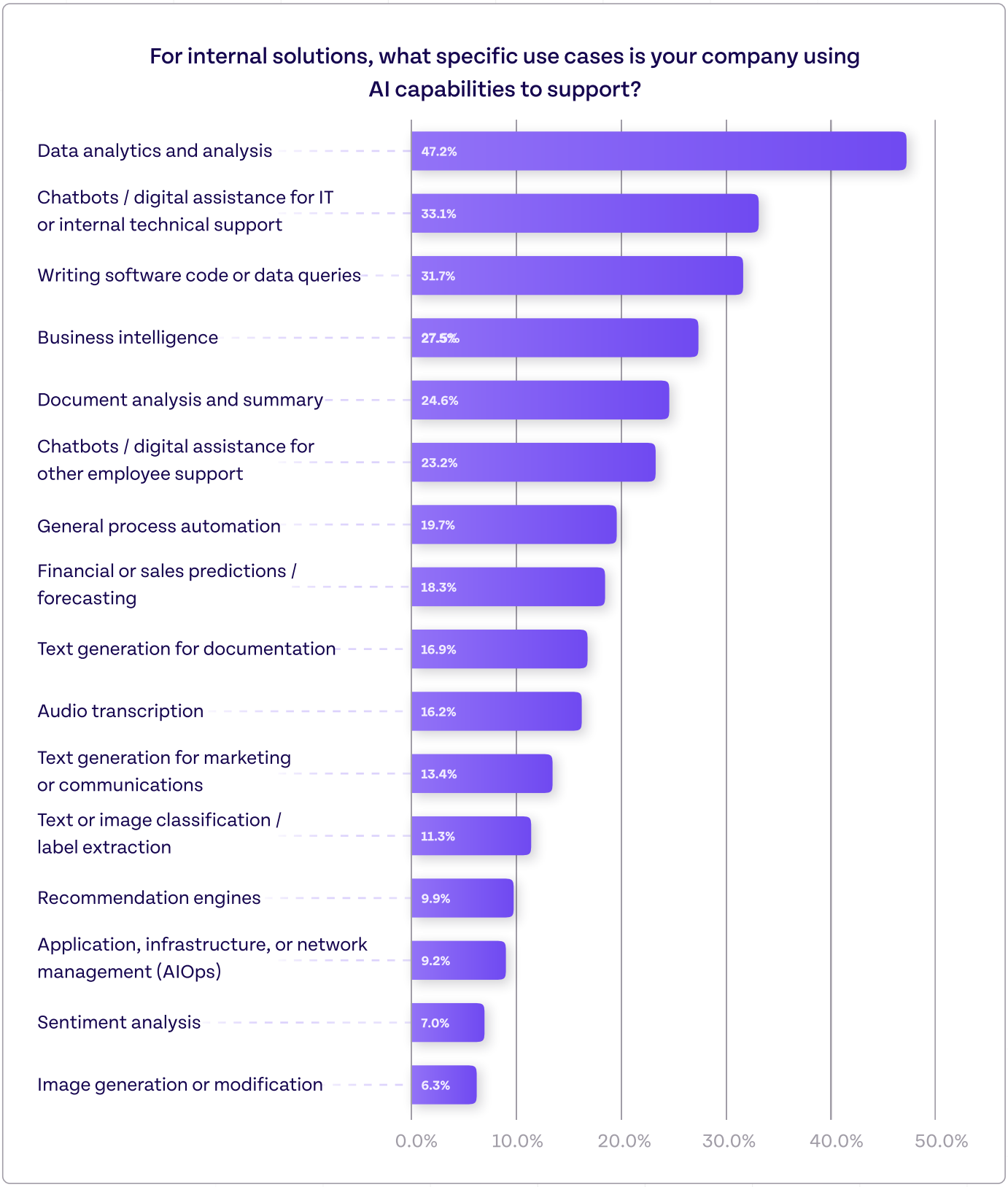
Revenue growth was a distant fifth. If the primary value of AI capabilities is that they increase business efficiency and employee productivity, then it makes sense that the highest-value use cases would focus on the internal processes and tools that power a company's operations.

Internal AI use cases

Given that companies are focusing on integrating AI capabilities into internal apps, tools, and processes, what are the use cases that are providing the most value? To get at this, we first asked respondents to share the specific use cases they've implemented or are in the process of implementing.

A common theme emerged across all the responses. First and foremost, companies are looking to AI capabilities to help them with data and document analysis. Nearly 99% of respondents reported having some sort of analysis use case.

The second most common use case was chatbots. More specifically, 33% of respondents said that their company had implemented an IT chatbot to help service employee support requests.



The top use cases were fairly consistent across all industries. Technology companies were more likely to implement copilot tools for software development, and educational and government organizations were more likely to implement document summary and analysis tools. Manufacturers, unsurprisingly, were looking for more opportunities for automation.

Technology, internet, & software

1. Data analytics and analysis — 49.1%
2. Chatbots / digital assistance for IT or internal technical support — 49.1%
3. Writing software code or data queries — 42.1%

Finance & financial services

1. Data analytics and analysis — 61.9%
2. Chatbots / digital assistance for other employee support — 46.2%
3. Chatbots / digital assistance for IT or internal technical support — 38.5%

Healthcare & pharmaceuticals

1. Data analytics and analysis — 41.9%
2. Writing software code or data queries — 33.3%
3. Business intelligence — 25%

Government

1. Data analytics and analysis — 36.4%
2. Document analysis and summary — 27.3%
3. Financial or sales predictions / forecasting — 18.2%

Education

1. Document analysis and summary — 62.5%
2. Chatbots / digital assistance for IT or internal technical support — 37.5%
3. Business intelligence — 37.5%

Manufacturing

1. General process automation — 42.9%
2. Data analytics and analysis — 28.6%
3. Chatbots / digital assistance for IT or internal technical support — 28.6%

Retail & consumer goods

1. Chatbots / digital assistance for other employee support — 28.6%
2. Data analytics and analysis — 14.3%
3. Chatbots / digital assistance for IT or internal technical support — 14.3%

Business support & logistics

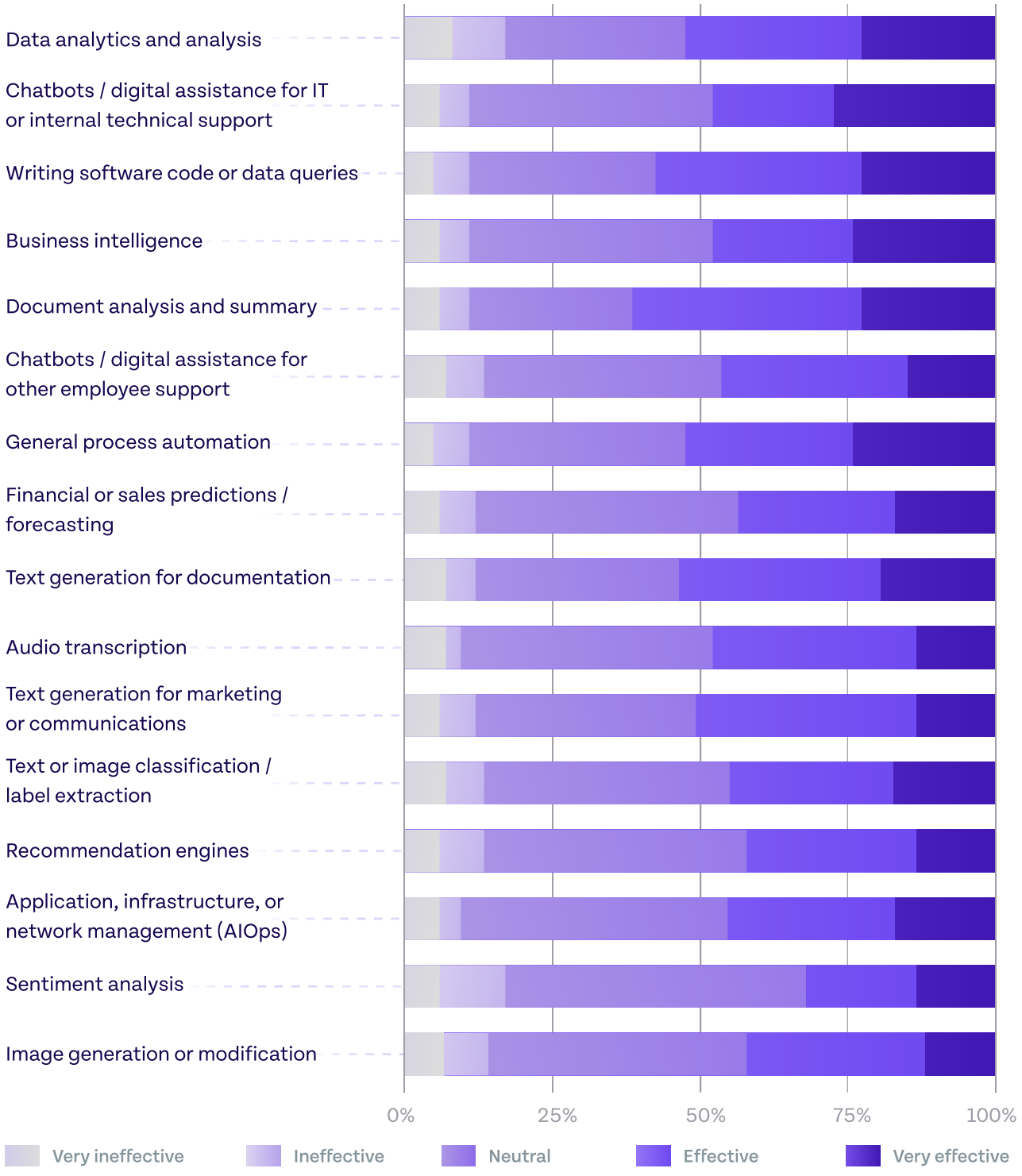
1. Data analytics and analysis — 66.7%
2. Document analysis and summary — 66.7%
3. Chatbots / digital assistance for IT or internal technical support — 50%

The effectiveness of AI capabilities

After asking respondents to share their internal AI use cases, we asked respondents to rate the effectiveness of their implementations (only those where they have active solutions in place). Specifically, we asked how well these use cases have helped them realize the business outcomes they were expecting — namely operational efficiency and employee productivity.

The results here were mixed. While very few respondents reported that their AI initiatives were ineffective, most responded that their outcomes were neutral — neither effective or ineffective. This would seem to be a disappointing result, but is likely more a reflection of the maturity of these solutions. Most companies reported being in the very early stages of AI projects, with 40% of respondents saying that they were “just getting started.” With more time we’d likely see more definitive outcomes.

Based on your experience, how effective has AI been in the following use cases in helping your company achieve its desired objectives?



That having been said, AI was clearly more effective in some use cases than in others. The most effective AI use cases were coding copilots, document analysis, and employee support chatbots. The most ineffective use cases were recommendation, sentiment analysis, and image generation.

Most effective AI use cases

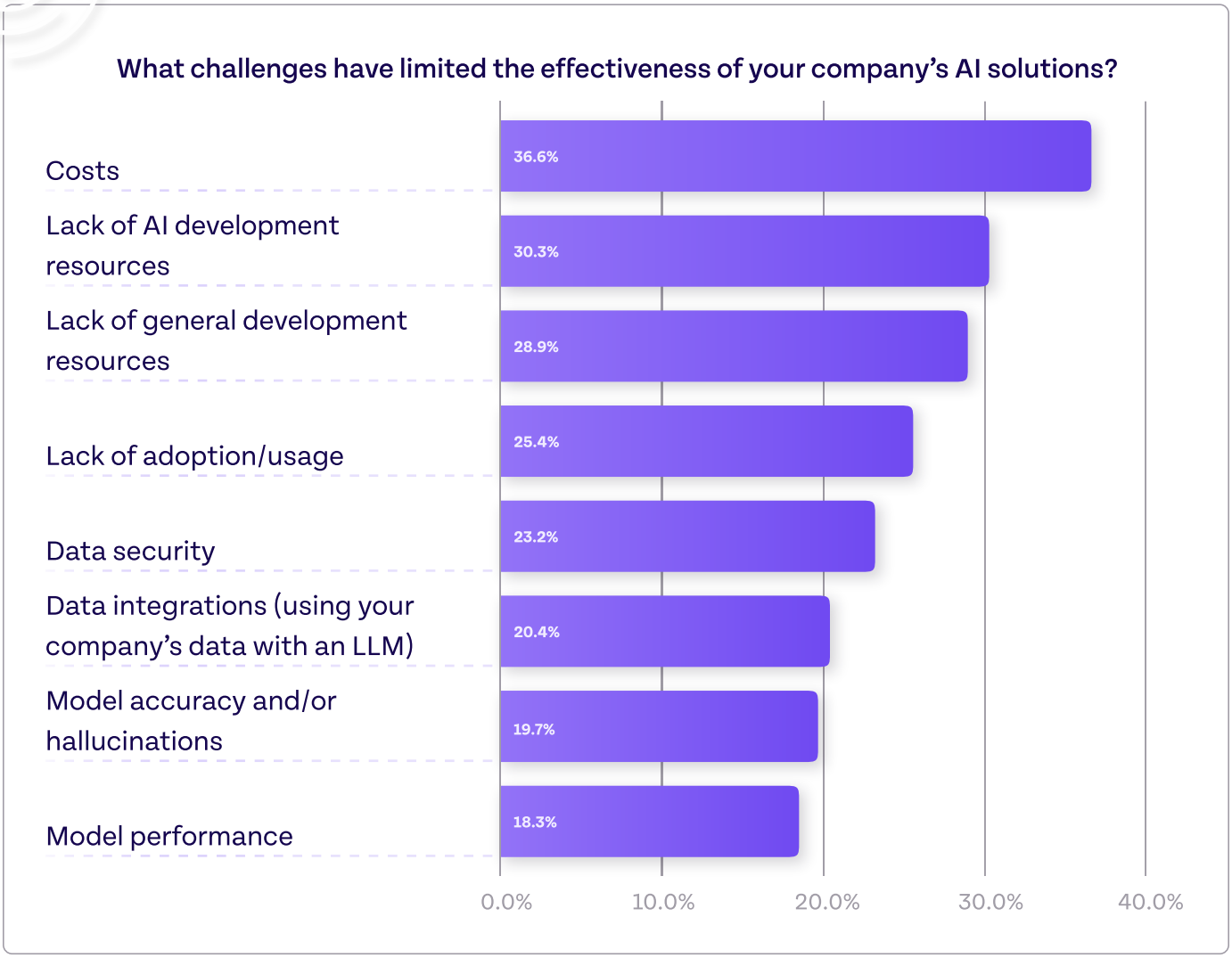
- Writing software code or data queries
- Document analysis and summary
- Chatbots / digital assistance for IT or internal technical support
- Data analytics and analysis

Least effective AI use cases

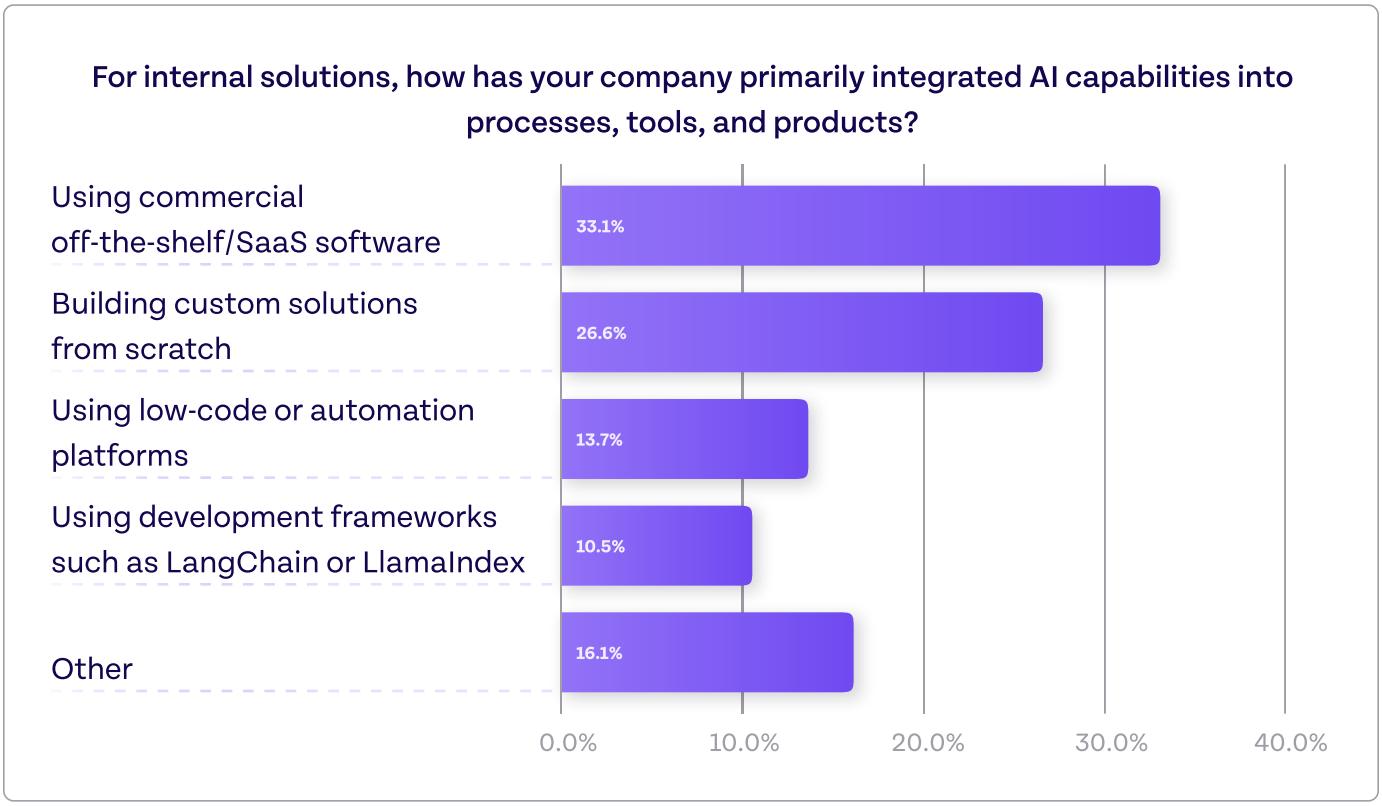
- Sentiment analysis
- Image generation or modification
- Recommendation engines
- Financial or sales predictions / forecasting

Challenges that limit AI effectiveness

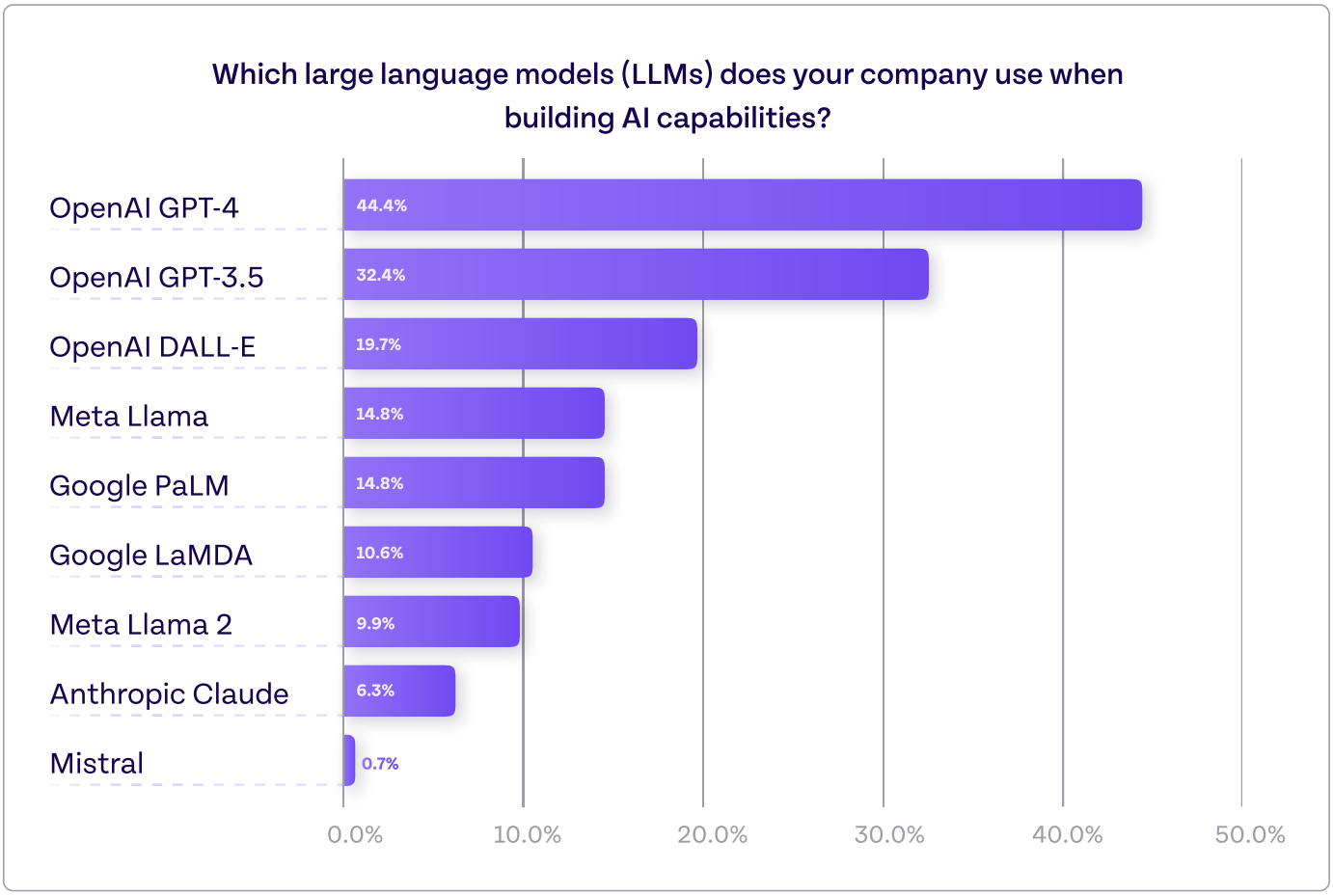
We also asked respondents what was holding them back (in their opinion) from delivering and realizing outcomes from their internal AI projects. The biggest obstacles that respondents reported were the cost of implementation and the availability of development resources. What was interesting was not just that teams lacked access to specialized AI development skills, but that nearly 30% of companies lacked the standard, full-stack development resources needed to implement these projects.



This lack of development resources is likely the reason that companies tend to source their AI capabilities from commercial off-the-shelf software. Over 33% of respondents reported that this is their primary channel. Unfortunately, this reliance on commercial software likely also contributes to the cost challenges – creating a cost<–>resource loop that makes it harder for companies to deliver effective solutions.

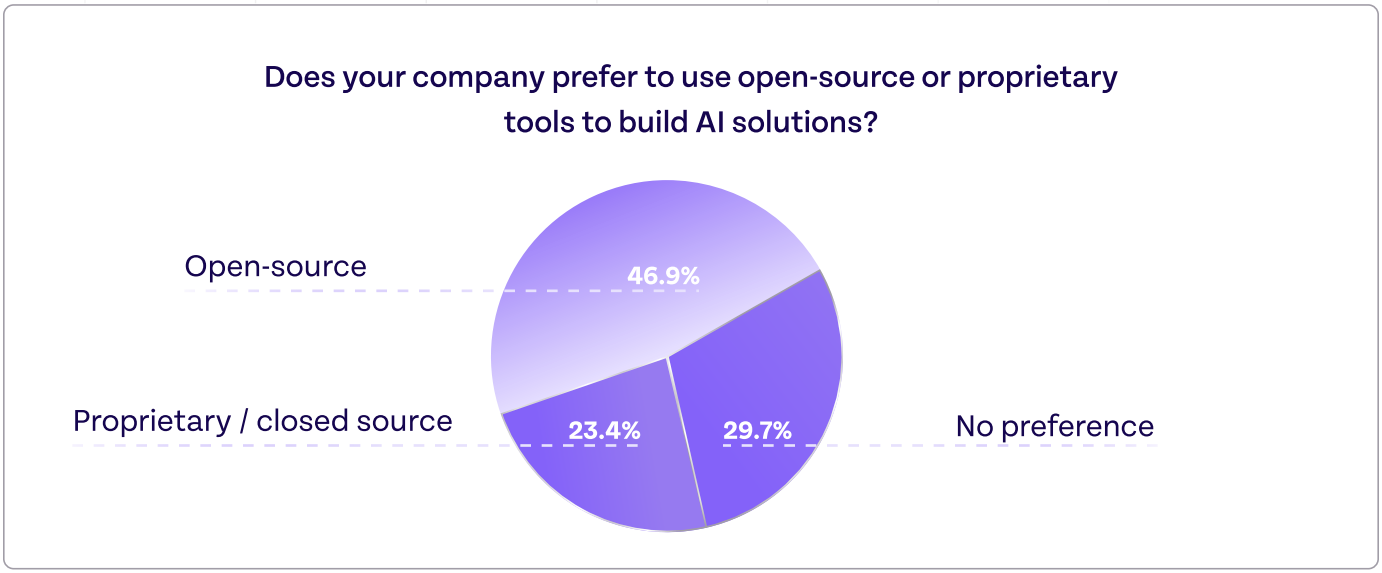


The same tilt towards commercial software shows up in the LLMs that companies leverage in their AI solutions. Respondents reported that the most commonly used models in their companies are GPT-4 and GPT-3.5 from OpenAI.



The open-source opportunity

Relying on commercial products to power internal AI solutions is likely not an optimal state of affairs for many companies. Commercial solutions are expensive and often force companies to place their proprietary data at greater risk – one of the key considerations that limits AI adoption in the first place. When asked if their company prefers to use open-source tools/components in their AI solutions, nearly 50% said “yes.”



So what’s holding them back? Again, it’s likely the lack of development resources. Commercial AI tools can work “out of the box,” while open-source tools are more likely to require implementation, configuration, and some sort of self-hosting.

One possible solution to this challenge is on the application development side. Only 14% of respondents reported that their companies use low-code application platforms to help develop AI projects. Using low-code (especially open-source low-code like Appsmith) platforms that can support AI features and data sources would allow companies to deliver the OSS-based AI tools that they want to build with significantly less development.

47% would prefer to use open-source tools to build AI solutions.

The state of AI today

Based on the survey results, we can definitively say that we are still very early in the adoption and implementation of AI. While the majority of employees have access to commercial AI tools at work, companies are just getting started when it comes to fully integrating AI capabilities into their tools, processes, or products. Only 13% of respondents said that their companies have more than one solution in production.

That having been said, there are a couple of key insights we can take away from the projects that companies have implemented so far:

- **Internal use cases are perceived to be the most valuable.** Most companies expect that the major gains they get from AI will come in the form of efficiency and productivity. AI will help their businesses run more smoothly and their employees work more effectively. These outcomes are more tightly linked to internal solutions than to external products.
- **Advising employees and helping them analyze documents are the most effective use cases so far.** Coding copilots and support chatbots are among the most effective ways that AI is helping employees today. These use cases are providing much greater efficiency and productivity gains than those that use AI to analyze sentiment or provide recommendations.
- **Companies that can find ways to reduce development requirements can build solutions that are more in line with their goals.** Development resources are the biggest roadblock to the completion of successful projects, and this limitation forces companies to rely on commercial software for AI capabilities. Low-code development platforms may provide a path to more efficient AI solution development and allow companies to move to more secure open-source/self-hosted AI tools.

As AI initiatives continue to mature, it will become more clear which use cases yield the highest business value. In the meantime we have a little more insight into what companies are building today and why. At Appsmith these insights will guide our platform development, as we strive to help companies develop and deploy their internal AI solutions more quickly.