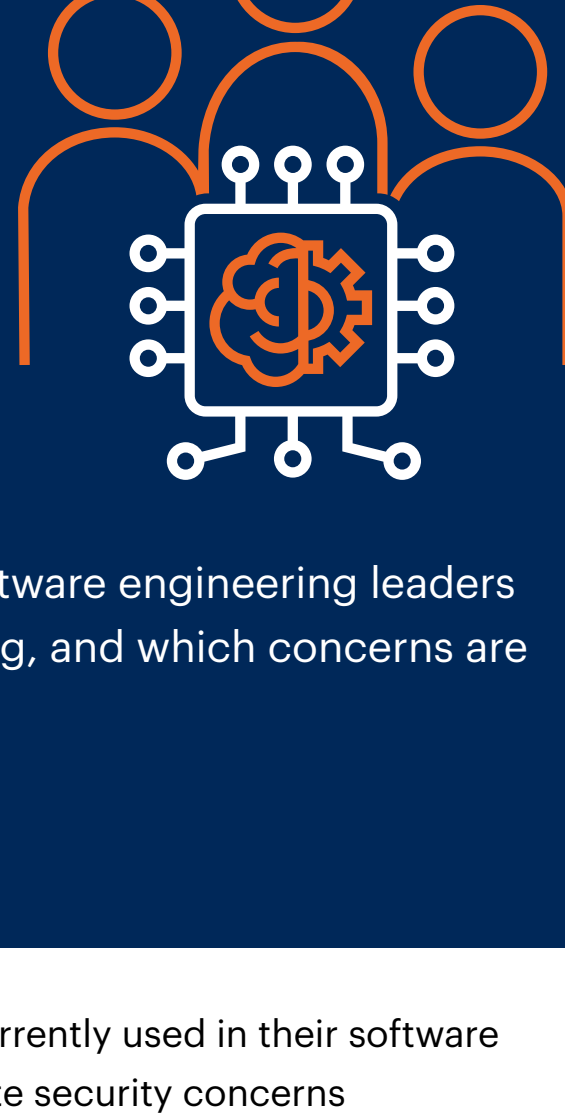


# Generative AI for Software Engineering Teams



Generative AI is trending in the tech world, but how are software engineering leaders making use of the tool? Which use cases are most promising, and which concerns are top of mind?

## One-Minute Insights:

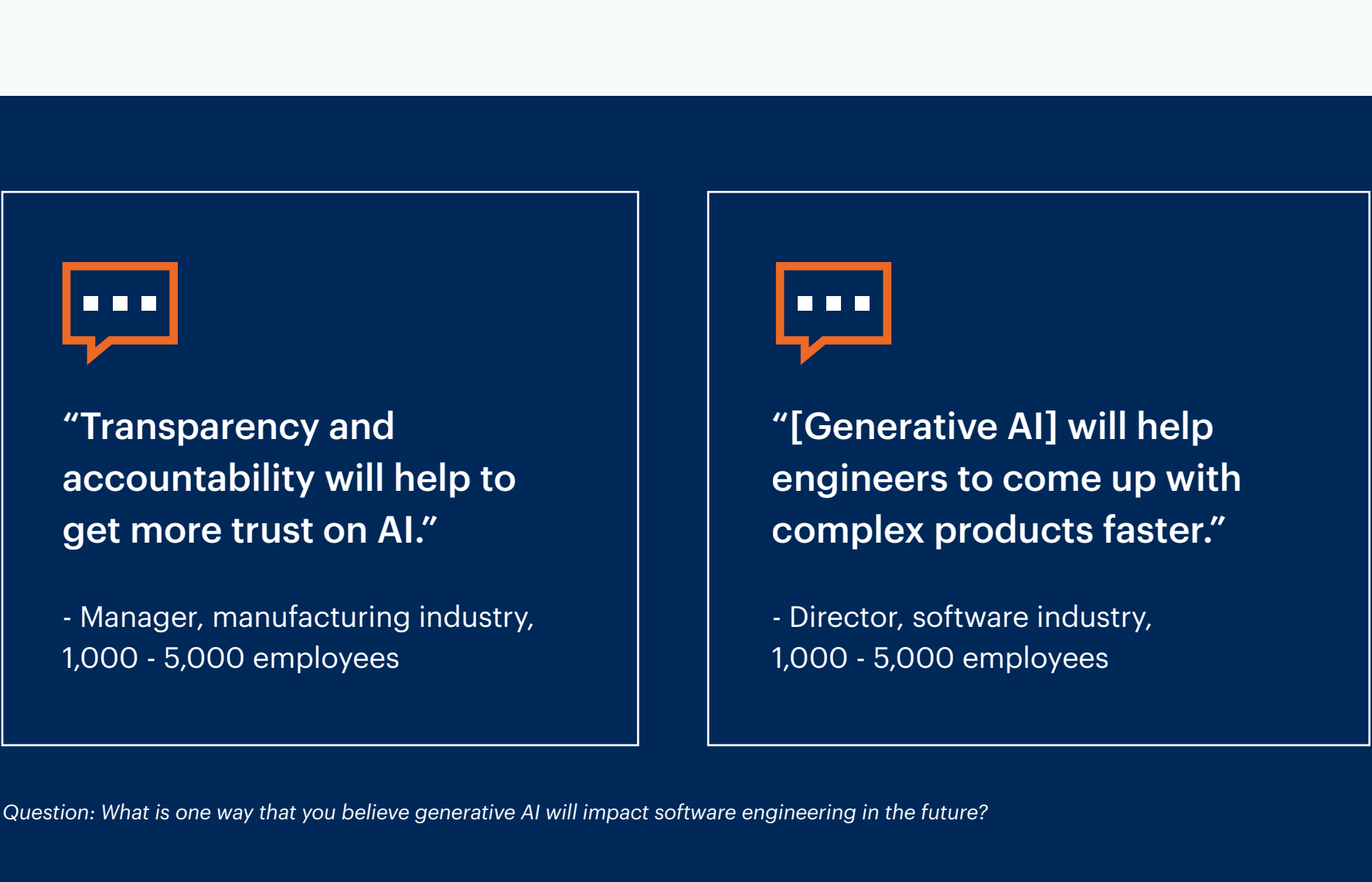
- More than half of respondents say generative AI is currently used in their software engineering department; those who aren't using it cite security concerns
- For those using generative AI, pair programming is a common use
- ChatGPT is a commonly used tool among respondents whose software engineering departments are using generative AI
- Respondents are excited about generative AI's use in code generation, but concerned with inaccurate, dated and/or biased results
- Many respondents believe that generative AI will positively impact software engineering

One-Minute Insights on timely topics are available to **Gartner Peer Community** members. Sign up for access to over 100 more, and new insights each week.

Data collection: Apr 1 - Apr 17, 2023

Respondents: 110 software engineering and IT leaders

## More than half of respondents' software engineering departments are currently using generative AI, but those who aren't cite security concerns



Respondents whose software engineering departments are not currently using generative AI (n = 49) cited security (76%) and inaccurate or biased results (71%) as reasons why they're not using the tool on a departmental level.

**What are the reasons you aren't using generative AI in your software engineering department? Select all that apply.**



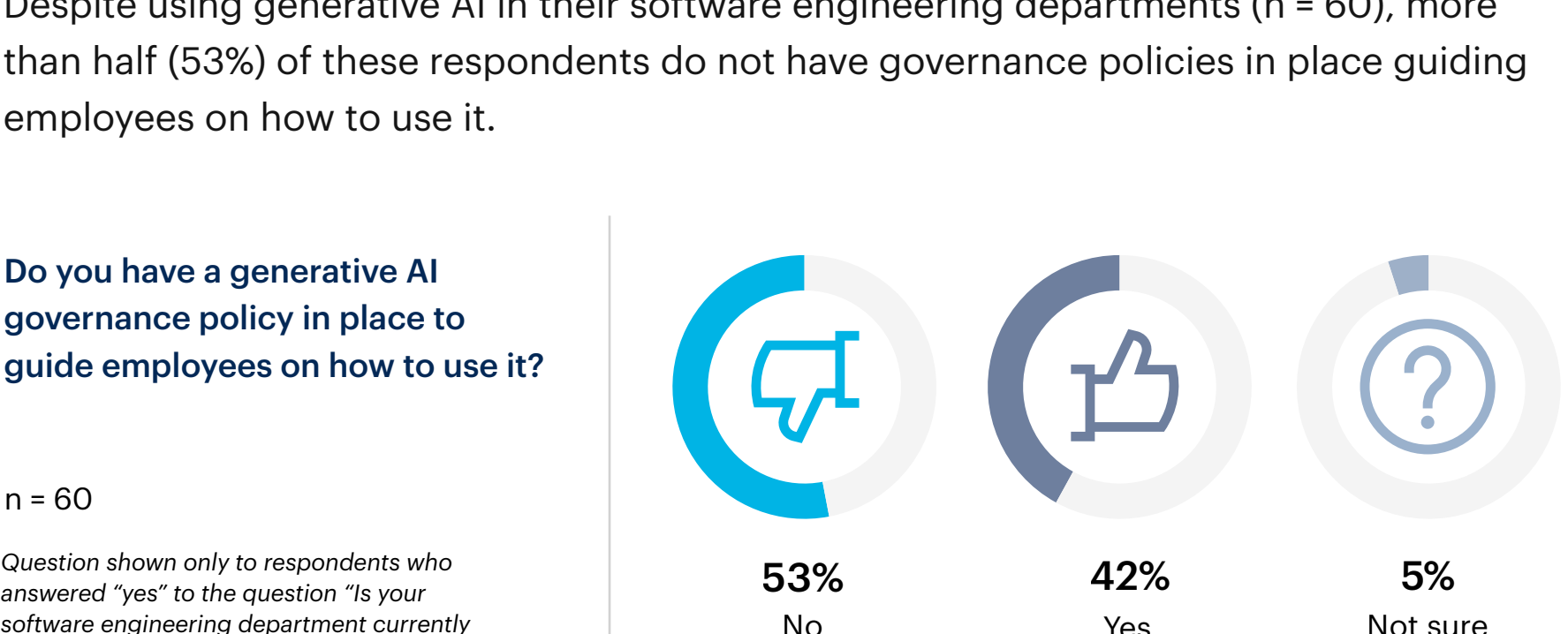
Question shown only to respondents who answered "no" or "no, but certain teams or employees are using it independently" to the question "Is your software engineering department currently using generative AI?"

- "Transparency and accountability will help to get more trust on AI."**  
- Manager, manufacturing industry, 1,000 - 5,000 employees
- "[Generative AI] will help engineers to come up with complex products faster."**  
- Director, software industry, 1,000 - 5,000 employees

Question: What is one way that you believe generative AI will impact software engineering in the future?

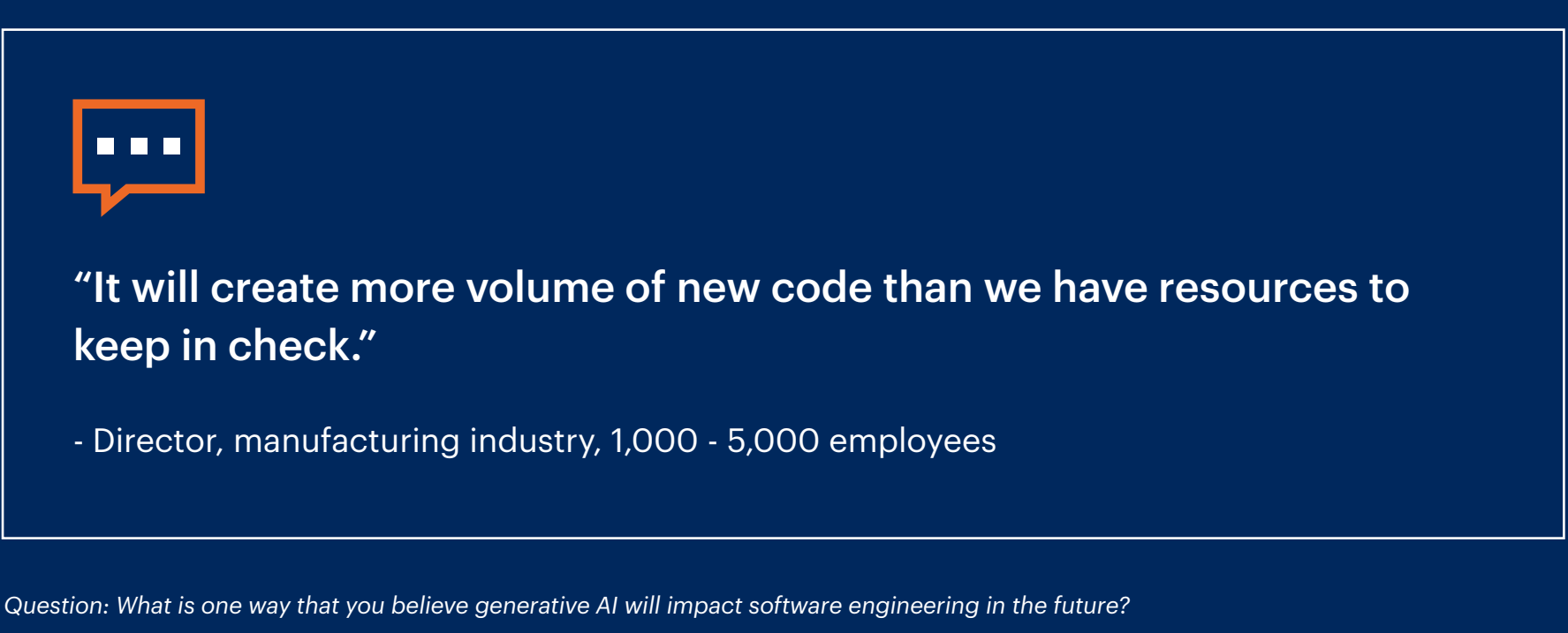
## For those using generative AI, pair programming is a common use and ChatGPT is a common tool

Respondents whose software engineering departments utilize generative AI (n = 60) use it for AI-assisted pair programming (60%), code generation (52%) and code documentation generation (45%).



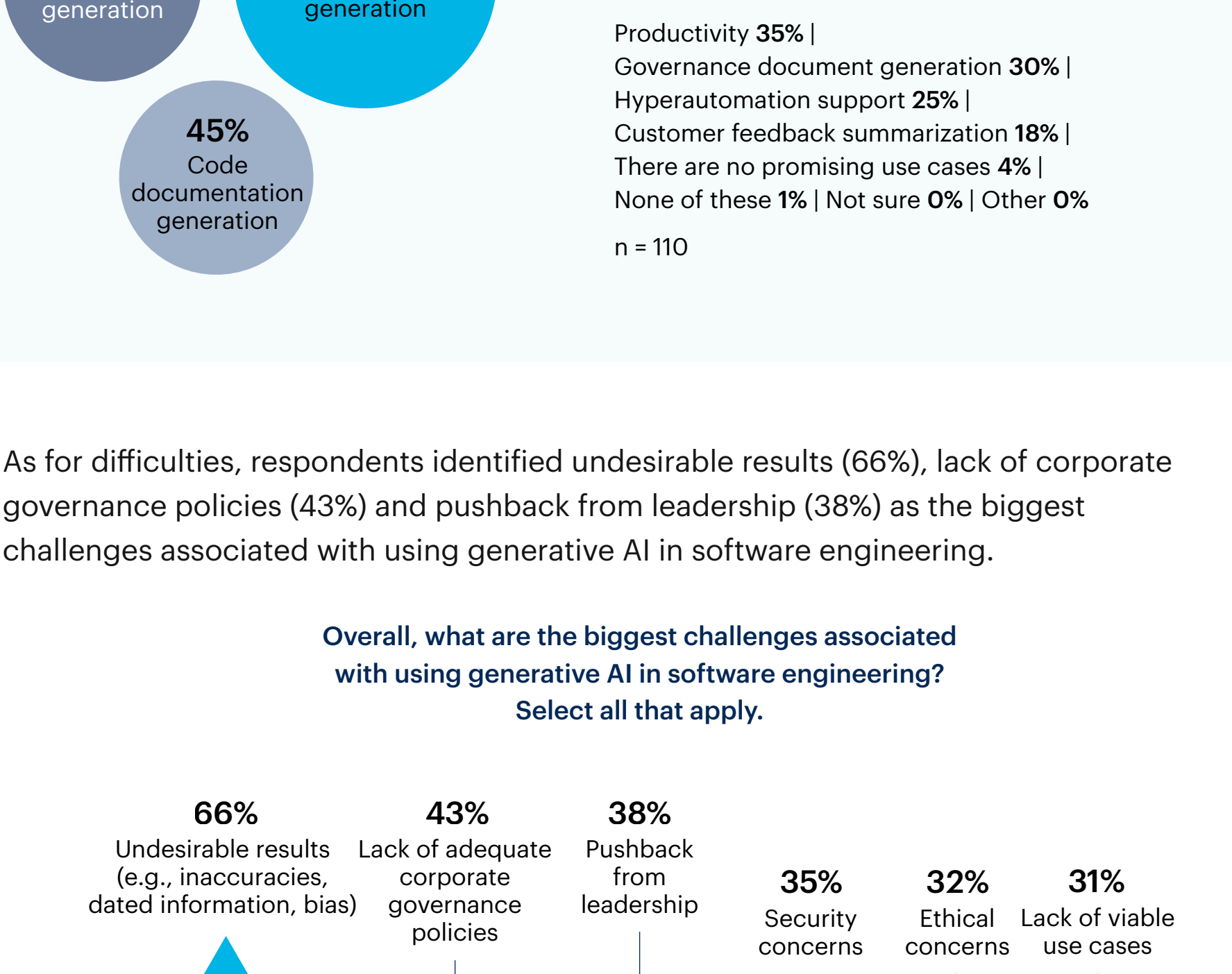
Question shown only to respondents who answered "yes" to the question "Is your software engineering department currently using generative AI?"

More than three-quarters (78%) of respondents whose software engineering department uses generative AI (n = 60) use ChatGPT for generative AI.

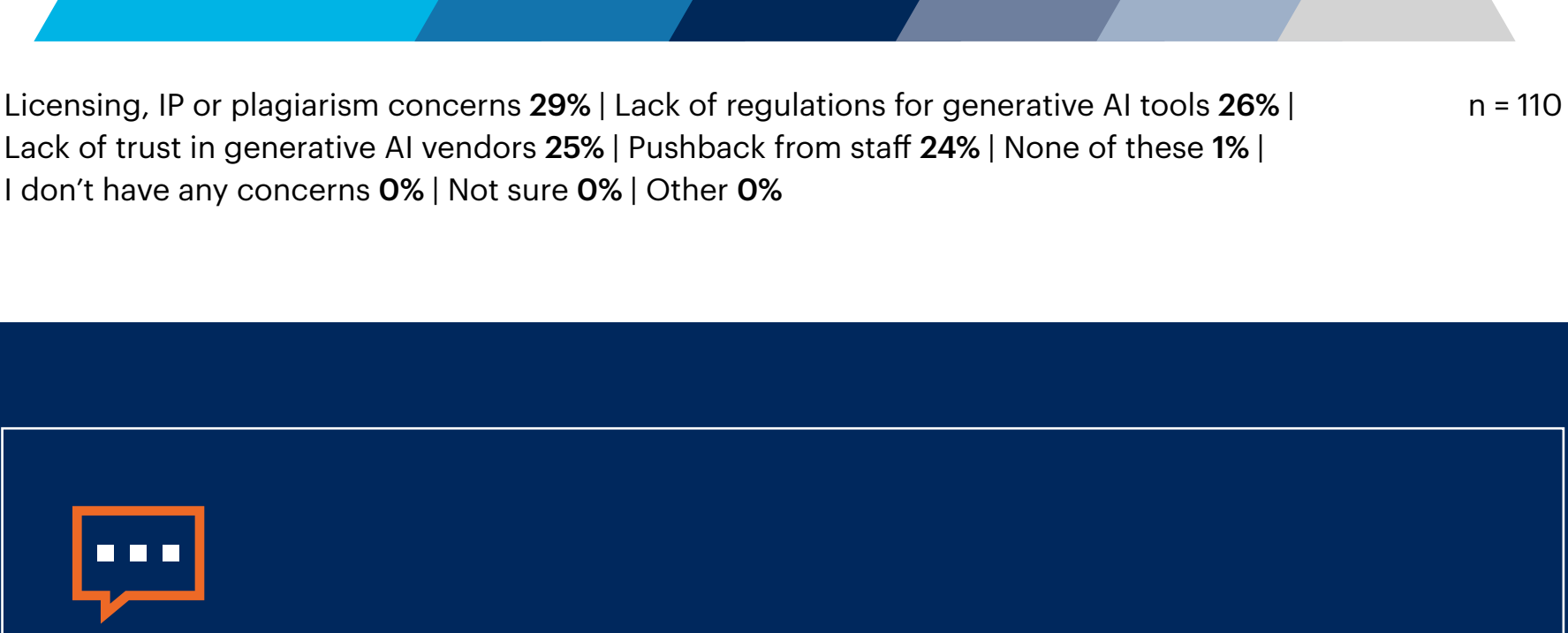


Question shown only to respondents who answered "yes" to the question "Is your software engineering department currently using generative AI?"

## Whether or not their software engineering department uses generative AI, leaders are excited about its use in code generation, but concerned with undesirable results



As for difficulties, respondents identified undesirable results (66%), lack of corporate governance policies (43%) and pushback from leadership (38%) as the biggest challenges associated with using generative AI in software engineering.

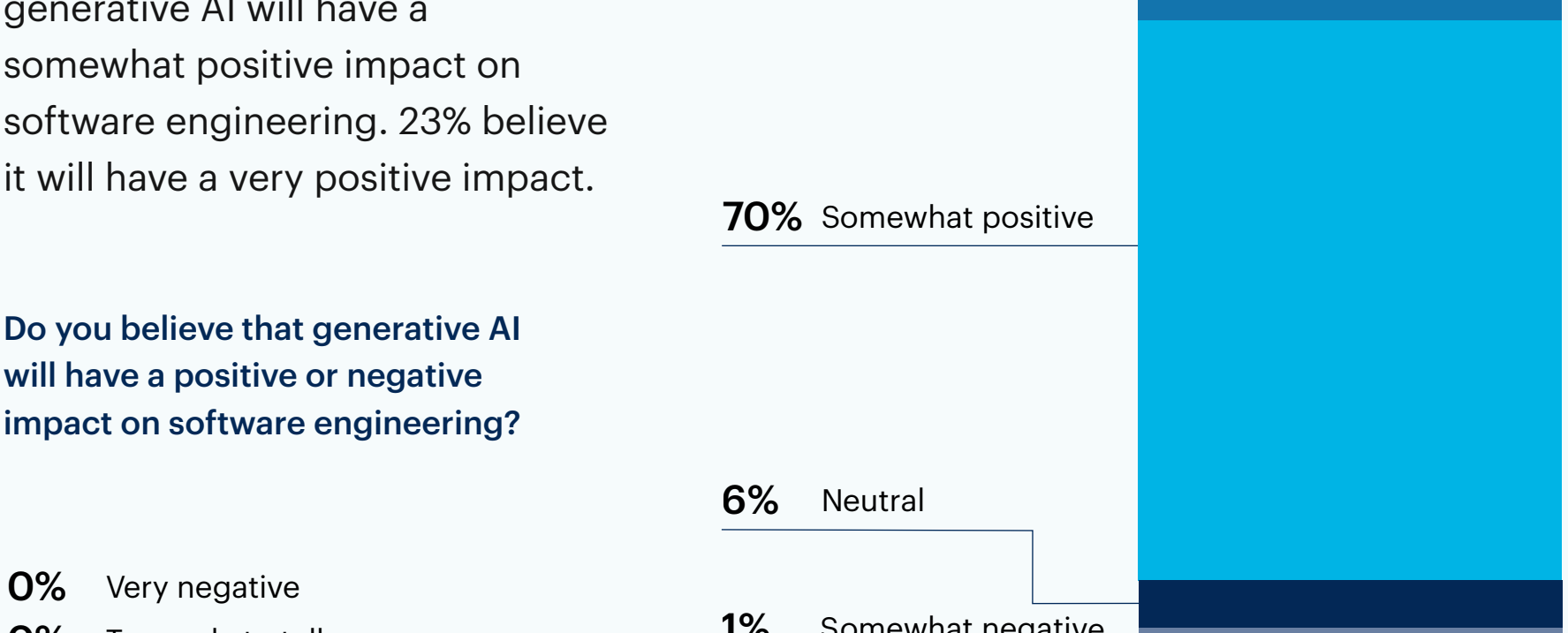


Question shown only to respondents who answered "yes" to the question "Is your software engineering department currently using generative AI?"

- "[Generative AI] is going to change the overall TAT [turnaround time] for producing quality code. [It] may eradicate a lot of jobs especially at the junior software developer level."**  
- VP, software industry, 1,000 - 5,000 employees
- "It will create more volume of new code than we have resources to keep in check."**  
- Director, manufacturing industry, 1,000 - 5,000 employees

Question: What is one way that you believe generative AI will impact software engineering in the future?

## Many respondents believe that generative AI will positively impact software engineering and affect staffing and hiring



As for the impact on software engineering staffing and hiring, 63% believe generative AI will necessitate training for current staff on how to use it, 59% think that new job roles will be created for generative AI initiatives, and 55% think that management candidates will need expertise in generative AI governance.

**How will generative AI impact software engineering staffing and hiring overall? Select all that apply.**



- "Low-level software engineering jobs will be replaced by AI."**  
- Director, telecommunication services industry, 5,000 - 10,000 employees
- "[Generative AI will] increase productivity to a large extent, [and] create a lot of jobs for software engineers. The department will take a more strategic tack. More jobs will be created to develop a new set of human work tasks — many of them of higher value."**  
- Director, telecommunication services industry, 10,000+ employees

Question: What is one way that you believe generative AI will impact software engineering in the future?

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## Respondent Breakdown

