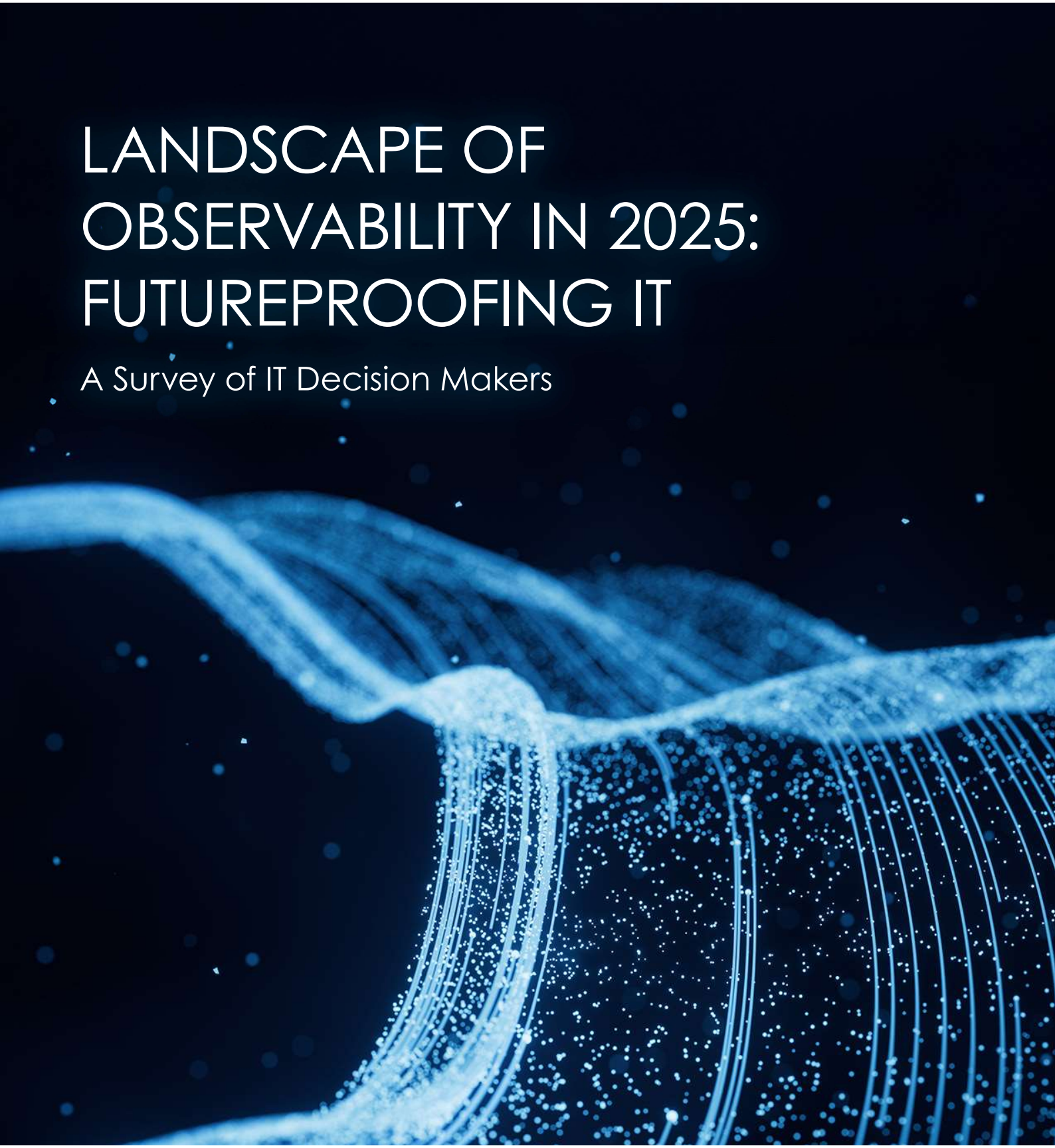
# LANDSCAPE OF OBSERVABILITY IN 2025: FUTUREPROOFING IT

## A Survey of IT Decision Makers



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## Introduction

The advent of cloud technologies and distributed applications has forced IT operations teams to reconsider their management tools. Traditional monitoring systems primarily focused on metrics, predefined thresholds, and manually sifting through logs to track system and application health. The need to solve this complex, reactive problem-solving approach and lack of visibility resulted in the foundation of observability. Observability includes a wide range of telemetry data, which are then correlated and contextualized for deep insights into system and application performance. An effective observability practice is a holistic approach between its people, processes, and tools that fosters collaboration and breaks down silos so issues can be proactively detected, diagnosed, and remediated.

This report examines the current state of the observability landscape. Will observability investments and strategies change for 2025? Do mature observability practices and investments pay off in business and technology outcomes? How are IT leaders managing costs as observability gains in importance? How are companies embracing innovative technologies like artificial intelligence (AI), machine learning (ML), and OpenTelemetry (OTel) to meet their observability goals?

The following report, sponsored by Elastic, is based on an online survey of more than 500 IT leaders with decision making responsibility for observability solutions at a company with more than 500 employees. Certain questions were repeated from earlier surveys of IT decision makers and observability practitioners.

## Key findings

**Observability investments continue a growth trajectory**

- 93% of executives agree observability will continue to be a significant area of investment for the foreseeable future
- 95% have been able to demonstrate measurable improvement across specific performance metrics
- 97% report barriers to optimal value from observability investments
- Lack of budget, licensing costs, and difficulty measuring ROI top the list of barriers to observability value

**The benefits of observability increase with maturity**

- Organizations with more mature observability practices report better operational and business outcomes, including:
  - 71% of "experts" report reduced MTTR for incidents compared to 40% of "early-stage"
  - 91% of "experts" say they deploy applications and infrastructure more quickly compared to only 34% of "early-stage"
  - 82% of "experts" say they have reduced operational costs compared to only 56% of "early-stage"

**Observability leaders own responsibility for costs**

- 86% feel personally responsible for the business outcomes of observability investments
- 60% make specific efforts to establish a culture of cost efficiency
- 97% personally take active steps to manage costs for their team

**Observability outcomes will benefit from AI/ML innovations**

- 94% agree AI has tremendous potential for observability, but work needs to be done
- Only 65% feel that they are currently receiving good value from their AI/ML investments for observability, but 90% expect good value in the future
- Concerns about generative AI (GenAI) creating unreliable or misleading results decreased notably in the past year (64% in 2024 to 55% in 2025)

**Observability adopters are taking advantage of OpenTelemetry**

- 91% of observability "experts" are evaluating or implementing OTel compared to 54% of "early-stage"
- 87% of those implementing OTel agree that open standards are a key initiative for their company

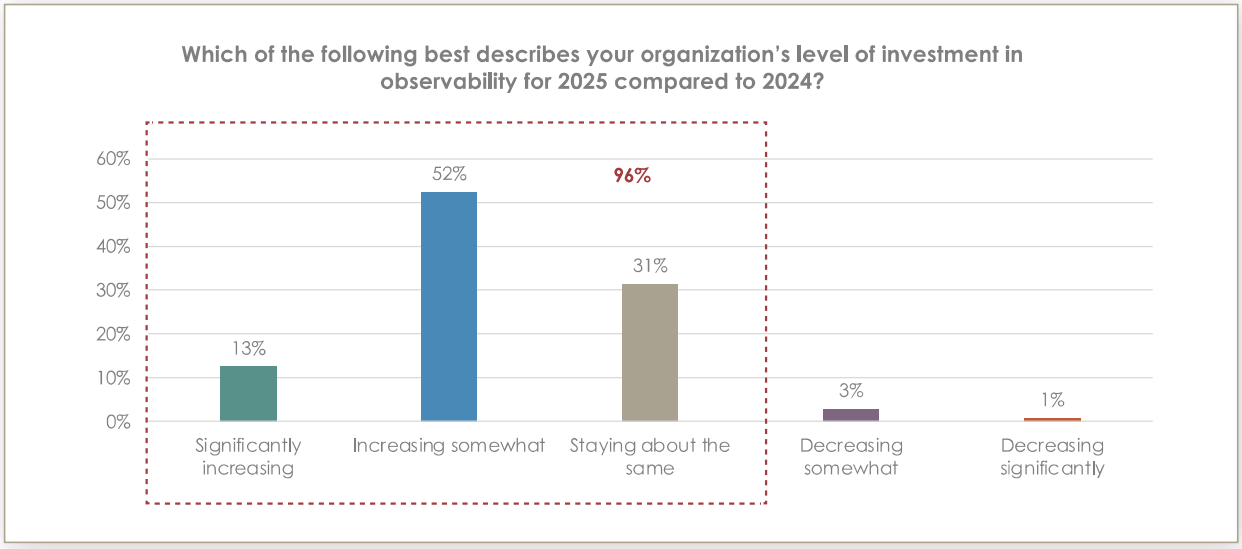
## Detailed findings: Observability investments continue a growth trajectory

### Investments in observability tools and expertise will continue to increase in 2025

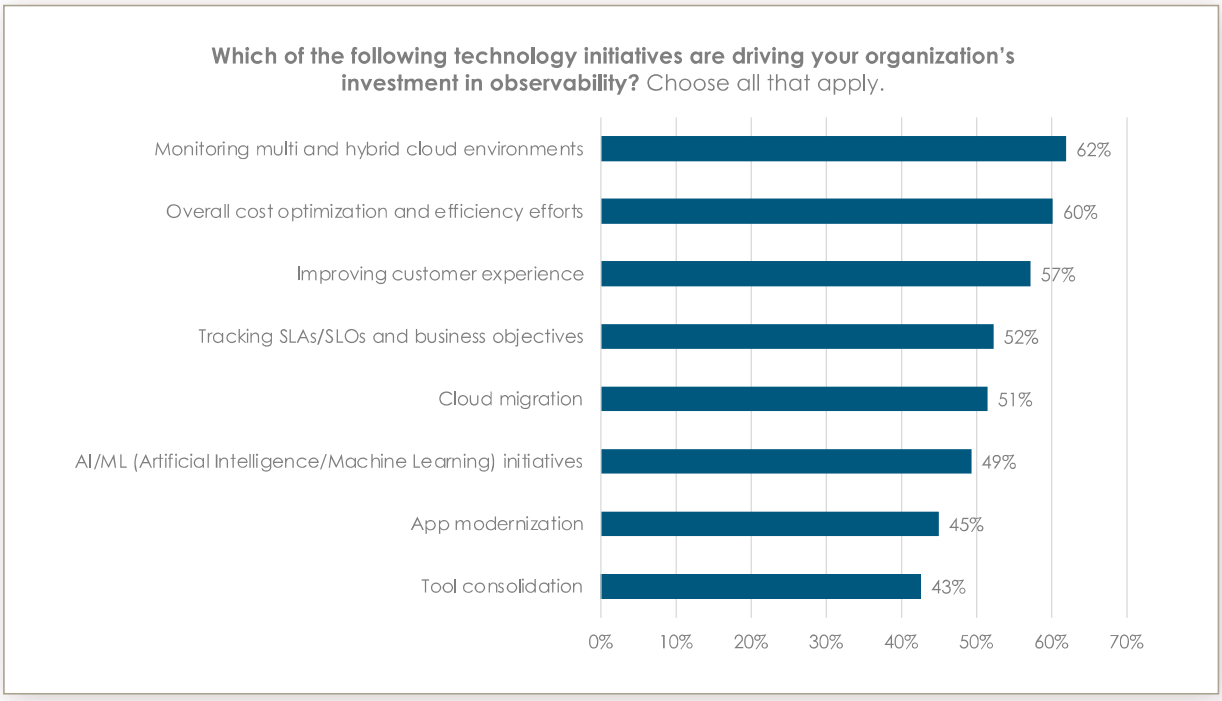
Observability has been a key area of investment for IT teams. In our prior survey of IT decision makers, we saw that observability was a focus area for IT budgets in 2024, with the vast majority of leaders reporting that the budgets for observability and monitoring were increasing faster or at the same rate as other technology investments. This year's data shows that investments in observability will continue in the near future. The vast majority (93%) of executives report that they expect observability tools and expertise will continue to be a significant investment for their IT teams.

**93%** VP and C-level executives agree that observability tools and expertise will continue to be a significant investment for the foreseeable future.

Investment plans for 2025 support this trend. Almost all (96%) IT teams say that observability spending will increase faster or at the same rate as other technology investments. This number includes two-thirds (65%) of IT teams reporting that their observability spending will increase this year.



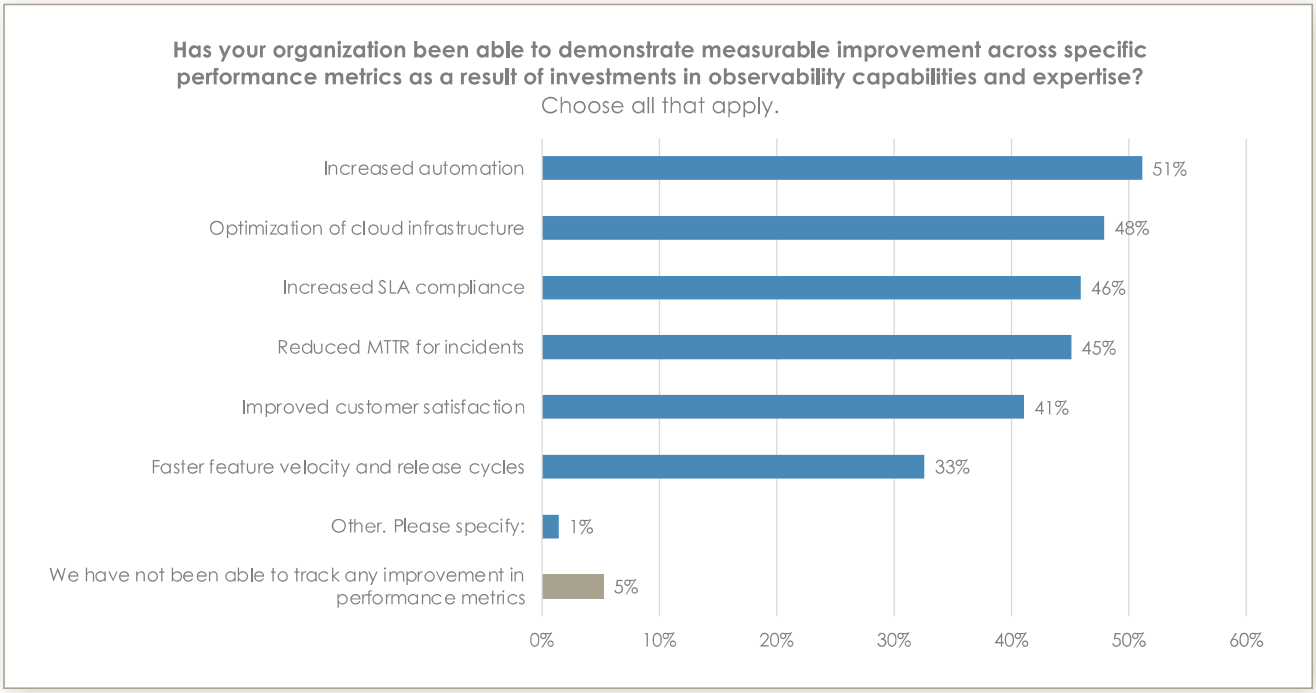
Investments in observability are being made in response to the wide range of technology initiatives happening at large enterprises, with no single factor underlying the increase in spending. Observability investments are needed to support monitoring multi and hybrid cloud environments (62%), overall cost optimization and efficiency efforts (60%), improving customer experience (57%), tracking SLAs/SLOs (52%), cloud migration (51%), AI/ML initiatives (49%), app modernization (45%) and tool consolidation (43%).



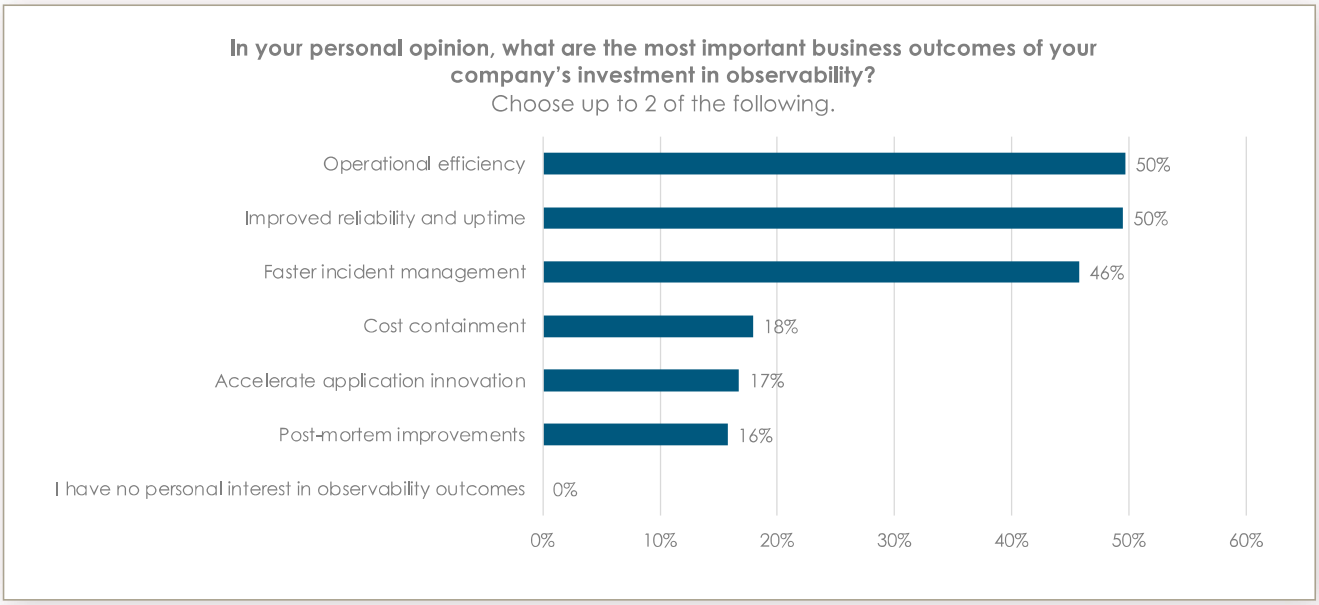
## Observability investments have a measurable impact

One of the fundamental rules of business known to any budgeting stakeholder is that it's easier to secure funding if you can demonstrate business value. Observability investments have met this standard, with the vast majority (95%) of IT decision makers reporting that their teams have demonstrated measurable improvement across specific performance metrics due to their observability investments.

Metrics that have improved include increasing automation (51%), optimization of cloud infrastructure (48%), increased SLA compliance (46%), reduction in MTTR (45%), improved customer satisfaction (41%), and even faster release cycles for new features (33%). Several participants took the time to write in "other" metrics that have seen improvement. These include improved security metrics and meeting deadlines set for corporate projects. Some organizations are very forward thinking with their metrics. One participant took the time to describe how they use observability to measure what application teams need to help improve their app configurations and track that as a metric.



IT leaders who have chosen to invest in observability solutions or expertise are committed to delivering the business outcomes of their decisions. When asked about their personal opinion on business outcomes, all (100%) had an answer. When forced to prioritize the importance of business outcomes, this group was much more likely to gravitate to the fundamentals of the job, with operational efficiency (50%), improved reliability and uptime (50%), and faster incident management (46%) coming in at the top of the list, far above cost containment (18%), faster application innovation (17%), and post-mortem improvements (16%).

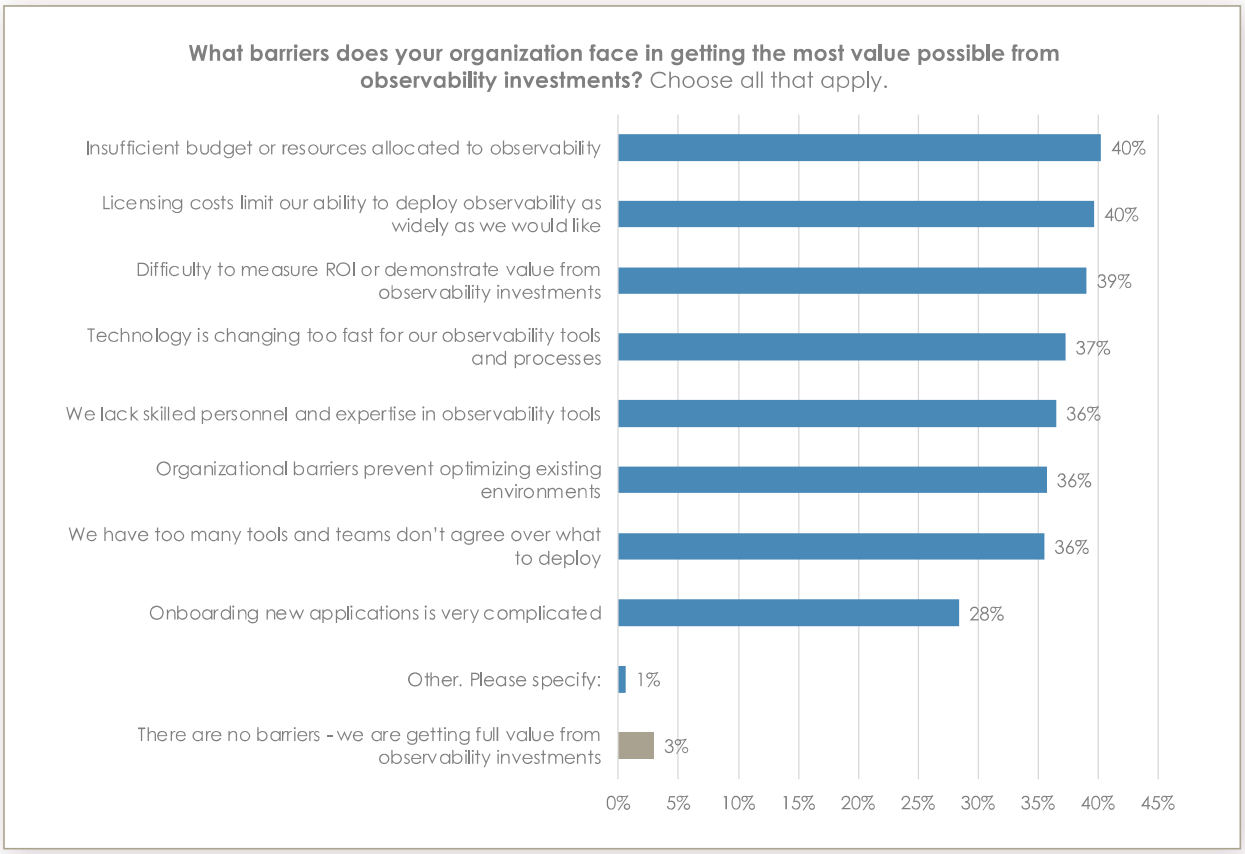



Improvements in performance metrics are important, but how the results are perceived within the organization also matters. The good news is that the value of observability has been generally recognized, with the majority (85%) of IT decision makers agreeing that their company's investment in observability has delivered noticeable and measurable value.

## Budget and costs are the top barriers to observability value

The value that is achieved from investing in observability also requires work to overcome obstacles. IT teams consistently (97%) report barriers to achieving the full value of their investments. Issues ranged from changing technology (37%), lack of expertise (36%), organizational barriers (36%), too many tools to use effectively (36%), and complications when onboarding new applications (28%). "Other" barriers reported by participants included regulatory and compliance restrictions, issues with user training, and an overwhelming need for customization.

However, the top three barriers to observability value reported by IT decision makers all had to do with money: insufficient budget (40%) and high licensing costs (40%) are at the top of the list, followed immediately by difficulties measuring ROI (39%). This is a particularly interesting finding given the data above demonstrates a strong ability to show measurable improvement and a clear sense that observability adds value. While IT teams strongly believe in observability, they are still constrained by a lack of resources to unlock the greatest value possible.



## Detailed findings: The benefits of observability increase with maturity

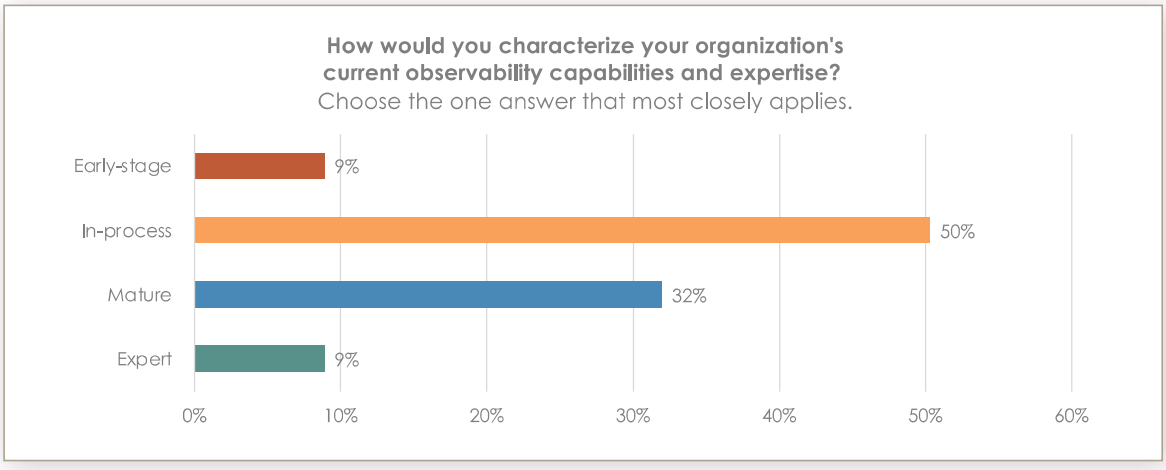
### Observability is a work in progress

Great observability practices require a strong mix of tooling, expertise, team structure, and culture. Each area requires evolution and experimentation to get it right for a company's technology footprint and business goals.

To understand where IT teams are in their observability journey, we asked participants to identify their maturity level based on the following definitions:

- **Expert** – We have implemented a strong observability practice based on comprehensive data collection and a modern AI-based technology ecosystem that supports our business.
- **Mature** – We are leveraging AIOps and already have or are considering establishing a cross-functional center of excellence.
- **In-process** – We are working on more effectively utilizing modern technologies for efficiency, scale, visibility, and root cause analysis and have fairly good visibility across our environment.
- **Early-stage** – Our primary source of intelligence is log data, which we are in the process of enriching and transforming to gain better insights. We are looking to expand visibility across additional signal types: metrics, tracing, and profiling.

The data clearly demonstrates that significant progress has been made in observability. Only 9% report that they are still early with their adoption. However, there is still much work to be done. Only 9% of observable decision makers characterize their practice as "expert," while 32% described their practices as "mature." Most organizations (50%) are in the middle of the adoption cycle, describing themselves as "in-process."

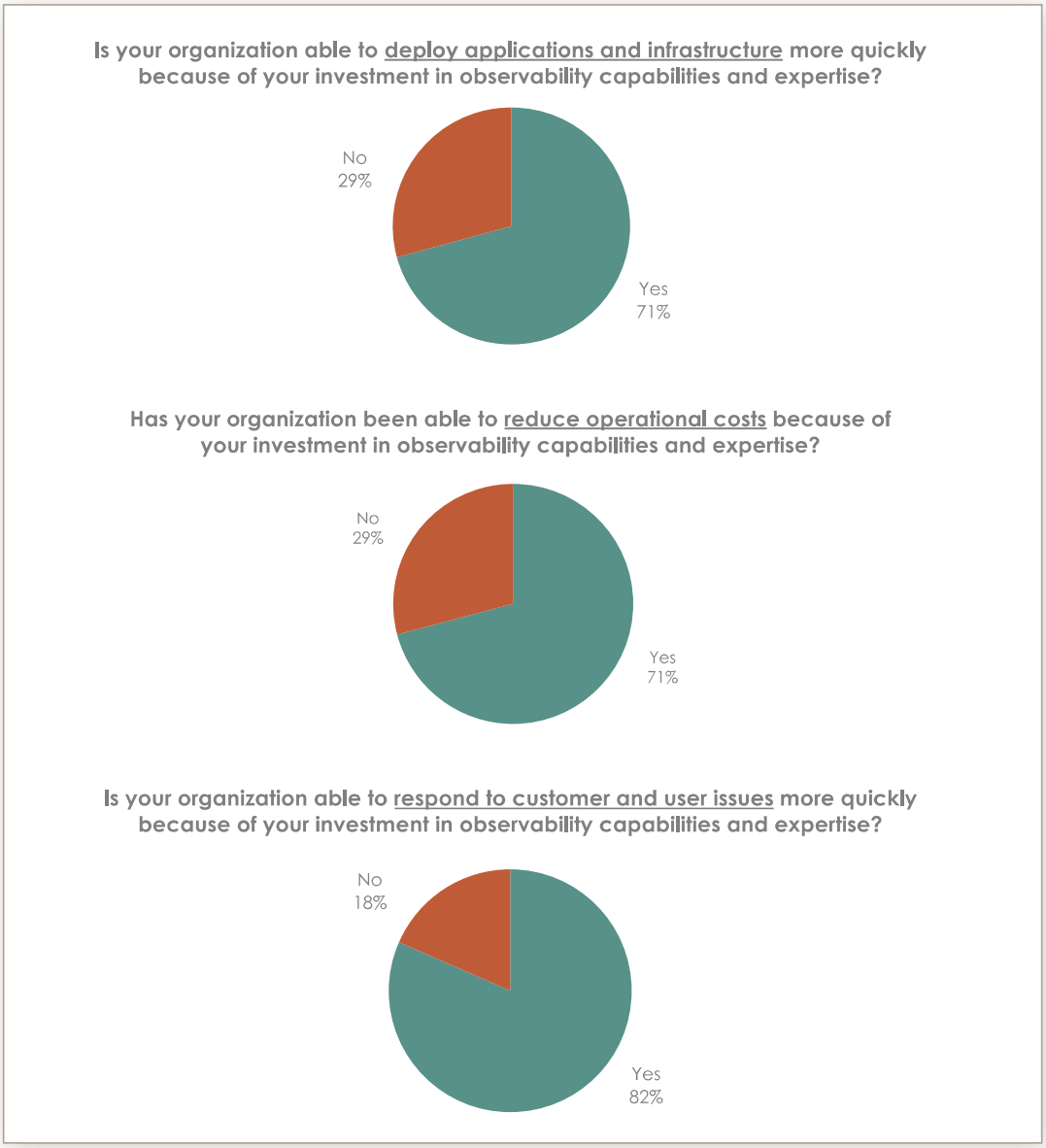



Digging into the data, we see a potential disconnect in perceptions of maturity between management and their staff. Among the executives in this study of IT decision makers, 13% characterized themselves as "expert," while only 6% said they were "early-stage." We had asked the same question of the practitioners in a prior study. Among the hands-on staff using observability solutions, only 7% reported they were "expert," while 15% said they were "early-stage." This finding suggests that the individuals doing observability work have a more cautious assessment of their capabilities regarding observability maturity.

## Mature organizations are far more likely to report benefits

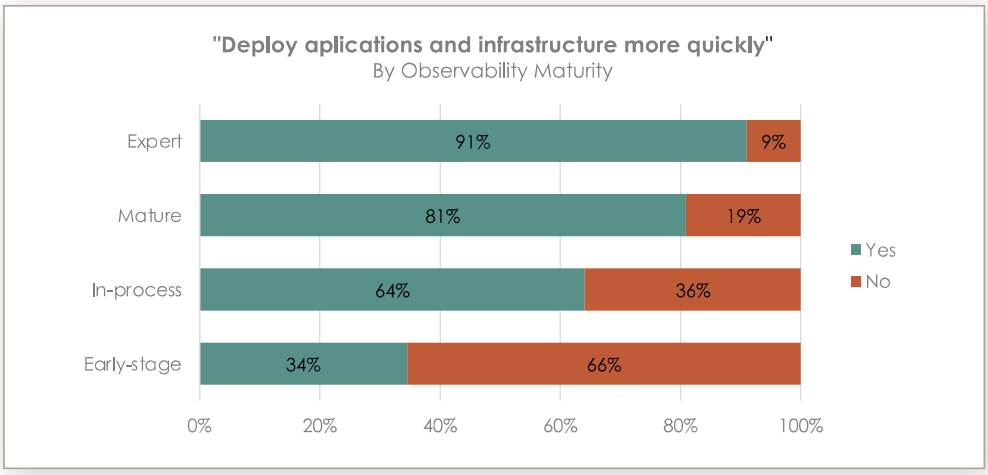
As we established in the first section, companies that have embraced observability have seen business value from their investments. When we view observability benefits through the lens of maturity, we see a clear story of companies experiencing benefits even with minimal observability capabilities, while the range of benefits expands dramatically with additional experience and investment.

If we look at all observability users, there have been benefits in multiple areas, including the ability to deploy applications and infrastructure more quickly (71%), reduction in operational costs (71%), and a faster response to customer issues (82%).

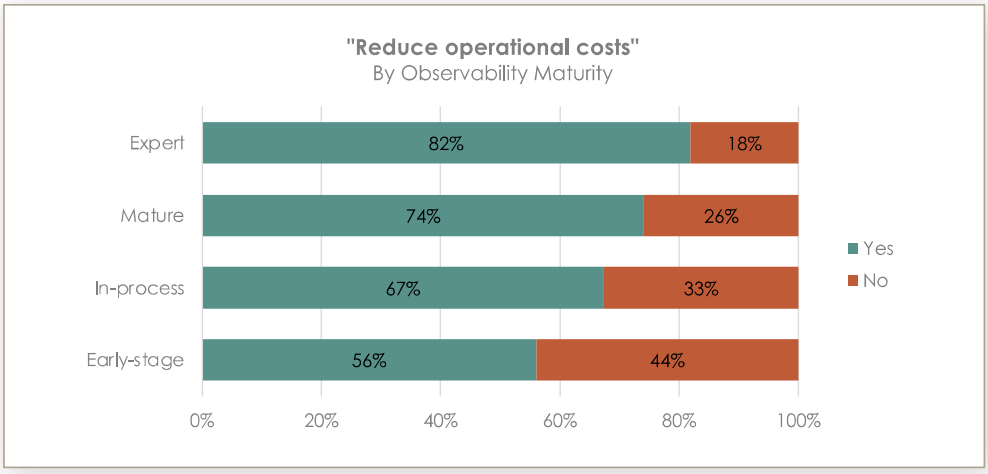


This gets even more interesting as we examine each benefit at different maturity levels. Different benefits emerge early in the maturity cycle, and some appear more notably with time and experience.

The benefit most likely to appear with maturity is the ability to deploy applications and infrastructure more quickly. Only a few observability users in the early-stage of maturity have seen improvements in deployment times (34%). This number leaps to an impressive 81% among mature observability users and an almost ubiquitous 91% among experts in observability.

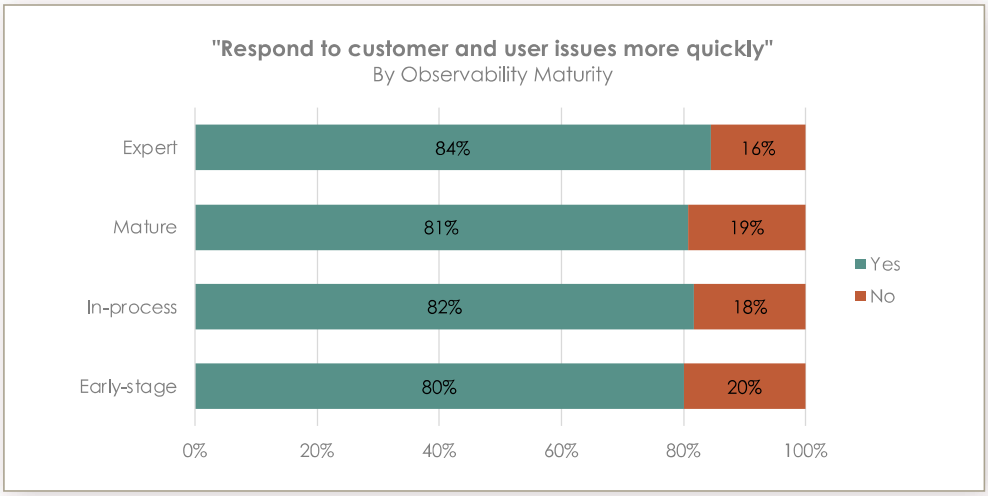



Again, maturity makes a big difference in reducing operational costs. More than half (56%) of companies early in their observability maturity report reducing operational costs, an impressive number, which increases to a remarkable 82% among expert organizations.

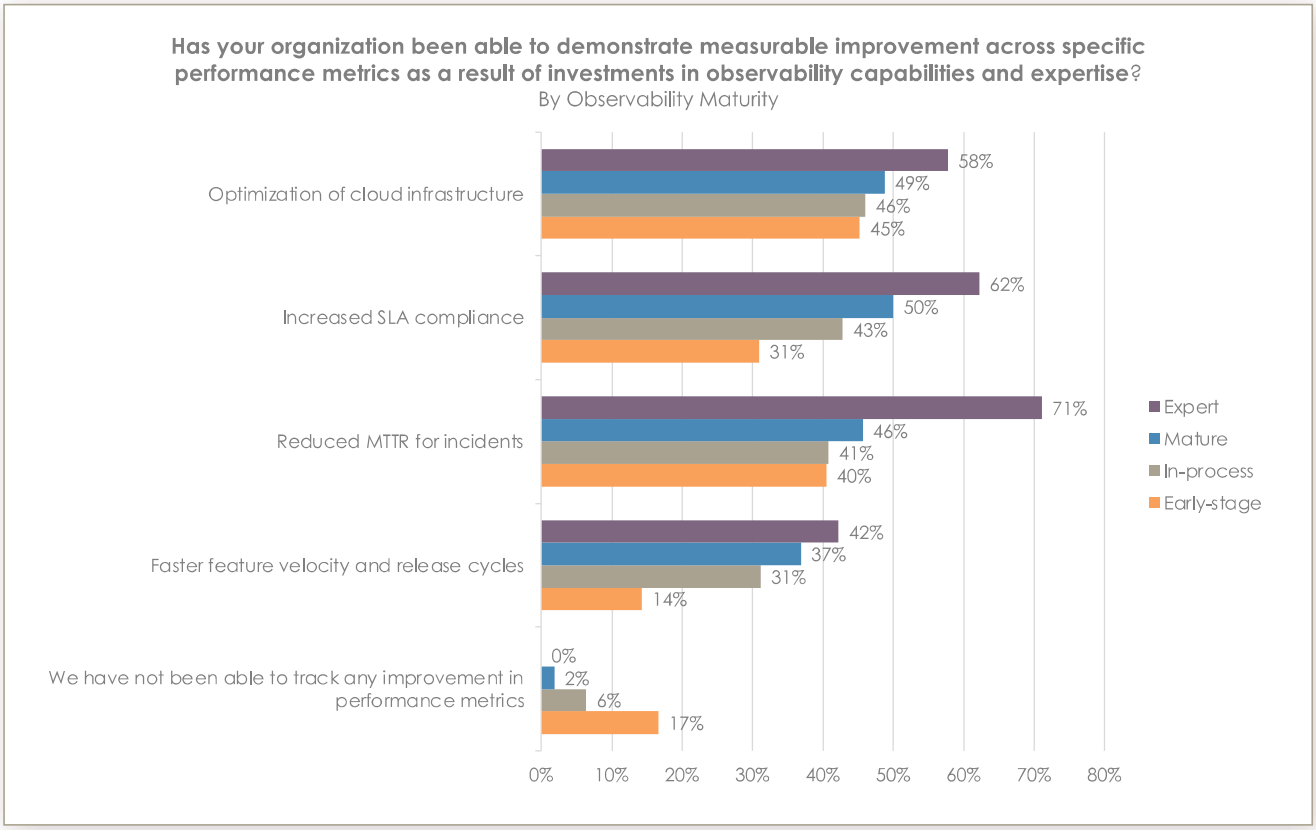


Interestingly, the ability to respond more quickly to customer and user issues is seen immediately but does not evolve with maturity. Organizations report high levels of this benefit from the start, with most (80%) early-stage companies saying they can respond to problems more quickly.

When taken together, these three areas of maturity suggest that companies are learning to monitor and identify issues early in their observability maturity, and see immediate benefits in response times for customer issues. Then further benefits of cost reduction and deployment speed come with additional work and investment.



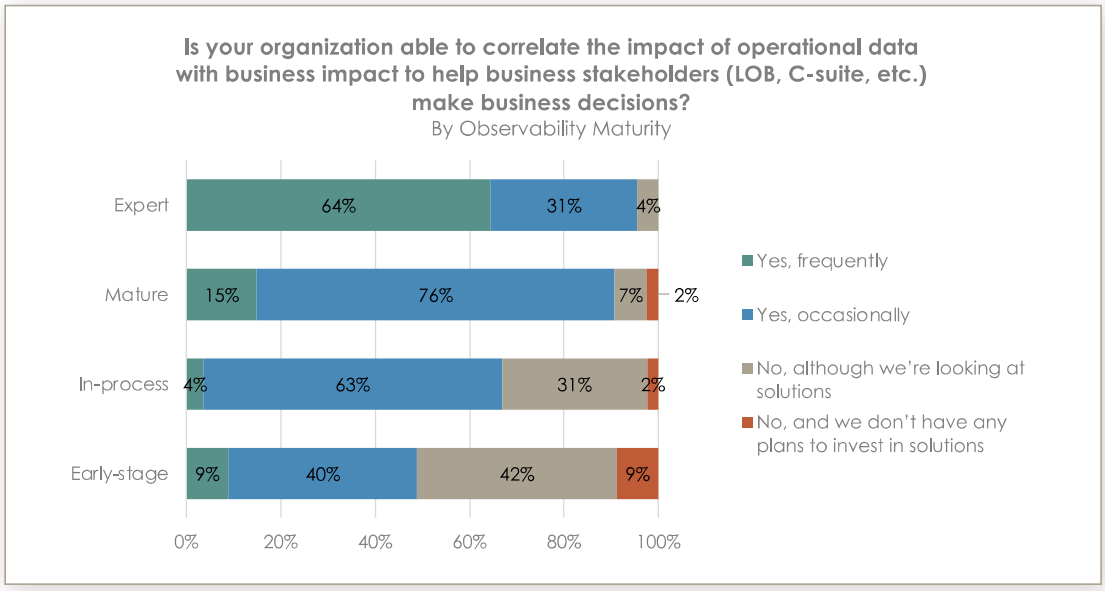
If we revisit our question on improvements across performance metrics, we see how maturity increases the ability to demonstrate measurable improvements. Increasing SLA compliance gradually increases with maturity, where reducing MTTR is most common among expert organizations.



## Organizations with mature observability have embraced business observability

Putting technology and business metrics together is powerful. This capability, often called business observability, can empower executives and IT leaders to gain deeper insights into performance, dependencies, and operations' impact on the business. For example, suppose an IT team sees that specific Kubernetes clusters going down impact the rate of critical business transactions. In that case, the team must focus on the stability, performance, and uptime of those clusters.

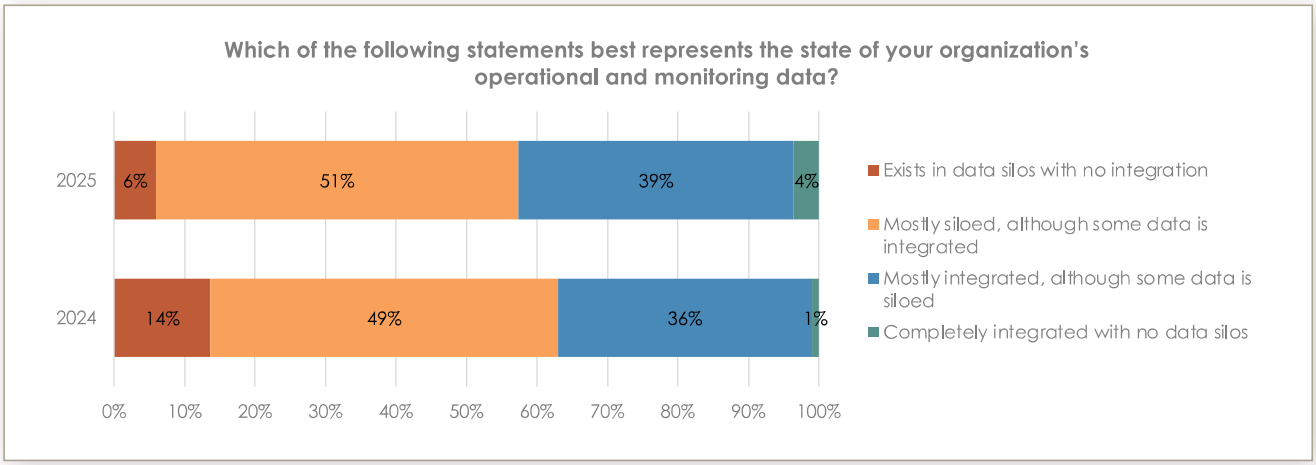
Companies with deep experience in observability are far more likely to be able to gain insights by comparing business and operational data. Business observability is a normal activity among expert observability teams, with 64% saying this type of correlation happens frequently. Mature observability teams can conduct business observability (91%), although it does not occur as frequently as in expert organizations (96%). This data reinforces the findings above that there are many additional benefits to having a more mature observability practice. While observability delivers immediate results from an operational perspective, leveraging observability to understand business impact requires additional experience and investment.



## Data integration shows some improvement, but progress is needed

Deep, contextual data is a core requirement for great observability. Consider the example above, where identifying a connection between Kubernetes cluster health and transaction rates enabled better prioritization. This type of correlation between business and operational data is only possible if the data around Kubernetes health and the transaction rate data can be easily correlated.

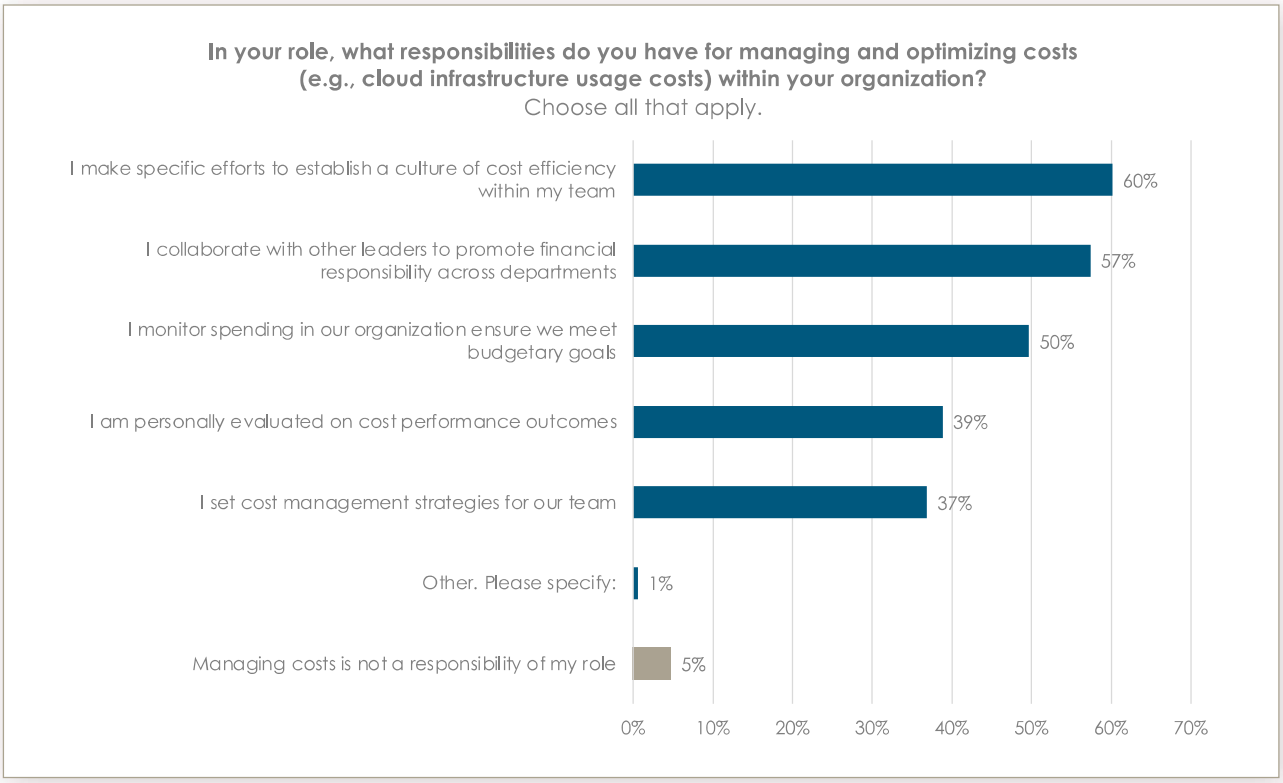
Unfortunately, it is the norm for large organizations to report that their data exists in silos (96%) that are not integrated. This year's research does show that IT teams have made a slight improvement in the state of enterprise operational and monitoring data, with only 6% reporting that they have no integration, down from 14% in 2024. However, significant work still needs to be done, as over half (57%) continue to report that their data is mostly or entirely siloed. Tool consolidation and open standards are potential solutions to issues with siloed data, which will be addressed later in this report.



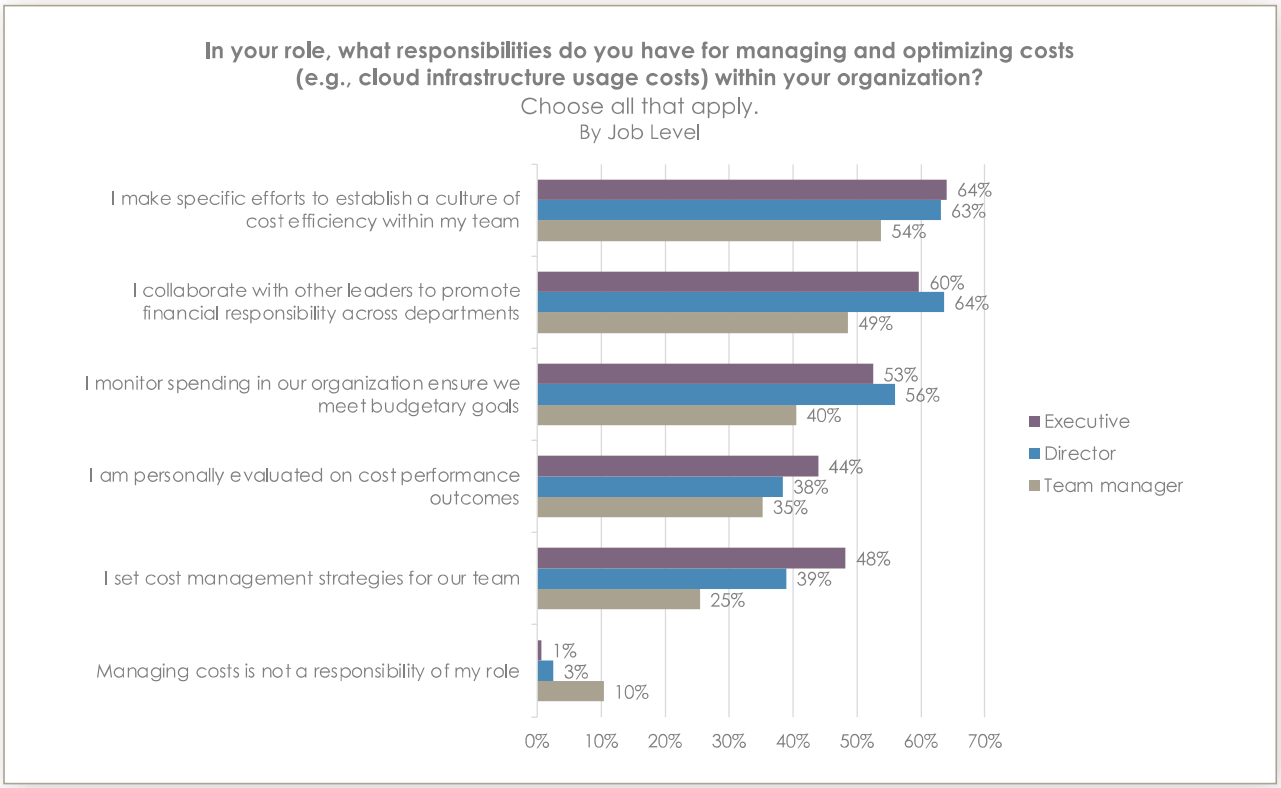
## Detailed findings: Observability leaders own responsibility for costs

### Observability leaders have responsibility for costs

It is normal for managers given authority over infrastructure decisions to be held responsible for overall cost management. Observability decision makers follow this best practice, and typically (95%) report that managing costs is a formal responsibility in their role. Cost management efforts include efforts to establish a cost-efficiency culture (60%), collaborating with other leaders to ensure cross-department responsibility (57%), monitoring spending against budgetary goals (50%), having cost performance outcomes as part of their personal evaluations (39%), and setting cost management strategies (37%). "Other" responsibilities reported included balancing cost and security needs and identifying areas of opportunity to decrease costs.



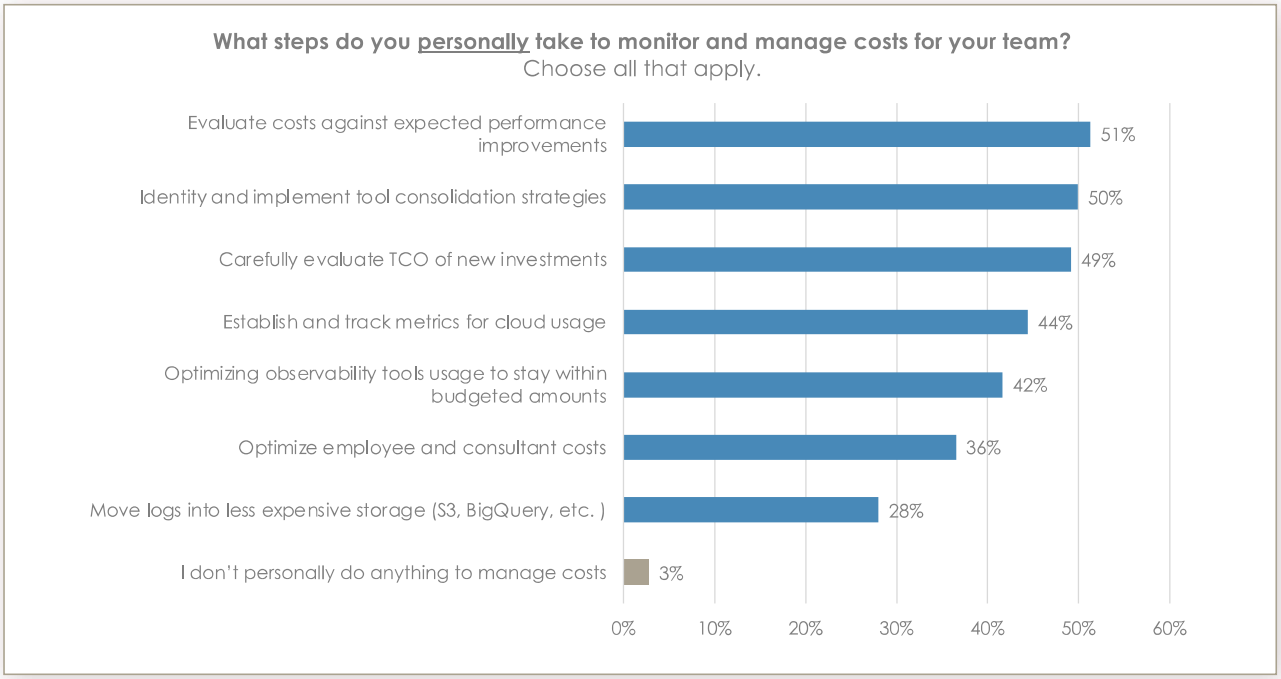
Unsurprisingly, senior leadership roles include higher levels of responsibility for costs. Almost all (99%) executives report having direct responsibility for cost management, compared to 90% of team managers. In contrast, team managers are the least likely to report responsibilities for all specific types of cost management. However, these differences are typically relatively minor and exist at high levels among decision makers, regardless of their level.




Interestingly, IT leaders are most likely to identify responsibility for culture as part of their role. This response suggests that managers would prefer to set standards for their teams rather than micro-manage budgetary line items, although that is also necessary.

## Ownership of cost management requires active engagement

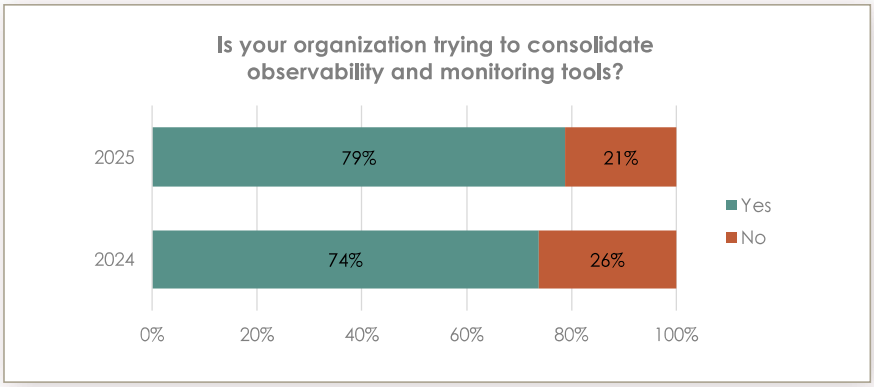
IT leaders who own observability decisions do not consider cost management from an "ivory tower" perspective. They take a hands-on approach. The vast majority (97%) personally take steps to monitor and manage costs for their teams with steps like evaluating costs against expected improvements (51%), owning tool consolidation strategies (50%), evaluating the total cost of ownership or TCO of new investments (49%), establishing and tracking cloud usage metrics (44%), optimizing observability tool usage to stay within budgeted amounts (42%), and more.




Cost management is a responsibility that IT leaders take seriously, with 86% agreeing that they feel personal responsibility for the outcomes of investments their company makes in observability.

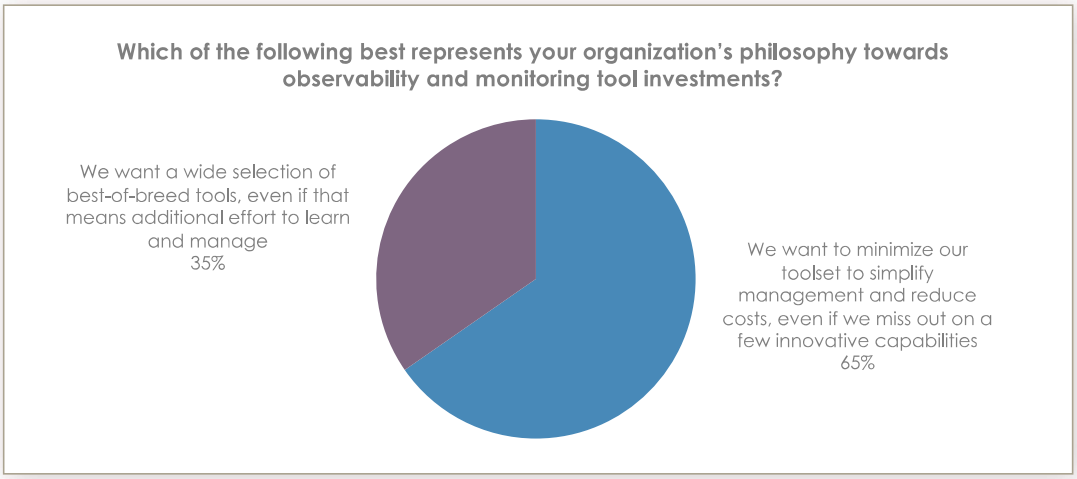
## Tool consolidation comes with conflicting priorities for IT leadership

The core idea of tool consolidation for reducing costs is compelling; simply identify areas of overlap in the tool-set and eliminate things you are paying for twice. IT teams often have tool consolidation initiatives. As we saw above, half (50%) of IT decision makers responsible for observability are personally responsible for identifying and managing tool consolidation strategies as part of their cost management efforts, and tool consolidation is driving observability investments for 43% of companies. This research shows the number of companies looking to streamline and consolidate their observability and monitoring tools (79%) is increasing (up from 74% in the prior year).

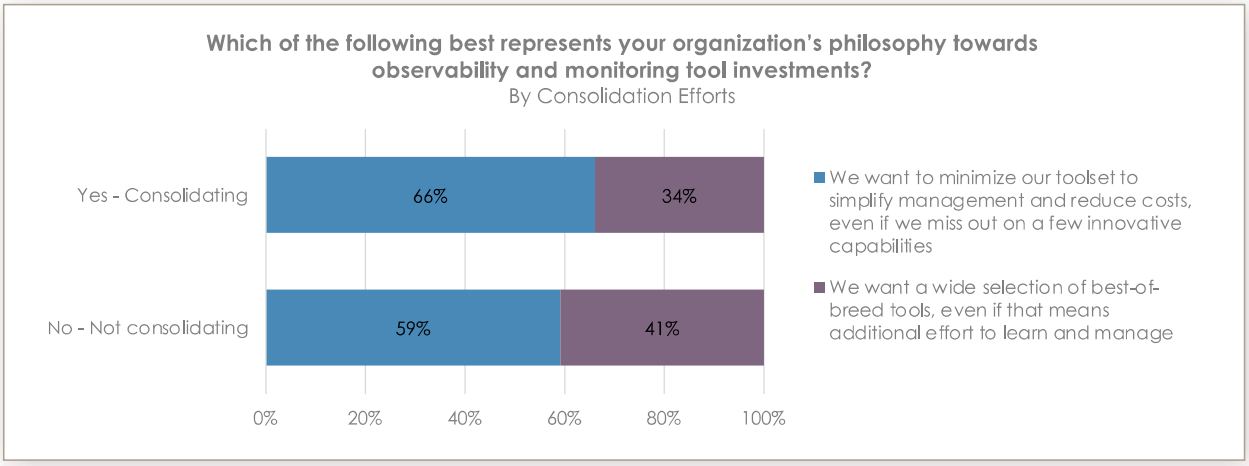



However, we know that tool consolidation isn't easy. Strategically and philosophically, consolidation may be the right goal for IT leaders, but day-to-day operations and organizational preferences can make it very hard to implement.

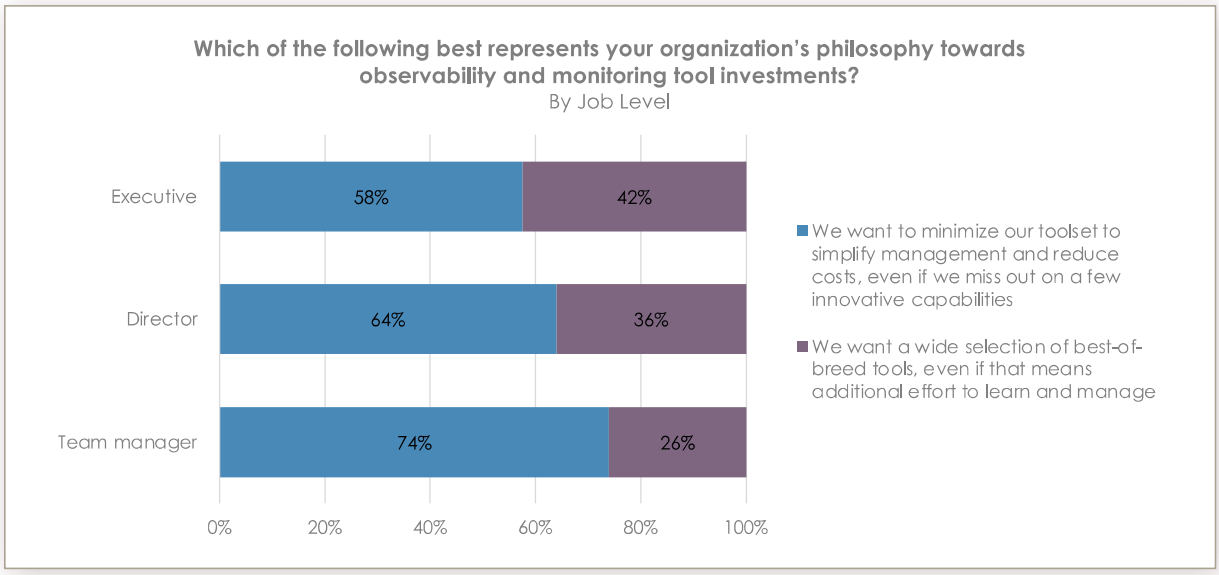
To try to make sense of conflicting priorities. We asked about organizational philosophies on tools. We did find a preference for minimizing the observability toolset (65%), but there remains a strong minority who prefer best-of-breed, even at the expense of additional resources (35%).



It is surprising that there is no obvious and distinct alignment between companies consolidating their observability toolsets and those with a philosophy of minimizing the toolset. While consolidators have a slightly stronger philosophy of minimizing toolsets, a solid 34% preferred best-of-breed solutions despite their stated consolidation efforts.




The data also shows a disconnect between managers who are much more likely to want to minimize their toolset (74%), while executives are much more likely to say their philosophy leans towards the extra effort needed for best of breed (42%).



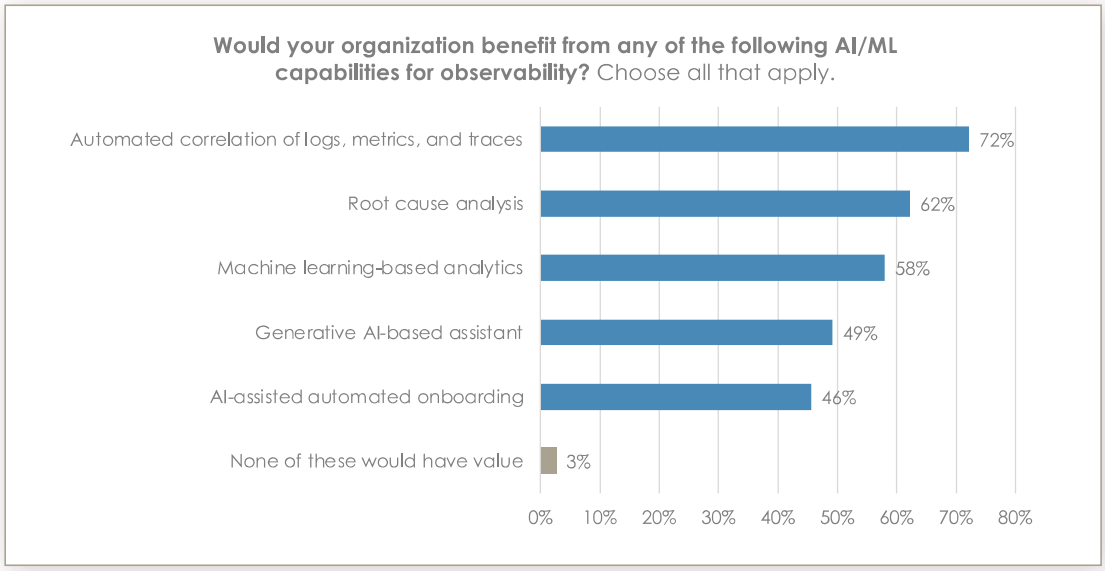

With these mixed messages, it is no wonder that consolidation is hard! IT decision makers pursuing a tools consolidation initiative will need to be sensitive to this kind of nuanced pressure. We hope to examine these conflicting goals in more detail in a future research project.

## Detailed findings: Observability outcomes will benefit from AI/ML innovations

### Observability teams can benefit from a range of AI/ML capabilities

Artificial intelligence (AI) and machine learning (ML) are a natural fit for observability. These technologies can easily bring huge amounts of data together to solve problems that are difficult to do using manual methods or traditional data management and analysis solutions.

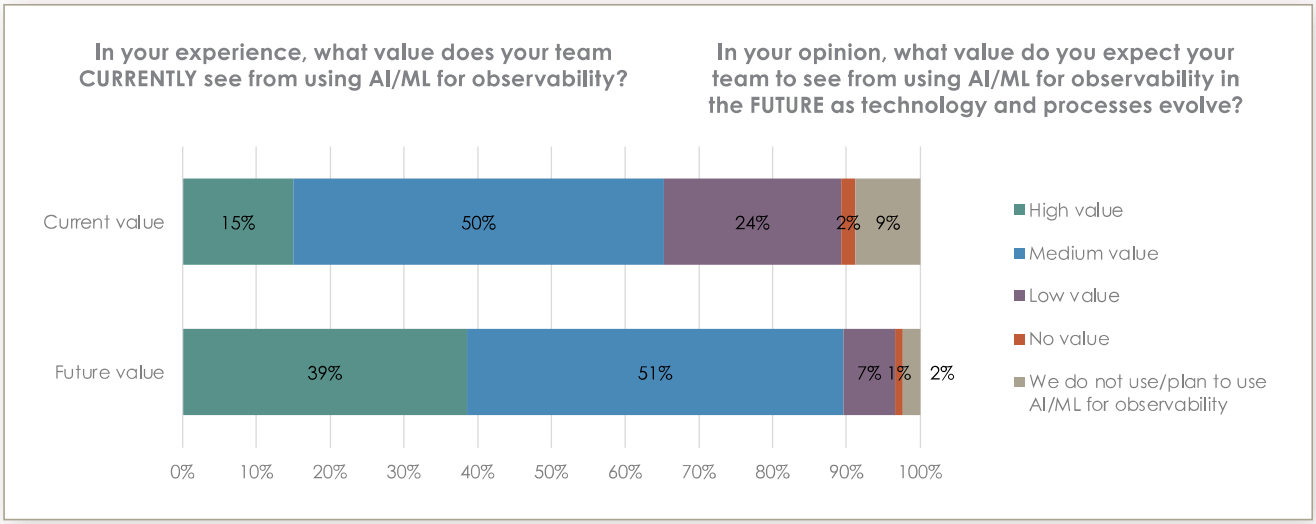
IT decision makers have a very clear view of the types of observability use cases that would benefit from innovation using AI/ML. The most popular capability that decision makers say would help their efforts is the automated correlation of logs, metrics, and traces, with almost three-quarters (72%) indicating their company would find value in this capability. Observability stakeholders are also interested in AI/ML solutions for root cause analysis (62%), machine learning-based analytics (58%), GenAI-based assistants to guide their efforts (49%), and AI help in onboarding or ingesting new applications (46%).



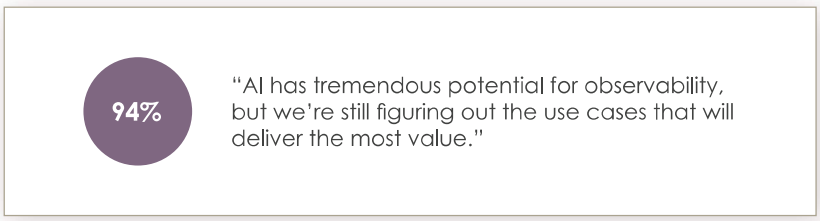
## Decision makers expect more from AI/ML in the future

IT decision makers do want additional capabilities, but we should not dismiss the existing value that companies are already getting from AI/ML for observability

Most companies (91%) already use this technology in their observability practice. A remarkable 89% of observability teams see value in using AI/ML, including 65% who characterize their organization as receiving "high" or "medium" value. While those results are good, they are expected to improve in the future as technology and processes evolve, with the number of observability stakeholders expected to see "high" or "medium" value from AI/ML jumping to 90%.



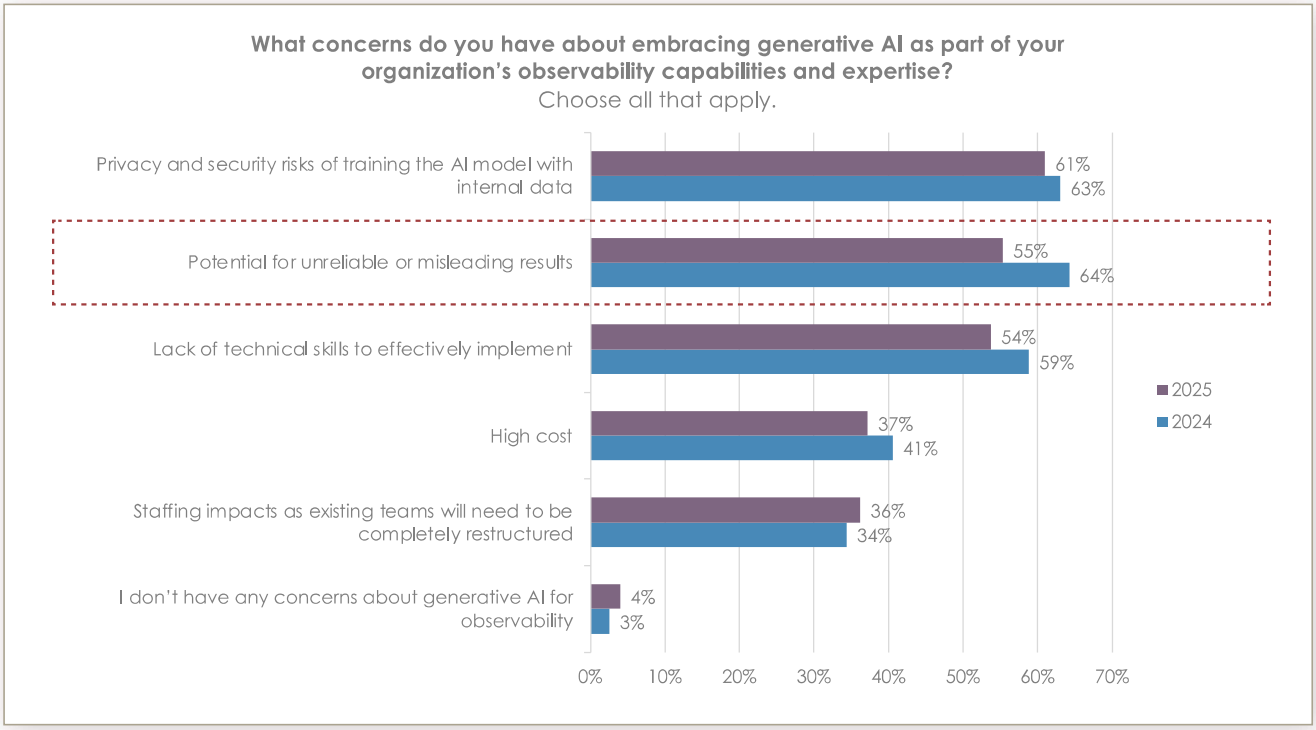

When we asked our audience of observability decision makers about AI's potential, we saw a similar reaction. The vast majority (94%) agreed that AI has potential but work remains to identify the most valuable specific use cases.



## Concerns about GenAI are slowly dropping

One of the very positive trends we have seen in the past year is that IT decision makers have addressed some of their concerns about GenAI. We asked the same question about concerns about GenAI for observability in last year's survey and this year's, and we found that the level of concern reported dropped for most issues.

Most interestingly, concerns about the potential for unreliable or misleading results dropped from 64% in 2024 to just 55% in 2025! Of course, there is still a long way to go before teams fully trust the accuracy of AI/ML results, but the trend appears to be moving toward increasing confidence and less fear of worst-case scenarios.

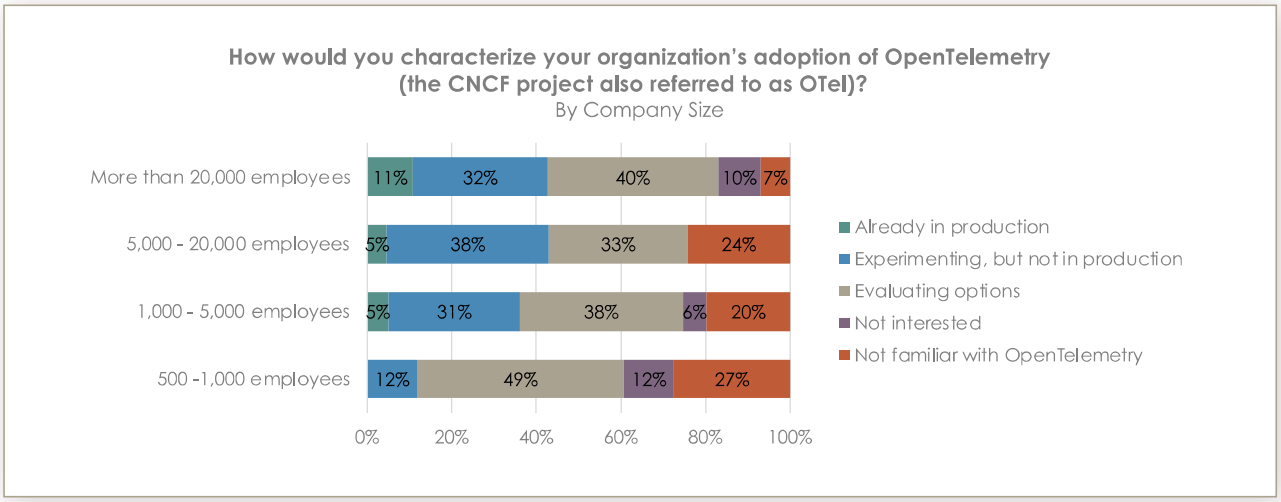


## Detailed findings: Observability adopters are taking advantage of OpenTelemetry

### Observability decision makers are investigating OpenTelemetry, but it is still early

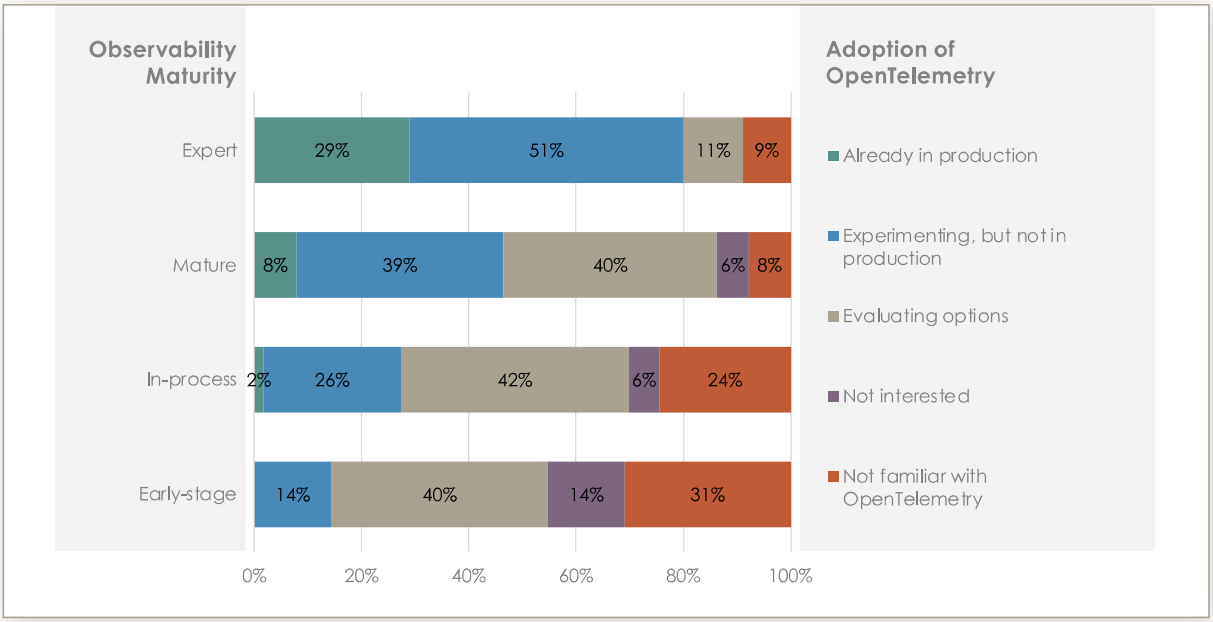
OpenTelemetry, a CNCF project sometimes called OTel, is an observability framework and toolkit designed to create and manage telemetry data such as traces, metrics, and logs. OpenTelemetry is tool agnostic and focused on open standards that allow it to be used with any observability solution that supports OTel. Our findings demonstrate that there is already significant interest in OpenTelemetry, with three-quarters (76%) reporting activity with OTel. However, there is work to be done as only 6% report that they are already in production with their initiative.

Larger companies are more likely to be actively working with OTel. Among companies with more than 20,000 employees, 83% are actively evaluating or implementing OTel, including 11% in production. The smaller companies in our study, those with 500 to 1,000 employees, reported lower levels of adoption, with just 61% evaluating or implementing OTel and none (0%) in production.



## OpenTelemetry adoption is tracking the observability maturity curve

Companies with a more advanced observability practice appear to be more aware of OTel's potential benefits. This study's data shows a clear correlation between a company's maturity with observability and its adoption of OTel. Companies that characterize their observability maturity as "expert" are usually experimenting with or in production with OTel (80%), far more than the 14% of "early-stage" observability companies that are at the same point with OTel adoption.




Companies experimenting with OpenTelemetry are bullish about the potential for open standards. The majority (87%) of IT decision makers who have OTel in production or are experimenting with it agree that open standards are a key initiative for their companies.

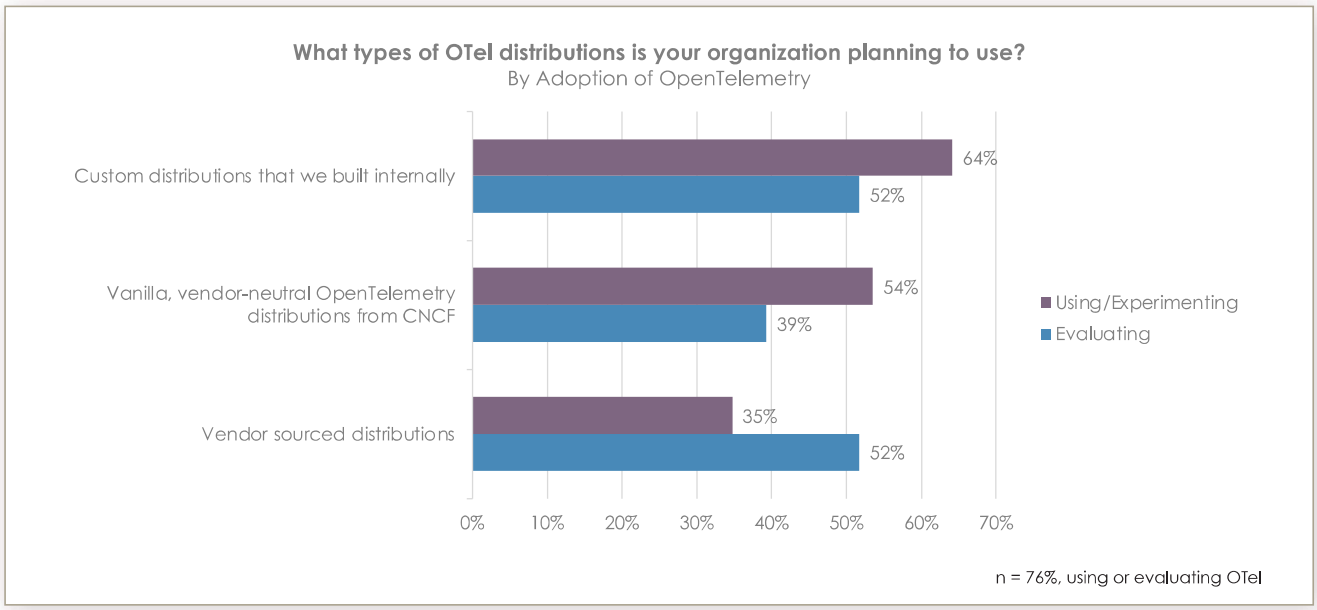
**87%** Open standards are a key initiative for companies implementing OTel.

## OTel adopters considering a variety of distribution options

Multiple OTel distribution options are available, each with its strengths and weaknesses. One option is the CNCF's "vanilla" distributions, which are readily available and vendor-neutral. Another option is to build custom OTel distributions to meet organizational needs. A final option is OTel distributions from commercial vendors with specific capabilities, enterprise features, and support.

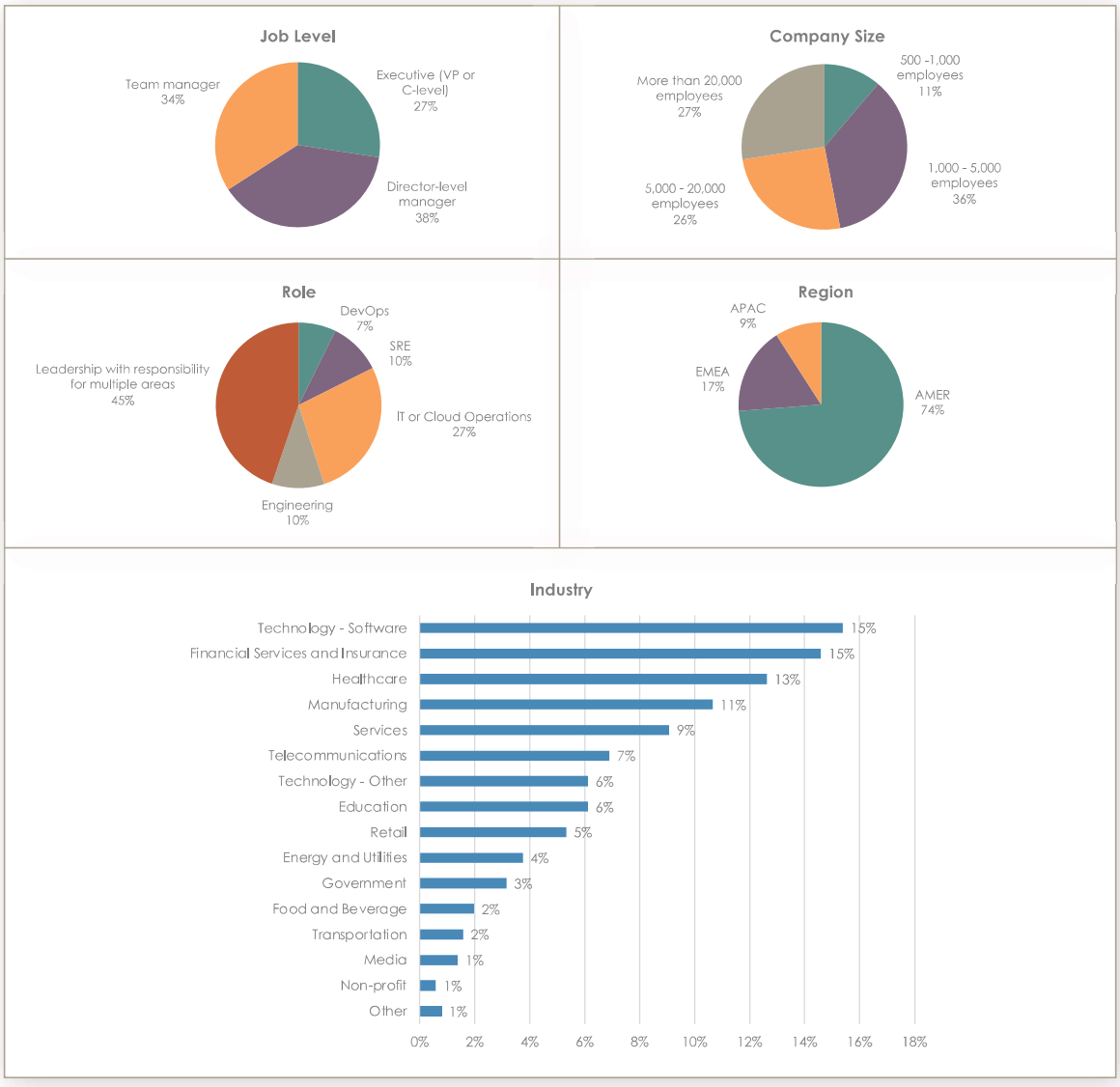
This research shows that OTel adopters are split on what kinds of distributions are ideal. Custom distributions are used most frequently, but vendor-sourced distributions and the CNCF distribution are also strongly used. The data shows a difference in distribution approaches among companies that are more mature with OTel and companies still evaluating options. The IT teams in the evaluation phase with OTel are much more likely to consider vendor-sourced distributions (52% vs. 35% of those using or experimenting). Companies that have moved to implement OTel are more likely to use custom distributions (64% vs. 52% of evaluators) or the vanilla distribution from the CNCF (54% vs. 39% of those evaluating).

This data paints a picture of an evolving and shifting landscape for OTel distributions. We'll be curious to see how this progresses as companies mature with their adoption of OTel.



## Survey Methodology and Participant Demographics

Independent sources of IT leaders were invited to participate in an online survey. A total of 509 qualified individuals completed the survey. All participants had decision making responsibility for observability solutions at a company with more than 500 employees in an IT leadership role that included DevOps, SRE, IT Operations, or Engineering functions. Participants represented a range of regions, company sizes, and industries. Certain questions were repeated from a prior survey of observability IT decision makers conducted with a similar audience in 2024, as well as a separate survey of observability practitioners. Options in graphs may not add up to exactly 100% because of rounding.



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