THE 2024 OBSERVABILITY LANDSCAPE

A Survey of Observability Decision Makers

dimensional research

Sponsored by

elastic

Introduction

Over the years, observability and its definition have continued to evolve. Traditional monitoring systems primarily focused on metrics and predefined thresholds to track system and application health. This resulted in reactive problem resolution with tons of finger-pointing among the various operations teams. The adoption of cloud and cloud-native technologies, along with microservices architectures that were further distributed and ephemeral, added to the challenge of problem resolution.

The need to solve this complexity and lack of visibility resulted in the foundation of observability, a holistic approach involving people, processes, and tools. Modern observability can leverage different types of telemetry data, correlate and contextualize it for deeper insights into system and application performance, and find the unknown unknowns. An effective observability practice fosters collaboration and breaks down silos so issues can be proactively detected, diagnosed, and remediated.

Fast forward to 2024, and observability continues to evolve. It has moved into the mainstream and is now ubiquitous across IT organizations in large enterprises. But have organizations fully embraced observability capabilities and expertise to meet modern business needs? Are observability investments paying off in business or technology outcomes? How are leaders approaching evolving technologies like AI and OpenTelemetry (OTel) on their journey to modern observability?

This research examines trends in observability and endeavors to answer questions that are top of mind for many professionals responsible for IT operations, engineering, and SRE teams. The following report, sponsored by Elastic, is based on an online survey of over 500 technology decision makers and practitioners responsible for selecting and using observability tools at a company with more than 500 employees.

dimensional research

Sponsored by

elastic

Key Findings

- Observability in 2024 is a work in progress
  - Only 14% report having mature observability capabilities and expertise
  - 99% face challenges implementing observability capabilities and expertise; managing differing requirements from different teams tops the list (68%)
  - 99% report their observability data is siloed
  - Only 16% can frequently correlate operational data with business impact

- Observability adoption delivers benefits that increase with maturity
  - 94% have been able to demonstrate measurable improvements in performance metrics
  - 88% with mature observability practices report they can deploy applications and infrastructure more quickly
  - 60% with mature observability practices have reduced MTTR for incidents

- Teams are looking to consolidate observability and monitoring tools
  - On average, companies have more than seven different observability and monitoring tools
  - Teams with four tools or more typically say they have "too many tools"
  - 74% are working to consolidate their observability and monitoring toolset

- AI is expected to change the future of observability positively
  - 96% expect AI (AIOps and/or generative AI) to have an impact on observability within the next five years
  - 97% have concerns about generative AI for observability
  - 78% are positive about the potential for AI in their professional lives

- OpenTelemetry is gaining traction but is still in the early stages
  - 78% are considering OpenTelemetry, although only 9% have moved to production
  - 87% agree OpenTelemetry will be the standard for observability data within the next five years

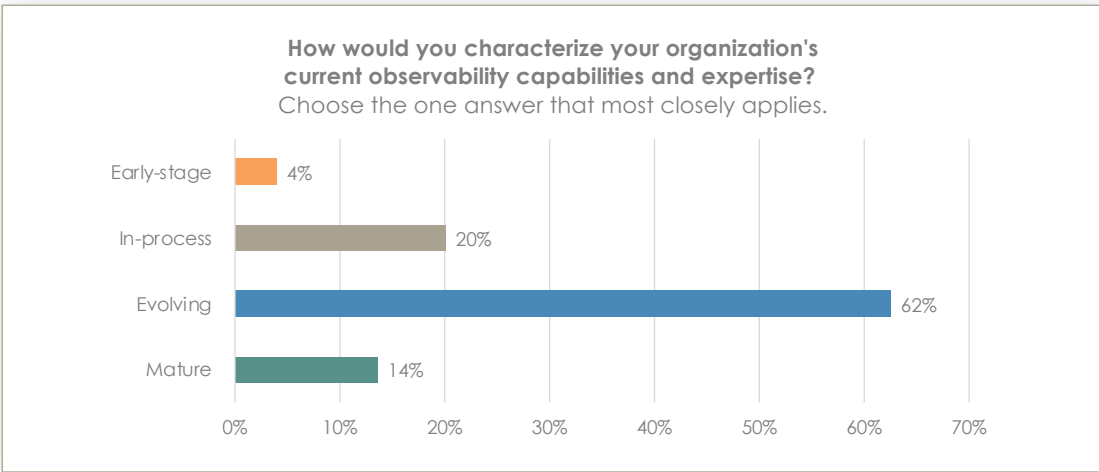## Detailed Findings: Observability in 2024 is a work in progress
Observability is well established, but there is still work to be done

Observability adoption is not merely about purchasing a new tool. While the toolset's capabilities are important, it is also critical to consider processes and culture that need to be transformed for observability to be successful. Existing monitoring investments must be incorporated into new observability strategies to ensure operational excellence and system reliability.

To explore the current state of maturity of observability in large enterprises, we defined the following stages of a typical adoption journey. We asked participants to choose the one description that most closely represented their organization's observability capabilities and expertise.

- **Mature** – a toolset with integrated and correlated business and operational data, strong team collaboration, sophisticated AI/ML and analytics, measurement and tracking of SLAs
- **Evolving** – implementing a plan that includes integrated tools, teams, and best practices across all data sources with basic AI/ML capabilities
- **In-process** – fragmented visibility with a partially integrated toolset, mostly reactive firefighting
- **Early-stage** – initial investments in tools and people to evaluate future path, focused on one or two critical data types

The data clearly demonstrates that significant progress has been made on observability, with only 4% reporting that they are still in the early adoption stage. However, there is still considerable work to be done. Only 14% of observability stakeholders characterize their practice as "mature." Most (62%) organizations put themselves in the middle of the adoption cycle, describing themselves as "evolving."

How would you characterize your organization's current observability capabilities and expertise?
Choose the one answer that most closely applies.

Category	Value
Early-stage	4%
In-process	20%
Evolving	62%
Mature	14%

Interestingly, the executives in our study were more than twice as likely as their staff to characterize their observability practice as mature (23% for executives vs. 11% for team managers and 9% for individual contributors). This data suggests that executives may be overly optimistic about current capabilities and expertise and should ensure they work with the day-to-day operations teams to identify potential gaps and concerns.
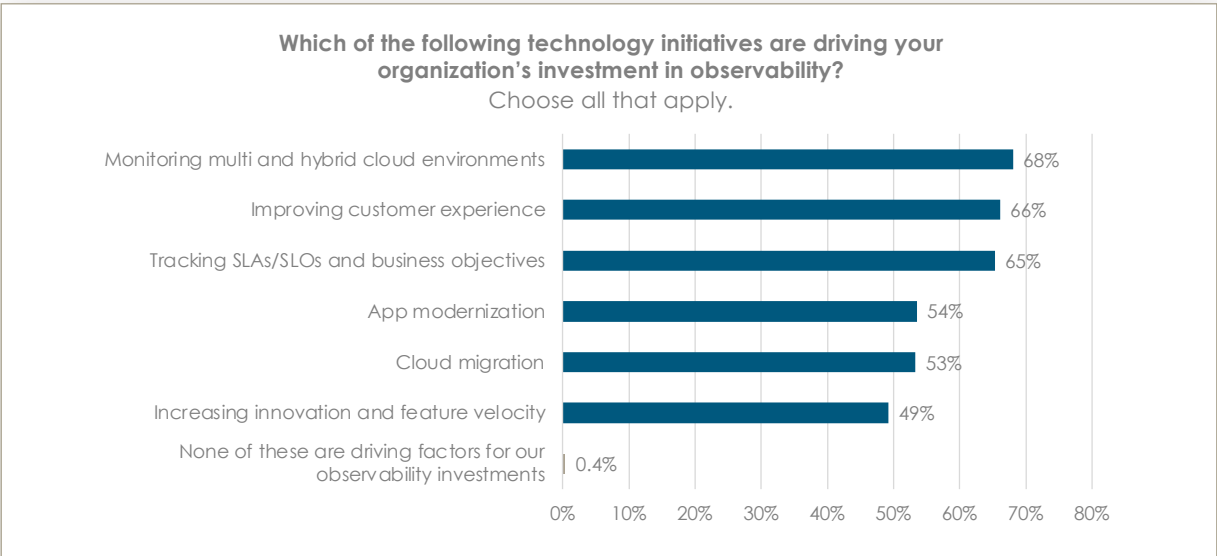
A wide range of initiatives is driving an increase in investment in observability

Observability can be a complex initiative that includes an intricate array of best practices, processes, automation, data, and organizational culture, but the final goal is easy to understand: full visibility across systems and business operations. This visibility is beneficial across a wide range of strategic projects, so it is unsurprising to discover that the funding for observability originates from multiple technology initiatives.

Around two-thirds of organizations report that their investments in observability are driven by their multi and hybrid cloud environments (68%), customer improvement initiatives (66%), and business metric tracking projects such as SLAs, SLOs, and other business objectives (65%). Investments in observability can also be driven by app modernization needs (54%), cloud migration (53%), and needs for innovation and feature velocity (49%).

The landscape driving observability investment is complicated. For the vast majority of organizations (95%), observability investments are driven by more than one of these technology initiatives. This number includes a quarter (25%) with five or more different initiatives contributing to those investments.

Which of the following technology initiatives are driving your organization's investment in observability?
Choose all that apply.

- Monitoring multi and hybrid cloud environments: 68%
- Improving customer experience: 66%
- Tracking SLAs/SLOs and business objectives: 65%
- App modernization: 54%
- Cloud migration: 53%
- Increasing innovation and feature velocity: 49%
- None of these are driving factors for our observability investments: 0.4%

Overall, technology spending typically increases each year. To gain a nuanced view of how budgets for observability will be impacted in 2024, we asked how observability investments were changing compared to overall technology spending so that we cou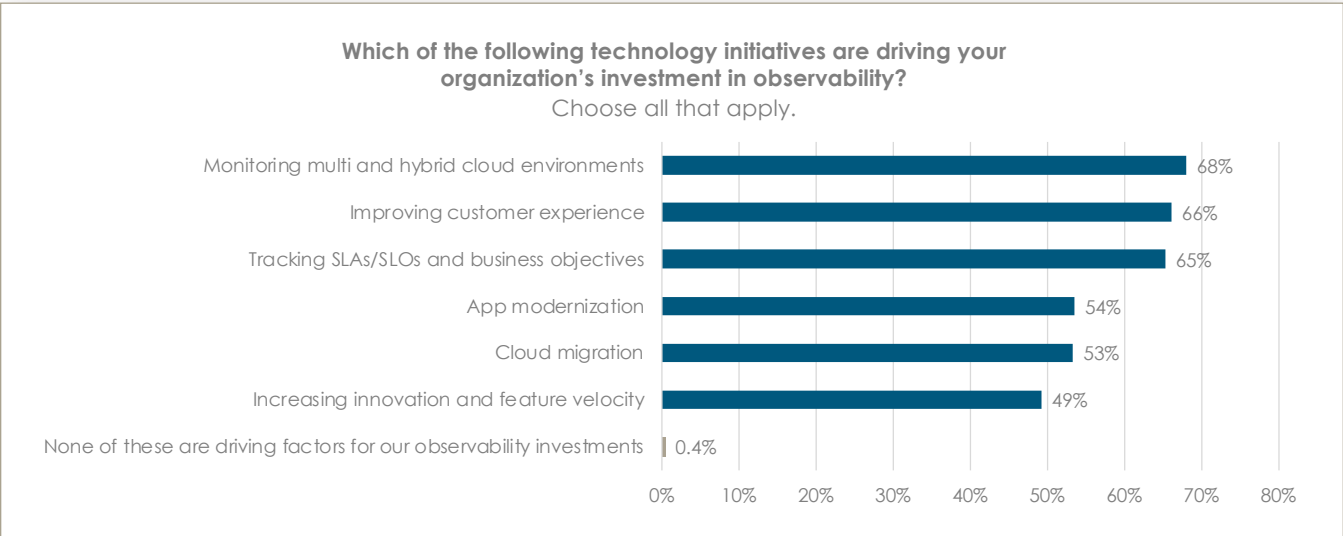ld separate the importance of observability from other initiatives. The data shows that observability will be a focus area for 2024 IT budgets, with more than four in five (82%) reporting that their investment in observability and monitoring will increase faster or at the same rate as other technology investments. This number includes almost half (46%) who indicate that these investments will increase even faster than other types of IT spending.

What challenges does your organization face with implementing effective observability capabilities and expertise?
Choose all that apply.

Challenge	Percentage
Different requirements from different teams	68%
Lack of collaboration among teams (development, operations, etc.)	57%
Insufficient skills and expertise	55%
Lack of consistent use of best practices	50%
Scale and performance issues with tools	46%
Toil leaves teams strapped for time	31%
Other	2%
We don't face any challenges	1%

Observability continues to face challenges with implementation

Implementing observability can be problematic due to several factors inherent in large enterprises' complex systems and environments. Almost all (99%) observability stakeholders report that their team faces issues. The most frequently reported challenge is understanding and responding to different team requirements (68%). Other issues included lack of collaboration (57%), insufficient skills and expertise (55%), lack of consistent use of best practices (50%), tool scalability and performance (46%), and a level of toil that leaves teams with no time for proactive improvements (31%). Several participants also took the time to write in "other" responses, which included cost concerns and legacy system issues.

Which of the following technology initiatives are driving your organization's investment in observability?
Choose all that apply.

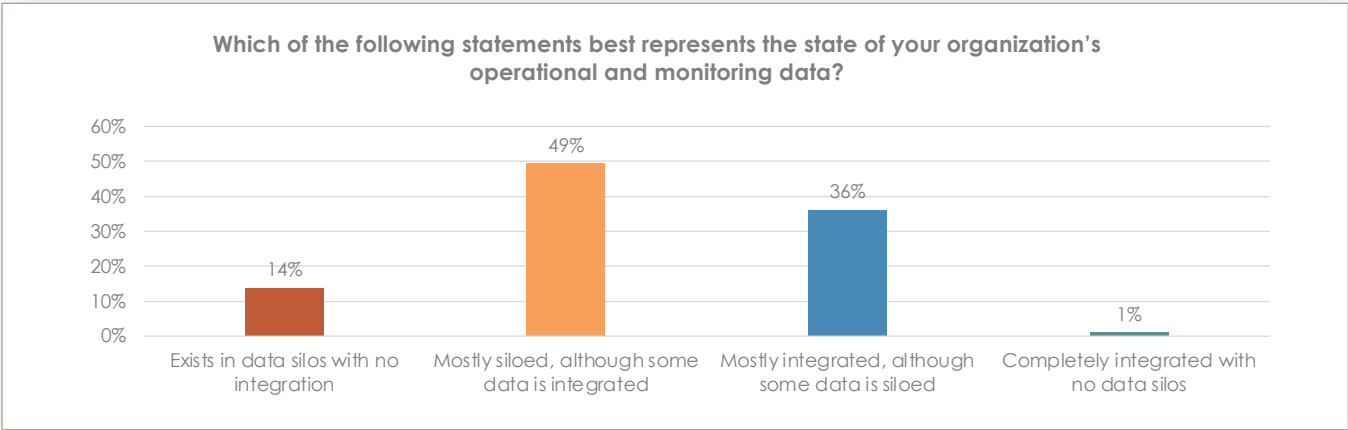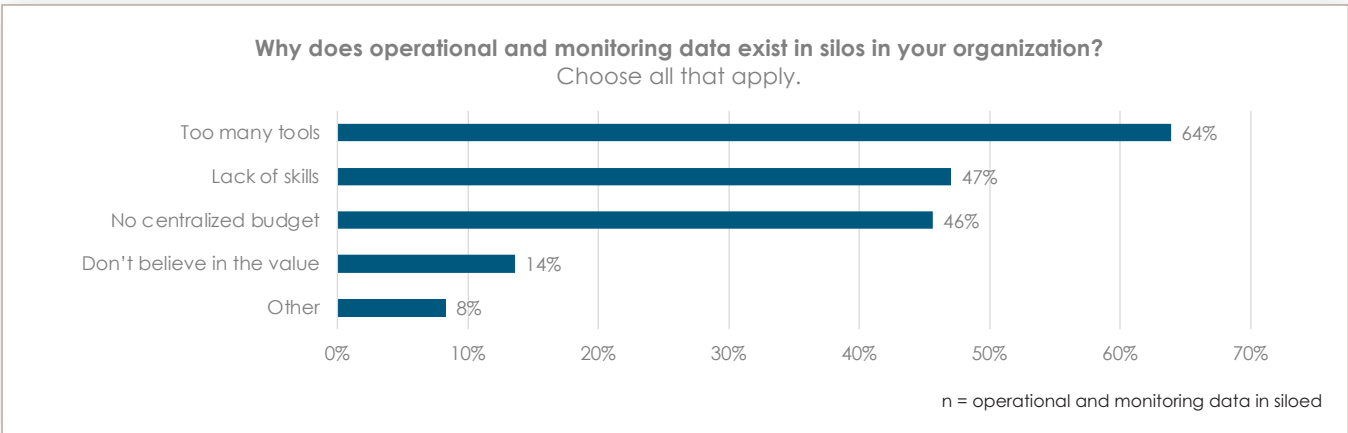| Initiative	Percentage
Monitoring multi and hybrid cloud environments	68%
Improving customer experience	66%
Tracking SLAs/SLOs and business objectives	65%
App modernization	54%
Cloud migration	53%
Increasing innovation and feature velocity	49%
None of these are driving factors for our observability investments	0.4%

Observability data is siloed

Effective observability relies on insights derived from data across systems, services, applications, and infrastructure. When this data is correlated, it can provide a comprehensive view of end-user, system, and application behavior, enabling teams to identify patterns, detect anomalies, and troubleshoot issues more efficiently.

Unfortunately, teams cannot take full advantage of the potential of observability as data continues to exist in silos, with only a tiny number (1%) reporting that their data is fully integrated. There is some good news, as over a third (36%) report that they have made progress, and more of their data is integrated than is in silos. However, for most (63%) observability stakeholders, they are working in environments with data that is mostly or entirely in silos.

Which of the following statements best represents the state of your organization's operational and monitoring data?

Exists in data silos with no integration	14%
Mostly siloed, although some data is integrated	49%
Mostly integrated, although some data is siloed	36%
Completely integrated with no data silos	1%

There are many reasons for having siloed data. Observability stakeholders report that their teams are working with too many tools (64%), lack needed skills (47%), and don't have centralized budgets to support integration (46%). This is a topic that participants felt very strongly about, and many took the time to write in "other" options. Their comments included many references to the varying requirements and priorities of the different organizations and projects involved in observability initiatives.

Most interestingly, the benefits of data integration seem to be well understood, with very few stakeholders reporting that their data is siloed because organizations don't believe in its value (14%).

Why does operational and monitoring data exist in silos in your organization?
Choose all that apply.

Too many tools	64%
Lack of skills	47%
No centralized budget	46%
Don't believe in the value	14%
Other	8%

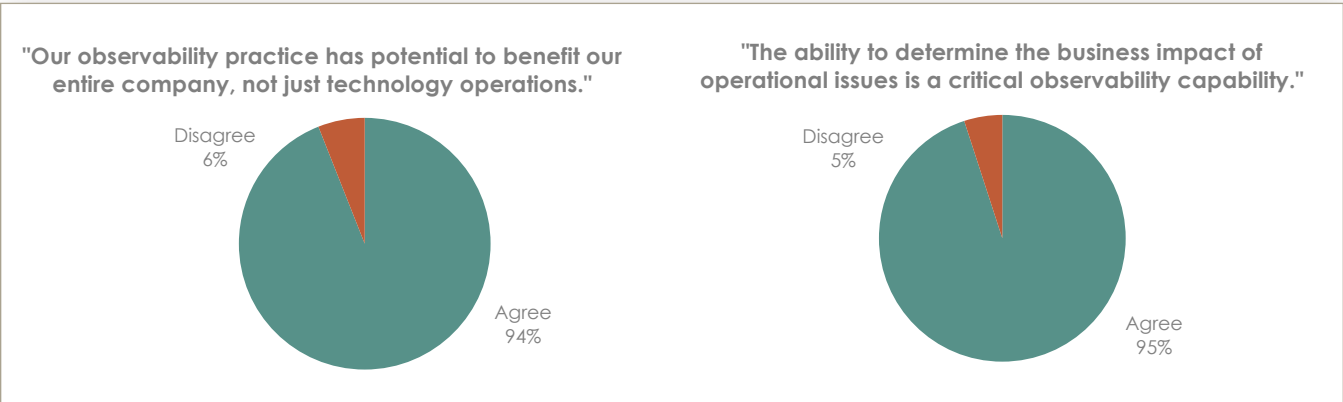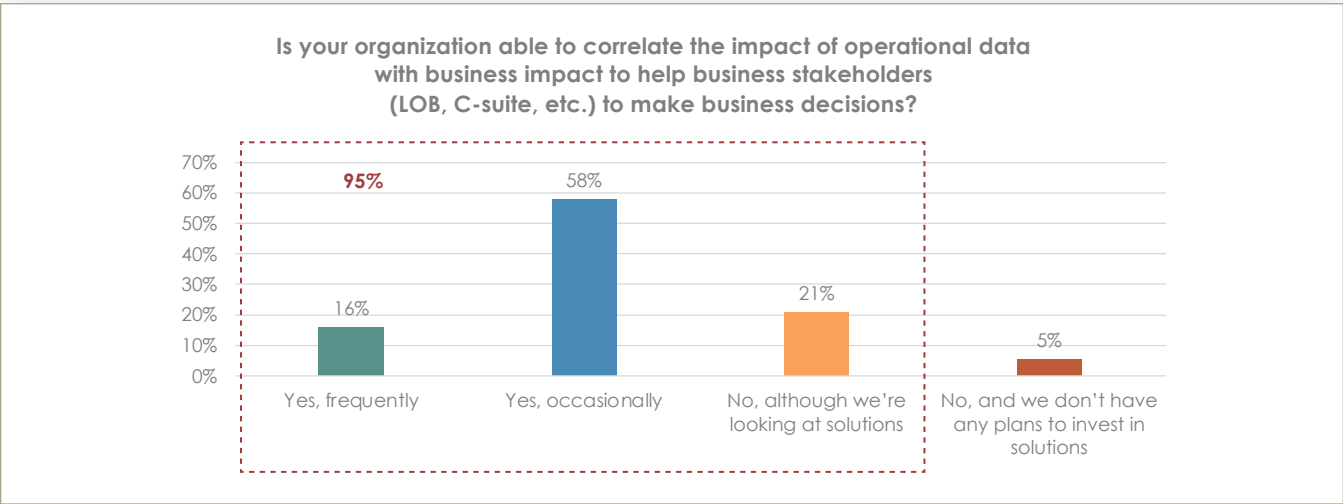n = operational and monitoring data in siloed

Business observability is becoming a critical observability capability

Organizations and senior leadership want to understand how observability can help improve business efficiency and drive business outcomes. In addition to the benefits of data consolidation, which delivers visibility across systems, applications, and infrastructure, data integration with business data enables observability solutions to deliver contextualized business impact of events. This capability, often called business observability, can empower executives and IT leaders to gain deeper insights into performance, dependencies, and the impact of operations on the business.

Observability stakeholders have a clear vision of the potential of their work for overall business outcomes, with 94% agreeing that observability can benefit the overall organization and 95% agreeing that it's a critical observability capability to determine the business impact of operational issues.

"Our observability practice has potential to benefit our entire company, not just technology operations."

Disagree 6%
Agree 94%

"The ability to determine the business impact of operational issues is a critical observability capability."

Disagree 5%
Agree 95%

However, while the potential is clear, as of when this report was written, organizations haven't fully incorporated business observability into their ongoing operations. Only a small number (16%) report that they frequently correlate operational data with business impacts for their counterparts outside of IT operations. The good news is that organizations are beginning to experiment with business observability, including well over half (58%) who do this occasionally and a further 21% who are considering solutions. Only a few (5%) have no plans for business observability.

Is your organization able to correlate the impact of operational data with business impact to help business stakeholders (LOB, C-suite, etc.) to make business decisions?

- Yes, frequently: 16%
- Yes, occasionally: 58%
- No, although we're looking at solutions: 21%
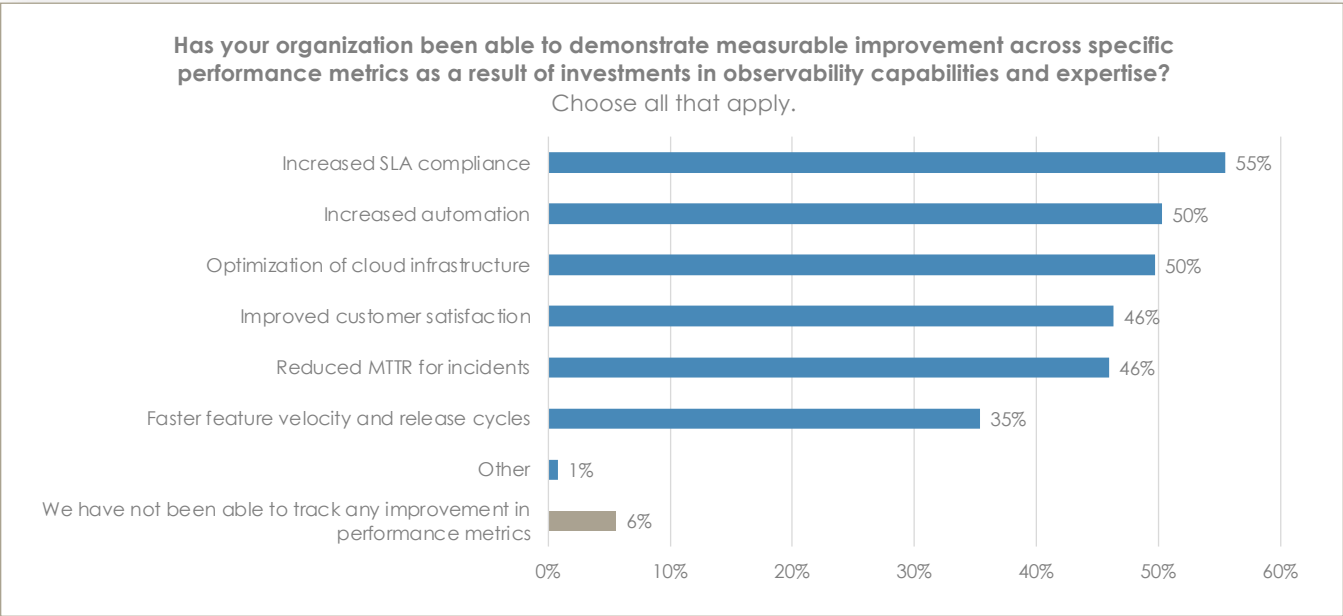- No, and we don't have any plans to invest in solutions: 5%

95%

Detailed Findings: Observability adoption delivers benefits that increase with maturity
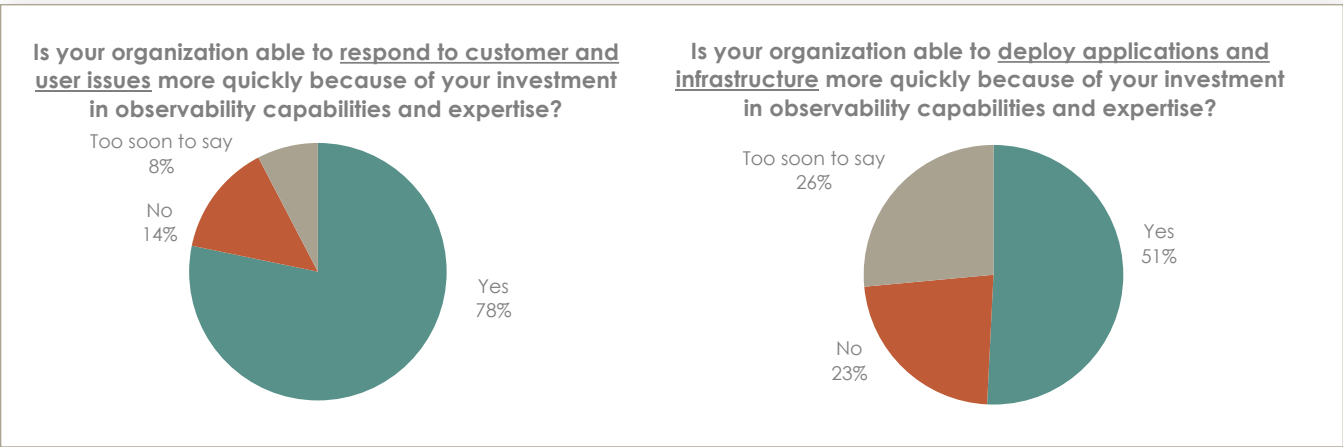### Companies are seeing measurable benefits from observability investments

While observability practices are still a work in progress, companies already see benefits. Since observability is about data and its unified visibility, we wanted to understand measurable benefits. The language of this question was written to be very specific. We did not ask about general notions of things being better, as we wanted to capture specific and measurable changes due to observability investments.

Most observability stakeholders (94%) report that their companies have demonstrated measurable improvement across specific performance metrics. These include increased SLA compliance (55%), increased automation (50%), optimization of cloud infrastructure (50%), improved customer satisfaction (46%), reduced MTTR for incidents (46%), and faster feature velocity and release cycles (35%). Several participants took the time to write in other performance metrics tracked by their organizations. These include application resiliency, capacity management, and reduced downtime. One participant even reported that they have implemented metrics around team collaboration, which have improved due to observability investments.

Has your organization been able to demonstrate measurable improvement across specific performance metrics as a result of investments in observability capabilities and expertise?
Choose all that apply.

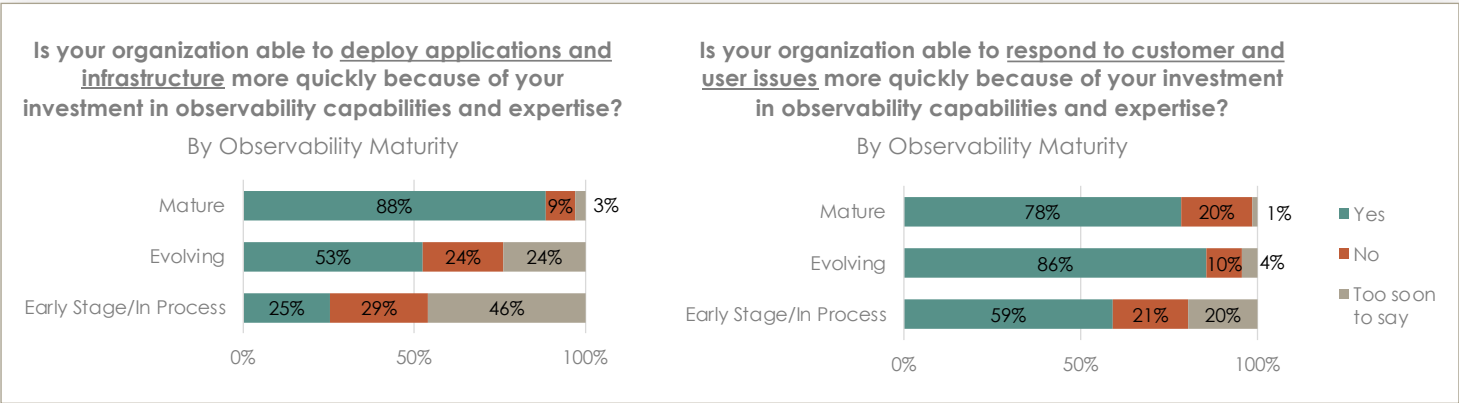| Metric	Percentage
Increased SLA compliance	55%
Increased automation	50%
Optimization of cloud infrastructure	50%
Improved customer satisfaction	46%
Reduced MTTR for incidents	46%
Faster feature velocity and release cycles	35%
Other	1%
We have not been able to track any improvement in performance metrics	6%

When asked specifically about being able to respond to customer and user issues, the results are particularly positive, with 78% reporting that observability has already delivered that benefit. The ability to deploy applications and infrastructure more quickly is a benefit achieved by just over half (51%). Interestingly, different roles are experiencing different benefits from observability investments. IT operations (56%) and DevOps/SRE (60%) roles are much more likely to report that observability helps them to deploy more quickly than engineering roles (42%). In comparison, executives (84%) and team managers (80%) are much more likely to see benefits in responding to customer and end-user issues than frontline staff (69%).

Is your organization able to respond to customer and user issues more quickly because of your investment in observability capabilities and expertise?

Too soon to say 8%
No 14%
Yes 78%

Is your organization able to deploy applications and infrastructure more quickly because of your investment in observability capabilities and expertise?

Too soon to say 26%
No 23%
Yes 51%

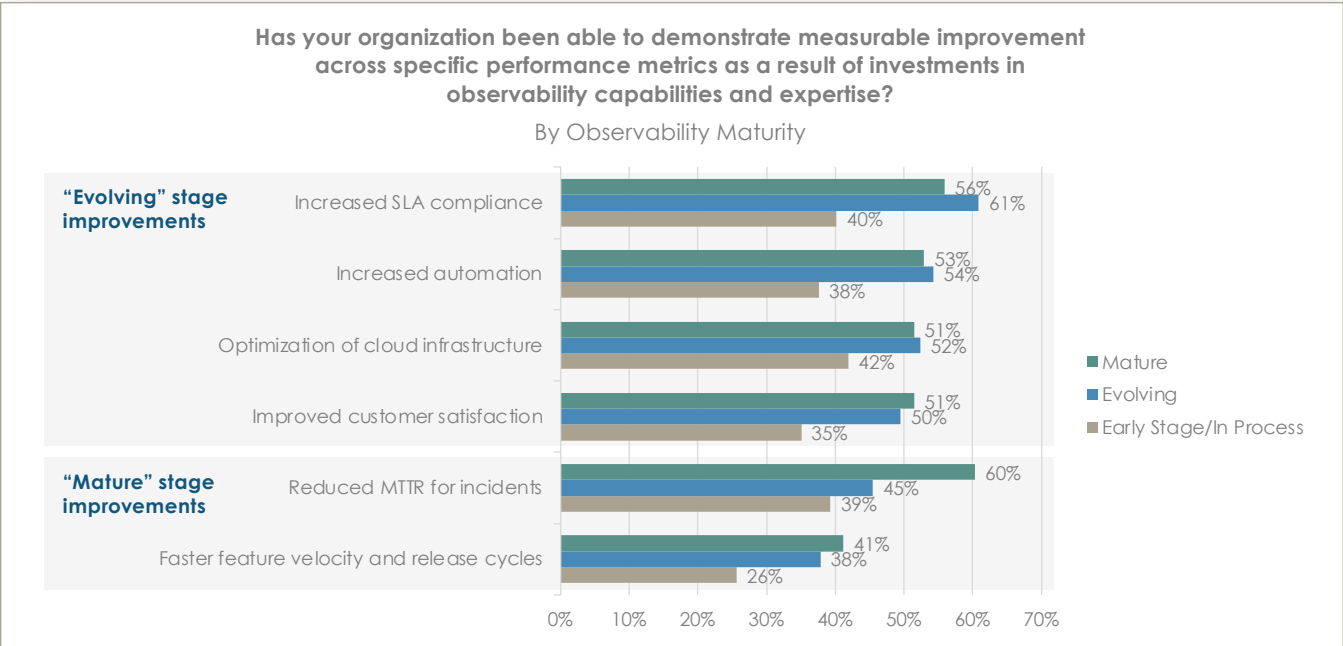## Organizations see increasing benefits as they mature their observability practice

This research wanted to investigate the level of observability investment and maturity required to gain benefits. Unsurprisingly, while even early adopters see benefits, the level reported by teams with mature observability practices was far higher. What is more interesting is that certain types of benefits become pronounced early in the maturity cycle, while other benefits are more likely at higher maturity levels.

For example, the benefit of responding to customer and user issues more quickly happens early in the maturity cycle, with even early-stage observability practices reporting solid levels of benefit (59%), which quickly increases to 86% for those in the evolving stage of maturity. On the flip side, the benefit of deploying applications and infrastructure more quickly due to observability investments is far more common among organizations with mature practices (88%).

Is your organization able to deploy applications and infrastructure more quickly because of your investment in observability capabilities and expertise?

By Observability Maturity

	Yes	No	Too soon to say
Mature	88%	9%	3%
Evolving	53%	24%	24%
Early Stage/In Process	25%	29%	46%

Is your organization able to respond to customer and user issues more quickly because of your investment in observability capabilities and expertise?

By Observability Maturity

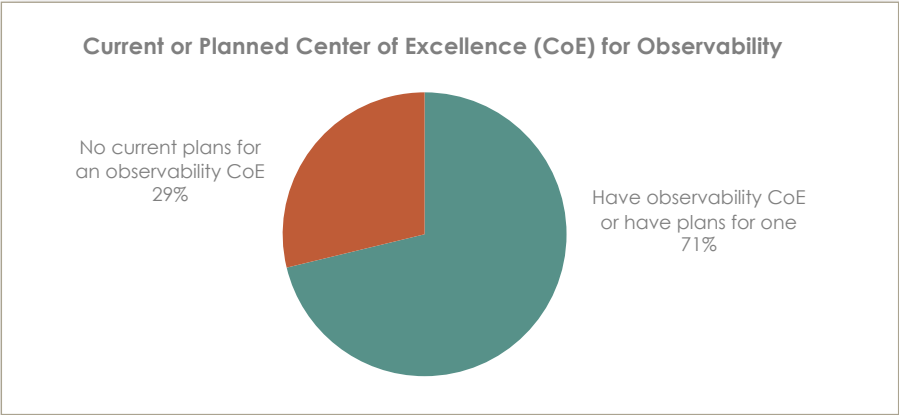|	Yes	No	Too soon to say
Mature	78%	20%	1%
Evolving	86%	10%	4%
Early Stage/In Process	59%	21%	20%

We see similar patterns when we drill into the data on improvements across specific performance metrics. Certain types of performance metrics benefit more from achieving an evolving level of maturity (SLA compliance, increased automation, cloud infrastructure optimization, customer satisfaction). In contrast, other metrics are more likely among mature practices (reducing MTTR and faster feature velocity and release cycles).

Has your organization been able to demonstrate measurable improvement across specific performance metrics as a result of investments in observability capabilities and expertise?

By Observability Maturity

"Evolving" stage improvements

Metric	Mature	Evolving	Early Stage/In Process
Increased SLA compliance	56%	61%	40%
Increased automation	53%	54%	38%
Optimization of cloud infrastructure	51%	52%	42%
Improved customer satisfaction	51%	50%	35%

"Mature" stage improvements

Metric	Mature	Evolving	Early Stage/In Process
Reduced MTTR for incidents	60%	45%	39%
Faster feature velocity and release cycles	41%	38%	26%

- Mature
- Evolving
- Early Stage/In Process

To increase observability maturity, organizations are creating observability Centers of Excellence (CoE) to centralize observability expertise, tools, and best practices. Establishing a CoE can encourage collaboration and knowledge sharing across different teams and departments while encouraging standardization to ensure consistency and repeatability. Observability CoEs can also serve as a hub for continuous learning and experimentation. Most organizations see the potential benefits of an observability CoE and are working to establish a place to share expertise and coordinate activities (71%).

Current or Planned Center of Excellence (CoE) for Observability

No current plans for an observability CoE
29%

Have observability CoE or have plans for one
71%

Detailed Findings: Teams are looking to consolidate observability and monitoring tools

Most organizations use multiple monitoring and observability tools

Large enterprises often have complex and diverse infrastructures with a wide range of systems, applications, and services. They may also operate in various geographic locations with varying requirements or have legacy systems due to acquisitions or historical investments.

All these factors can be reasons for investing in observability and monitoring tools, and over time, the number of tools can add up. Only 4% reported having just one tool for their monitoring and observability needs, while 12% reported having more than 10 different tools. On average, the organizations in our study reported having more than seven (mean: 7.2) different observability and monitoring tools. Unsurprisingly, larger organizations have more tools. On average, companies with 500 to 1000 employees had just under five different tools (mean: 4.8), while companies with more than 20,000 employees typically reported more than nine tools (Mean: 9.4).

To the best of your knowledge, approximately how many different observability and monitoring tools does your organization use?

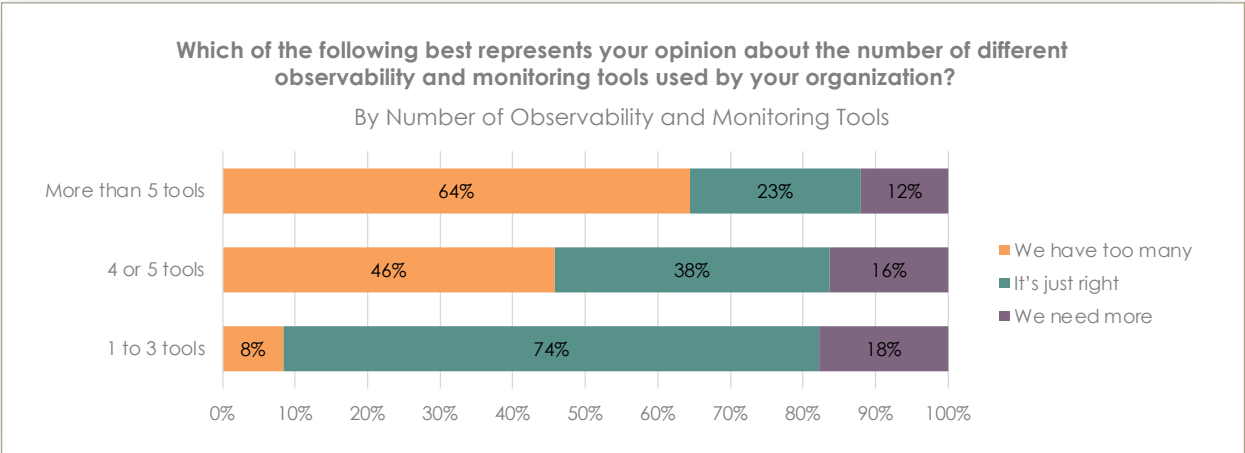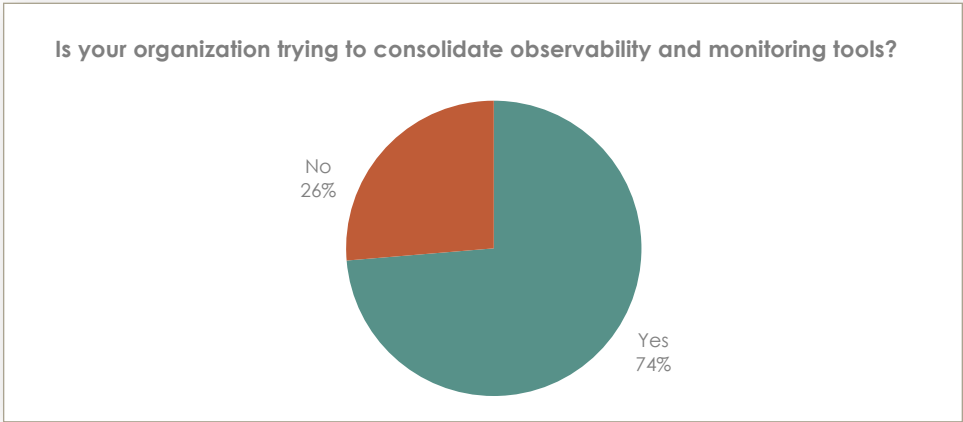| Category	Percentage
One	4%
2 or 3	23%
4 or 5	37%
6 to 10	24%
11 to 20	7%
More than 20	5%

Multiple tools often feel like "too many"

Having multiple observability and monitoring tools isn't, by definition, good or bad. Factors that impact the right number of tools for a given environment depend on the organization's specific needs, the nature of the systems being monitored, how effectively the tools are managed and utilized, and the integration between the tools. Additional tools may provide the benefits of specialized functionality, coverage of the technology stack, redundancy, and flexibility. However, more tools also mean complexity, additional overhead, cost, integration challenges, and reduced visibility.

Observability stakeholders don't have a specific agreement on the correct number of tools, but what is clear is that as the number of tools increases, the sense of having too many tools also increases. At organizations with only one, two, or three tools, only 8% believe there are too many. That number spikes to 46% for teams with four or five different observability and monitoring tools, and it jumps again to 64% for any organization with more than five tools.

Which of the following best represents your opinion about the number of different observability and monitoring tools used by your organization?

By Number of Observability and Monitoring Tools

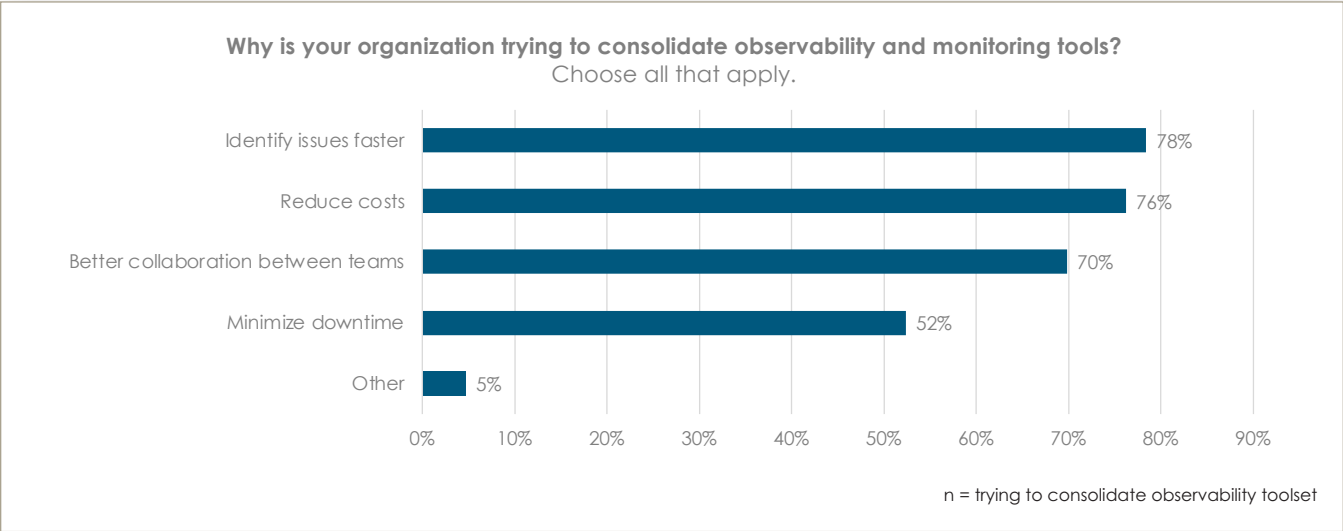| Number of Tools	We have too many	It's just right	We need more
More than 5 tools	64%	23%	12%
4 or 5 tools	46%	38%	16%
1 to 3 tools	8%	74%	18%

Teams are working to consolidate their monitoring toolset

Having too many tools exacerbates challenges in correlating the data, leading to tool silos which results in limited visibility across the environment. It also increases licensing fees and expertise costs in implementing and managing each solution. Unsurprisingly, three-quarters (74%) of observability stakeholders report that their organization is trying to consolidate its observability and monitoring toolset.

Is your organization trying to consolidate observability and monitoring tools?

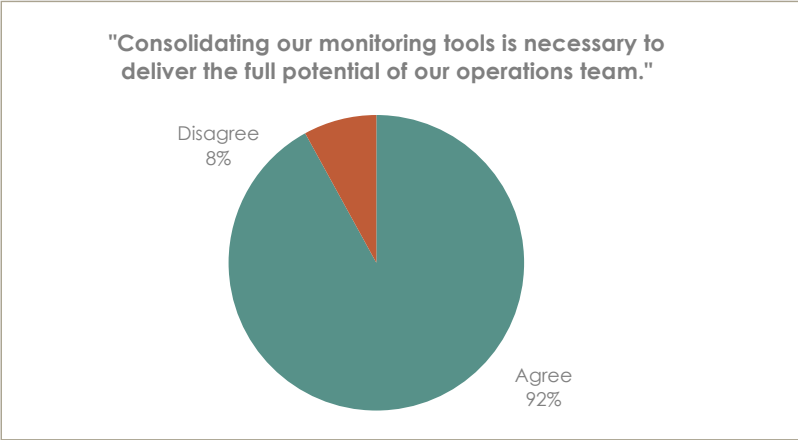| Response	Percentage
No	26%
Yes	74%

www.dimensionalresearch.com

Consolidation efforts are driven by a desire to identify issues faster (78%), reduce costs (76%), improve team collaboration (70%), and minimize downtime (52%). Other motivations mentioned multiple times by participants include a need for better security, a desire to simplify operational complexity, reduce the need for training, and avoiding data silos.

Why is your organization trying to consolidate observability and monitoring tools?
Choose all that apply.

Category	Percentage
Identify issues faster	78%
Reduce costs	76%
Better collaboration between teams	70%
Minimize downtime	52%
Other	5%

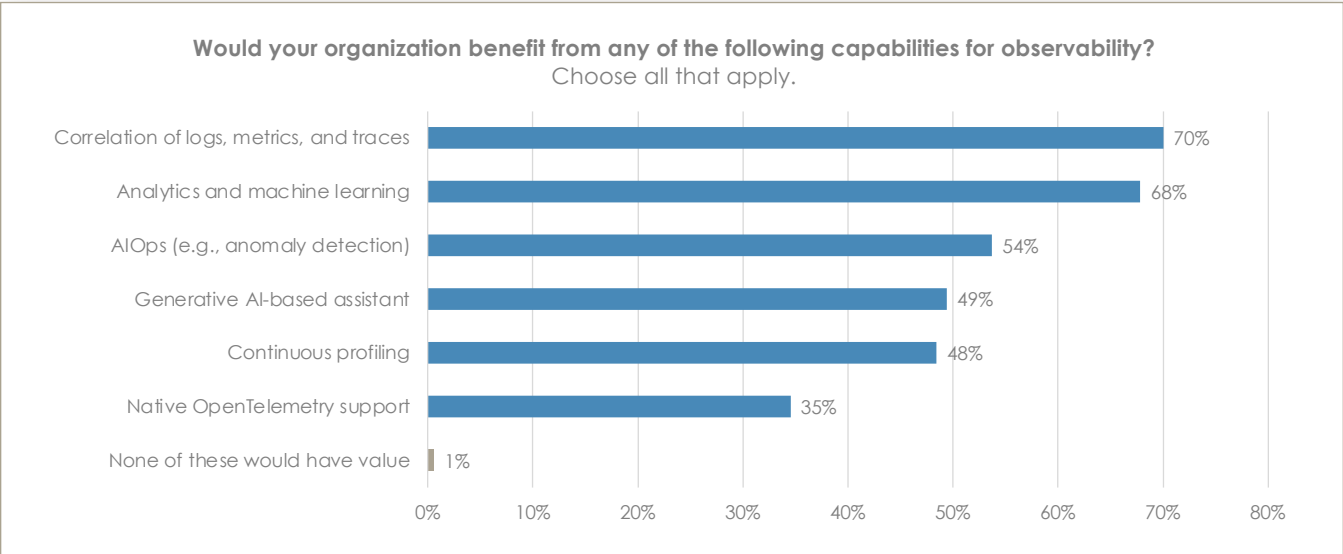n = trying to consolidate observability toolset

Observability stakeholders strongly feel the need to reduce their monitoring toolset, with 92% agreeing that consolidation is necessary to realize their operations' full potential.

"Consolidating our monitoring tools is necessary to deliver the full potential of our operations team."
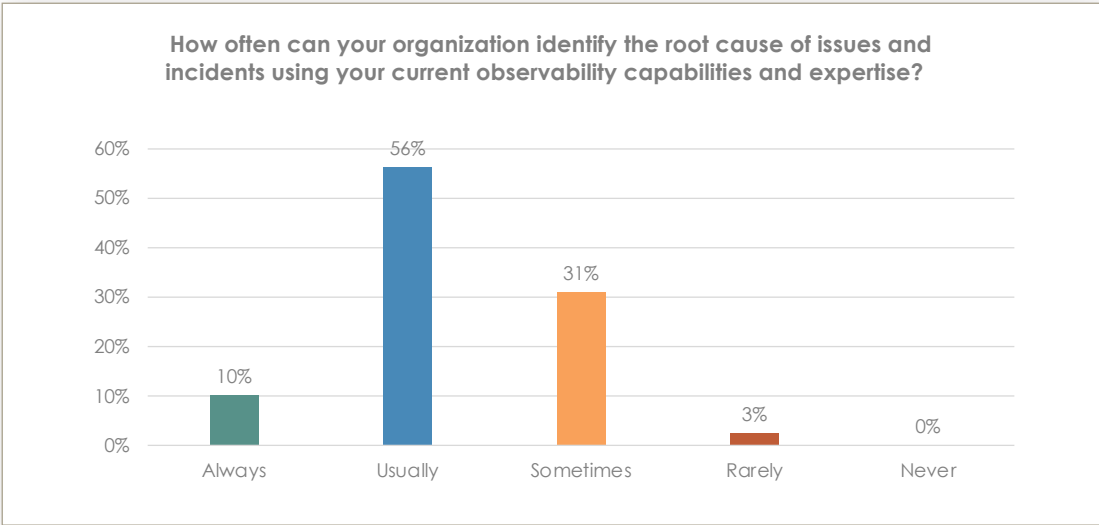
- Disagree: 8%
- Agree: 92%

Additional observability capabilities would add value

The trend towards tool consolidation does not imply that teams responsible for observability have all the capabilities they want. There is a desire for additional functionality, including correlation of logs, metrics, and traces (70%), analytics and machine learning (68%), AIOps (54%), Generative AI-based assistance (49%), continuous profiling (48%) and native OpenTelemetry support (35%). We'll investigate AI and OpenTelemetry more in-depth in the following sections of this report.

Would your organization benefit from any of the following capabilities for observability?
Choose all that apply.

Capability	Percentage
Correlation of logs, metrics, and traces	70%
Analytics and machine learning	68%
AIOps (e.g., anomaly detection)	54%
Generative AI-based assistant	49%
Continuous profiling	48%
Native OpenTelemetry support	35%
None of these would have value	1%

The need for additional capabilities becomes clear when we investigate experiences with root cause analysis. Despite the many benefits that observability investments have provided, organizations still struggle to identify the root cause of issues and incidents. Only 10% report that they can always find the source of an issue.

How often can your organization identify the root cause of issues and incidents using your current observability capabilities and expertise?

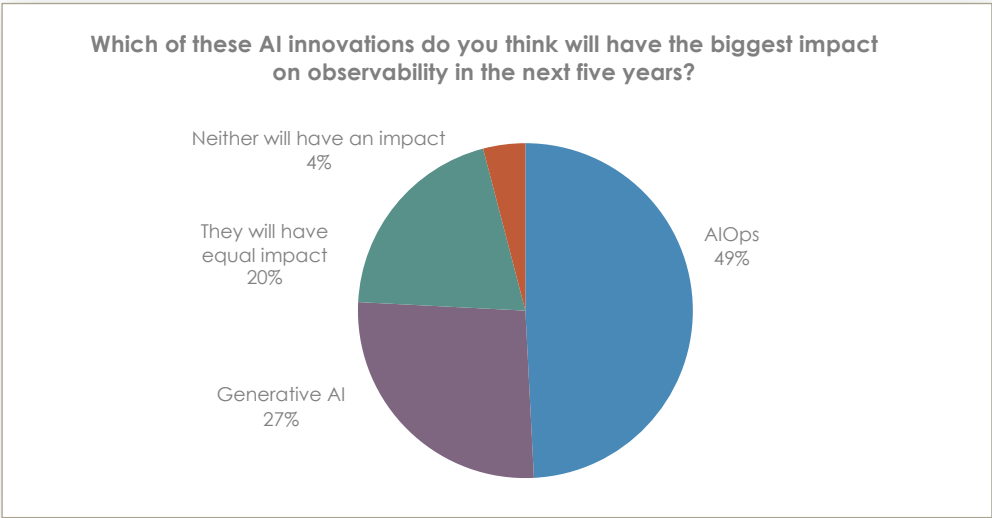| Always	Usually	Sometimes	Rarely	Never
10%	56%	31%	3%	0%

www.dimensionalresearch.com

Detailed Findings: AI is expected to positively change the future of observability
AI innovations will impact observability within the next five years

AI is impacting every area of technology, and observability is no exception. AI is relevant to observability along two major vectors: AIOps and Generative AI. AIOps promises to identify and correlate issues, accelerate root cause analysis, and resolve problems faster with improved AI capabilities. Generative AI allows the industry to leverage the power of LLMs (large language models) to bring about AI-powered observability. Definitions were provided to participants to ensure a consistent understanding of the terms:

- **AIOps** – Applying AI techniques such as machine learning and analytics to analyze increasingly large sets of IT operational data to identify and correlate issues to find root causes and resolve problems faster
- **Generative AI** – Using interactive chat-based large language models (LLMs), typically augmented with internal data sources, to provide analysis and suggested actions in easily understood natural language

Observability stakeholders are consistent (96%) in expecting AI innovations to impact observability in the next five years. Currently, AIOps is more of a near-term reality for this audience, with half (49%) expressing the opinion that they expect AIOps will have a more significant impact than Generative AI.

Which of these AI innovations do you think will have the biggest impact on observability in the next five years?

- Neither will have an impact 4%
- They will have equal impact 20%
- AIOps 49%
- Generative AI 27%

AI is already influencing observability tool evaluation and selection

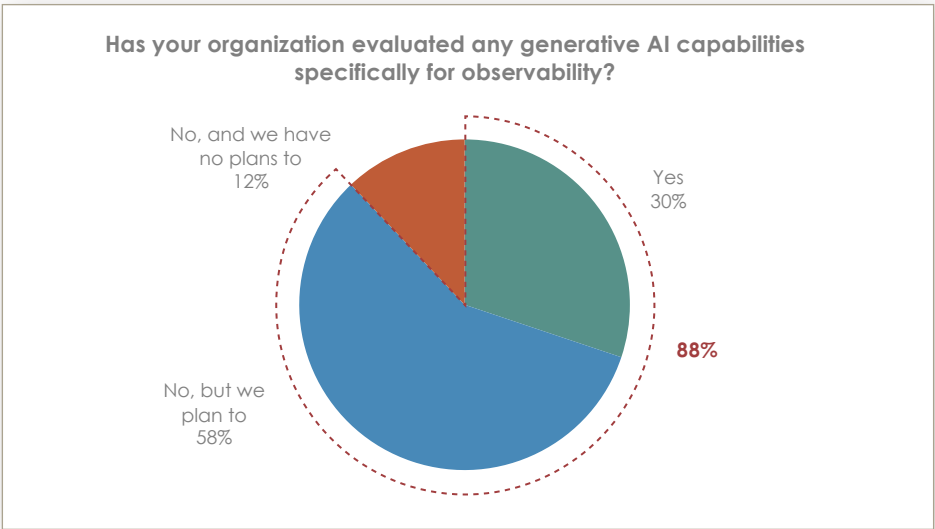Observability stakeholders are thinking about how AI capabilities could deliver results. We saw above that 54% would benefit from AIOps capabilities like anomaly detection, and 49% see value in generative AI-based assistants for observability.

Does your organization consider AIOps capabilities when evaluating observability solutions?

Response	Percentage
We require AIOps capabilities	15%
We prefer AIOps capabilities, but it's not a requirement	48%
We don't consider AIOps capabilities now, but expect to in the future	35%
We don't care about AIOps capabilities, now or in the future	3%

63%

AI capabilities are already being factored into tool selection choices, with 63% reporting that they currently require (15%) or prefer (48%) AIOps capabilities, and a further 35% expect those capabilities to be a consideration in the future. Similarly, 88% think about evaluating generative AI capabilities specifically for observability, including almost a third (30%) who have already evaluated it.

Has your organization evaluated any generative AI capabilities specifically for observability?

- No, and we have no plans to 12%
- Yes 30%
- No, but we plan to 58%

88%

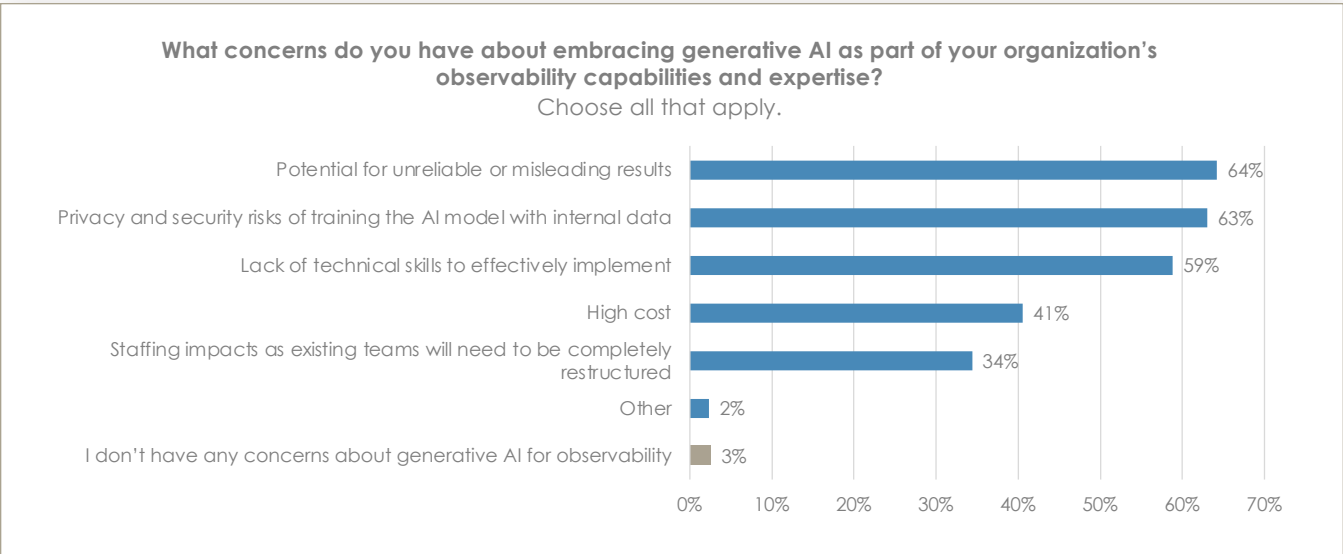## Observability stakeholders are typically positive about AI, although there are concerns

This data shows that AI affects observability, but what is the impact on the people working to deliver effective observability practices for their organizations? On a personal level, there is good news. Observability stakeholders are mostly (78%) positive about the potential of AI, including a quarter (27%) who characterize their feelings as excited and half (51%) who say they are curious. Only 7% report that their primary emotion is concern.

Which of the following best represents your feelings about how AI (Generative AI, or other AI technology) will impact you professionally?

Category	Value
Excited	27%
Curious	51%
Neutral	15%
Concerned	7%
Terrified	0.4%

(78% highlighted across Excited + Curious)

These positive feelings about AI are not naive. Observability stakeholders have practical concerns about AI. We specifically asked about generative AI for this study and found that 97% report that they are concerned about embracing generative AI as part of their organization's observability capabilities and expertise. Top concerns include the potential for unreliable or misleading results (64%), privacy and security risks that come from training an AI model with internal data (63%), lack of technical skills (59%), high cost (41%), and the potential for staffing impacts (34%). The most common concern reported by participants taking time to write in other answers was a lack of trust because Generative AI is still unproven for observability use cases.

What concerns do you have about embracing generative AI as part of your organization's observability capabilities and expertise?
Choose all that apply.

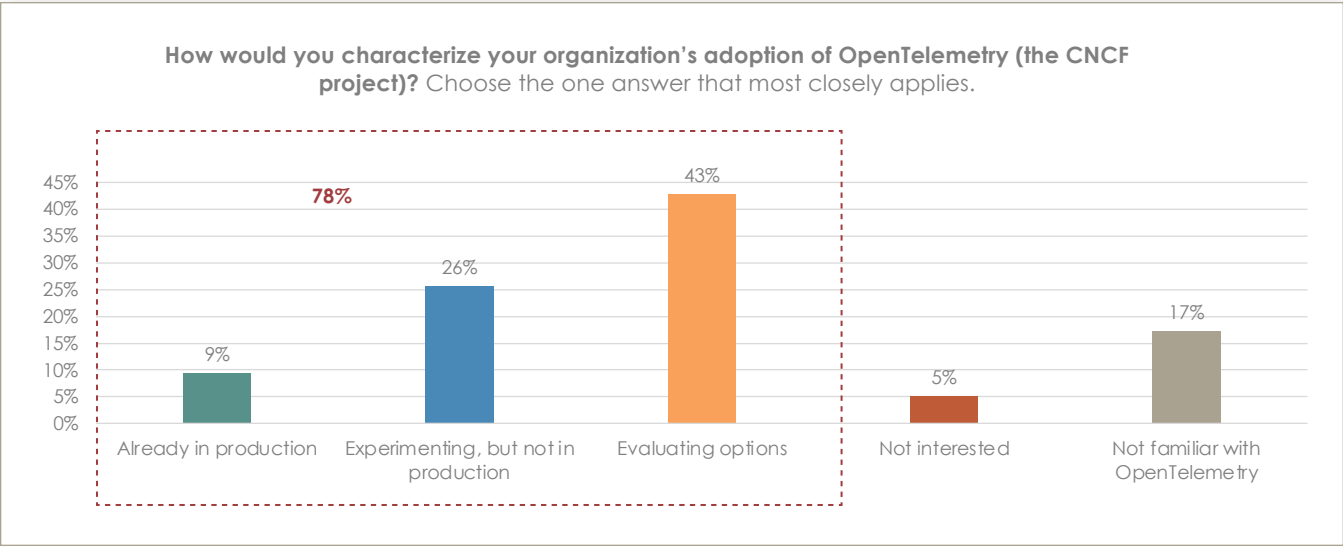| Concern	Value
Potential for unreliable or misleading results	64%
Privacy and security risks of training the AI model with internal data	63%
Lack of technical skills to effectively implement	59%
High cost	41%
Staffing impacts as existing teams will need to be completely restructured	34%
Other	2%
I don't have any concerns about generative AI for observability	3%

Detailed Findings: OpenTelemetry is gaining traction but is still in the early stages

OpenTelemetry is sparking significant interest, but adoption is still early

OpenTelemetry, 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, with open standards that allow it to be used with any observability solution that supports OTel. OpenTelemetry is a Cloud Native Computing Foundation (CNCF) project, and as of the writing of this report, it is the second highest velocity CNCF project[1], behind only Kubernetes.

Given the tremendous velocity of OTel within the CNCF community, this research wanted to explore what that means for the teams responsible for observability in large organizations. Our findings demonstrate that there is already significant interest in OpenTelemetry, but adoption is still very early for most companies.
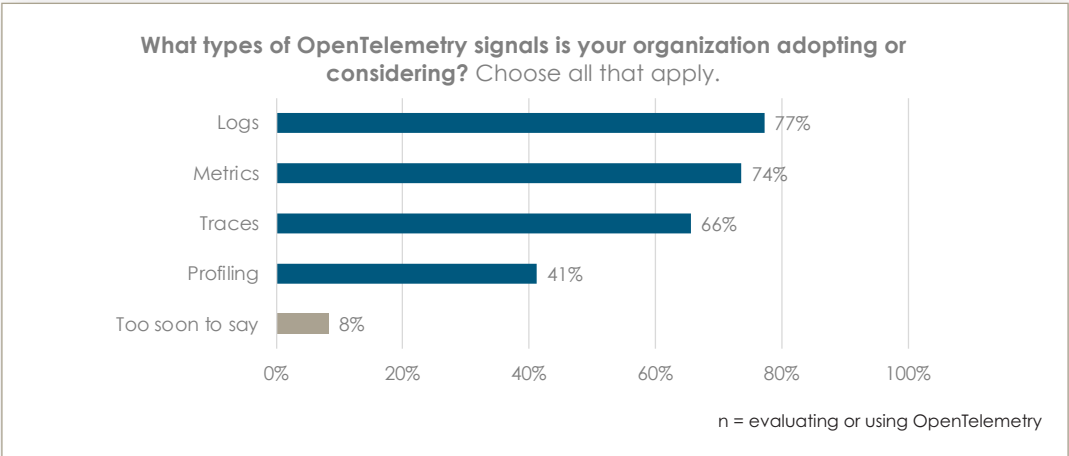
OpenTelemetry has high levels of awareness among enterprise observability stakeholders, with fewer than one in five (17%) indicating that their organizations are unfamiliar with the technology. Interest is very high among those familiar with OpenTelemetry, with more than three in four organizations (78%) indicating that they are either evaluating or using it. However, adoption is a work in progress, with a relatively small number (9%) reporting that they are in production with their OTel initiatives.

How would you characterize your organization's adoption of OpenTelemetry (the CNCF project)? Choose the one answer that most closely applies.

Already in production	Experimenting, but not in production	Evaluating options	Not interested	Not familiar with OpenTelemetry
9%	26%	43%	5%	17%

78% (bracket over Already in production, Experimenting but not in production, and Evaluating options)

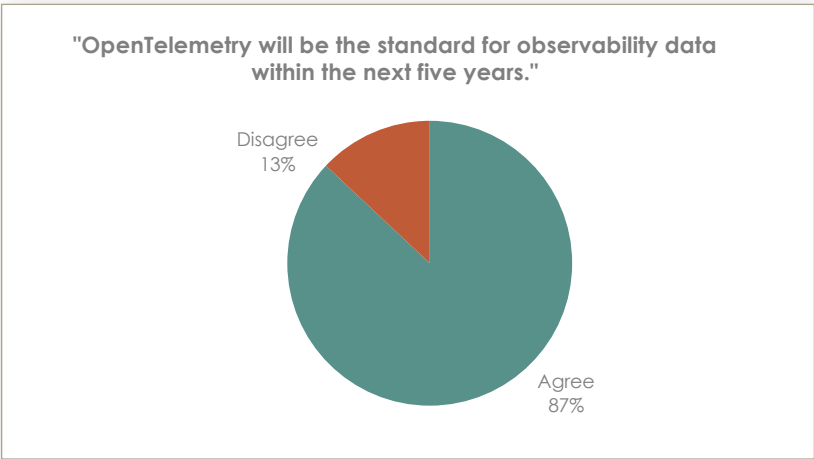[1] Source: https://www.cncf.io/blog/2023/10/27/october-2023-where-we-are-with-velocity-of-cncf-lf-and-top-30-open-source-projects/

Digging further into the details of adoption, we find that among organizations that are using or evaluating OpenTelemetry, the most common signals being adopted or considered are logs (77%), metrics (74%), and traces (66%). The adopted signals are consistent throughout observability maturity, with those evaluating or experimenting reporting similar answers to those in production.

What types of OpenTelemetry signals is your organization adopting or considering? Choose all that apply.

Signal	Percentage
Logs	77%
Metrics	74%
Traces	66%
Profiling	41%
Too soon to say	8%

n = evaluating or using OpenTelemetry

Despite the early nature of OpenTelemetry adoption, there are already high expectations for significant adoption in the future. Among all observability stakeholders in this study, not just those already using or evaluating OpenTelemetry, a large majority (87%) expect that OpenTelemetry will be the standard for observability data within the next five years.

"OpenTelemetry will be the standard for observability data within the next five years."

- Disagree 13%
- Agree 87%

OpenTelemetry adoption faces a range of challenges

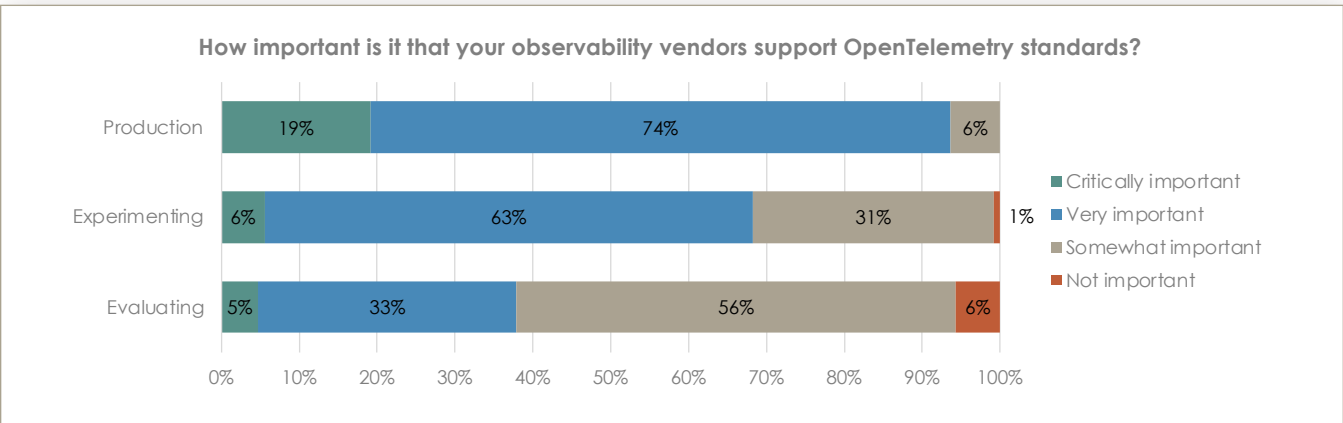New technologies typically have issues during initial adoption, and OpenTelemetry is no exception. Almost all (97%) participants who are evaluating or using OpenTelemetry report that they are experiencing challenges. The top issues reported include concerns about technical support (51%), feeling a need to wait for increased market adoption to move forward (49%), and a lack of leadership understanding of the value (49%).

What challenges does your organization face in adopting OpenTelemetry (OTel)? Choose all that apply.

- Concerns about technical support — 51%
- Waiting for increased adoption in the market — 49%
- The value of OpenTelemetry is not clear to leadership — 49%
- Our observability vendors do not consistently support OTel signals — 43%
- We don't consider OpenTelemetry to be mature enough for our production environment — 32%
- We don't face any challenges with OpenTelemetry — 3%
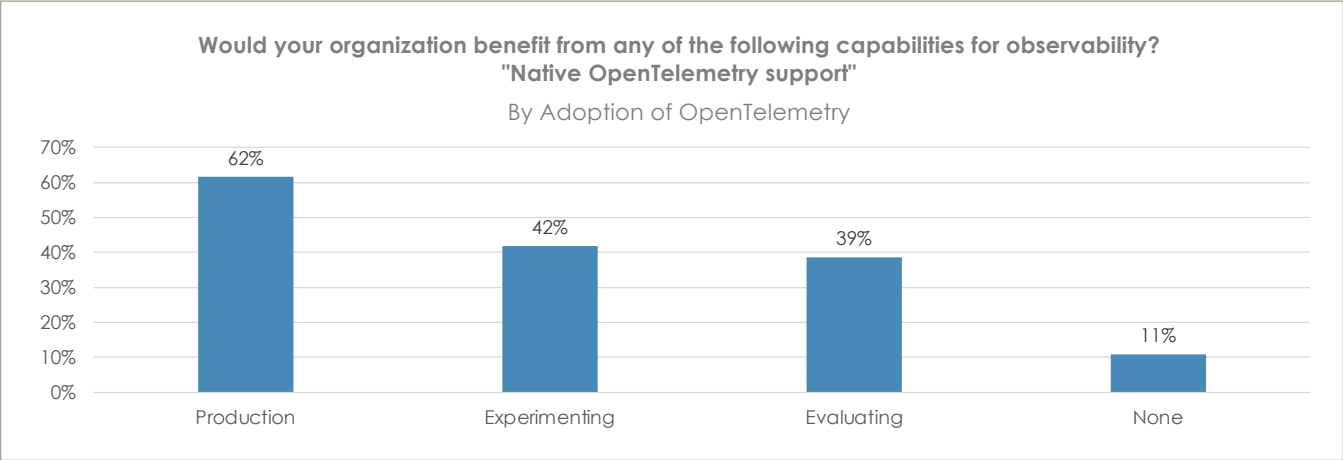
n = evaluating or using OpenTelemetry

Vendor support for OpenTelemetry is needed

As OpenTelemetry adoption increases, this research demonstrates that observability stakeholders will look to vendors for support. The vast majority (94%) of stakeholders with OTel projects in production say that it is critically or very important that their observability vendors support OpenTelemetry standards. This is less important at the beginning of an OTel initiative, as we see that for those still in the evaluation stage, the comparable number is only 38%.

How important is it that your observability vendors support OpenTelemetry standards?

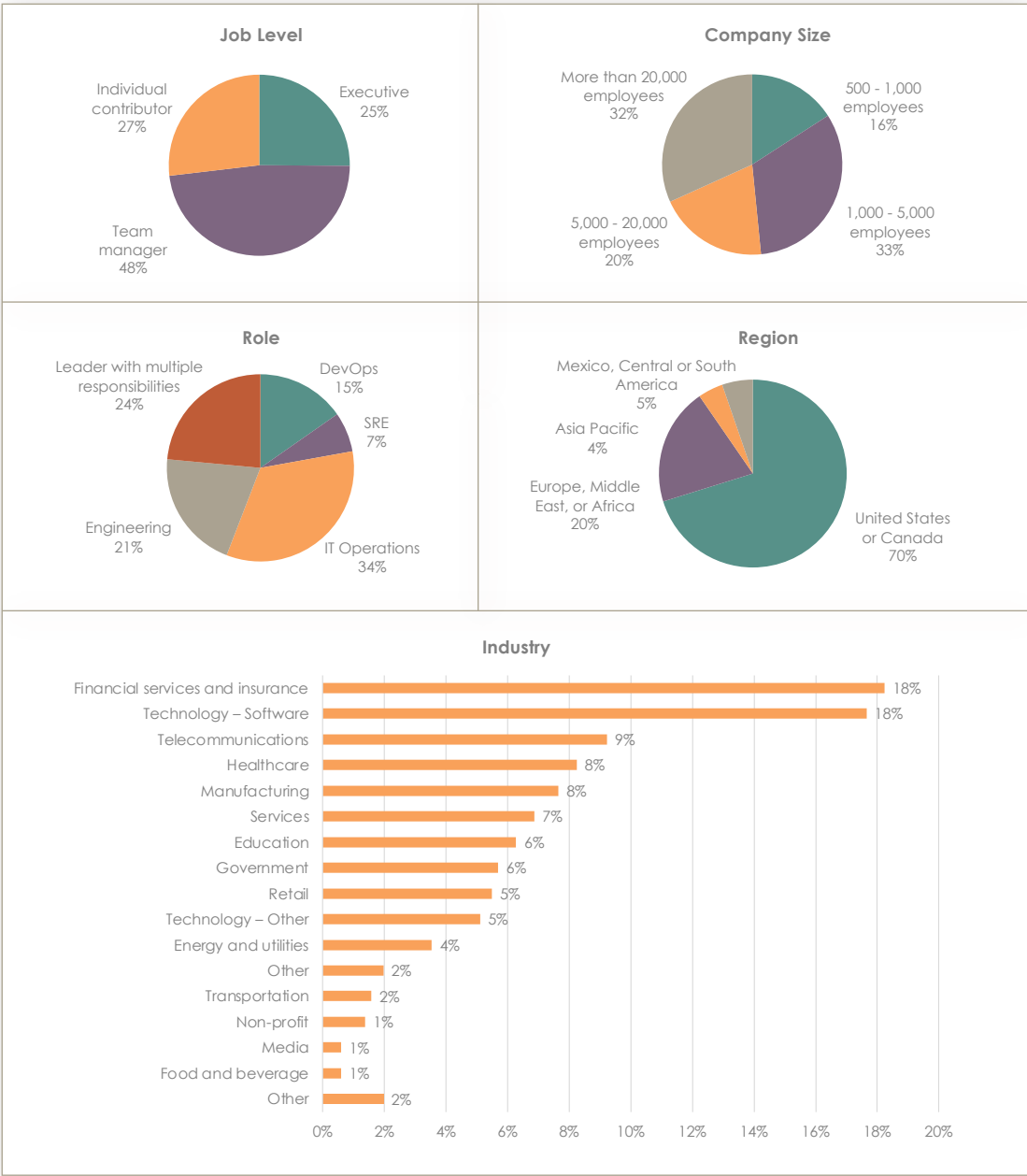|	Critically important	Very important	Somewhat important	Not important
Production	19%	74%	6%	
Experimenting	6%	63%	31%	1%
Evaluating	5%	33%	56%	6%

www.dimensionalresearch.com

Similarly, we see interest in native OpenTelemetry support as a capability within an observability solution increases dramatically as OTel maturity evolves. We saw above that when stakeholders were asked about the capabilities that would benefit their organizations, a third (35%) indicated that native OpenTelemetry support would be helpful, the least popular of all capabilities investigated. However, this number surges to 62% among companies with OTel projects in production, again emphasizing the importance of OpenTelemetry support from vendors for companies with mature implementations.

Would your organization benefit from any of the following capabilities for observability?
"Native OpenTelemetry support"
By Adoption of OpenTelemetry

Production	Experimenting	Evaluating	None
62%	42%	39%	11%

Survey Methodology and Participant Demographics

In January 2024, an online survey was sent to independent sources of technology decision makers. A total of 510 qualified individuals completed the survey. All were responsible for selecting or using observability tools at a company with more than 500 employees. Participants all worked in a DevOps, SRE, IT Operations, or engineering role or managed a team with those responsibilities. Participants represented a wide range of roles, regions, company sizes, industries, and job levels. Certain question options may add up to more than 100% because of rounding.

Job Level

- Executive 25%
- Team manager 48%
- Individual contributor 27%

Company Size

- 500 - 1,000 employees 16%
- 1,000 - 5,000 employees 33%
- 5,000 - 20,000 employees 20%
- More than 20,000 employees 32%

Role

- DevOps 15%
- SRE 7%
- IT Operations 34%
- Engineering 21%
- Leader with multiple responsibilities 24%

Region

- United States or Canada 70%
- Europe, Middle East, or Africa 20%
- Asia Pacific 4%
- Mexico, Central or South America 5%

Industry

Industry	Percentage
Financial services and insurance	18%
Technology – Software	18%
Telecommunications	9%
Healthcare	8%
Manufacturing	8%
Services	7%
Education	6%
Government	6%
Retail	5%
Technology – Other	5%
Energy and utilities	4%
Other	2%
Transportation	2%
Non-profit	1%
Media	1%
Food and beverage	1%
Other	2%

About Dimensional Research

Dimensional Research® provides practical market research for technology companies. We partner with our clients to deliver actionable information that reduces risks, increases customer satisfaction, and grows the business. Our researchers are experts in the applications, devices, and infrastructure used by modern businesses and their customers. For more information, visit dimensionalresearch.com.

About Elastic

Elastic, a leading search analytics company, enables anyone to securely harness search-powered AI to find the answers they need in real-time using all their data, at scale. The Elasticsearch platform helps unleash the potential of businesses and people. Elastic's cloud-based solutions for search, security and observability help businesses deliver on the promise of AI.