

Survey Report



The State of Multi-Cloud Management



Executive Summary

Most companies have adopted hybrid multi-cloud infrastructures. This isn't news. But have they gotten better at managing these heterogenous and complex environments? What challenges have they solved? What new—or continuing—problems are they facing? Virtana commissioned a survey to find out.

Key findings we uncovered include:

Organizations are running a significant portion of their workloads in public and private clouds

- **84%** of respondents have put at least one-quarter of their workloads in the public cloud, and 45% are running more than half their workloads in the public cloud.
- **72%** have more than one-quarter of their workloads in a private cloud, and 33% have more than half their workloads in a private cloud.

Managing multiple instances across multiple CSPs creates complexity

- **83%** are using more than one cloud service provider (CSP).
- **54%** are managing more than eight public cloud instances.

Cloud cost tracking is all over the place

- **73%** said that understanding cloud costs at a detailed level is somewhat or very important.
- **33%** track their costs weekly, and 34% track monthly.
- While IT tracks cloud costs regularly in **89%** of organizations, finance/procurement does so in only **41%**.
- **56%** aren't even trying to consolidate cloud costs from multiple CSPs.

FinOps is not driving consistent levels of accountability

- **98%** of respondents who have a mature FinOps practice said they have controls in place to ensure LOB accountability. But those who are well on their way with FinOps but aren't fully mature are only slightly more likely to have those controls in place compared to those who have just started and even those with no plans for FinOps—79% vs. 74% and 73% respectively—indicating a steep progress curve.

Organizations struggle with cost control, global visibility, and optimization

- **47%** of respondents have difficulty getting a global view of utilization and spend across a hybrid/multi-cloud infrastructure.
- **44%** are concerned with keeping rising costs under control.
- **40%** are challenged with staying optimized/rightsized on an ongoing basis.

Capacity planning is a challenge

- Despite high confidence levels in understanding and managing their hybrid cloud environments, **87%** of respondents are chronically overprovisioned, underprovisioned, or both.

Silos persist

- **73%** of respondents somewhat or strongly agree that their on-premises and different cloud teams work in silos.

Survey participants and methodology

Virtana commissioned an independent research firm to survey 350 IT leaders in the US and the UK during October 2022. Respondents were verified and randomized using global panel service providers, and all surveys were completed online. **100%** of respondents contributed to cloud decisions for their organization. The margin of error for this study is +/- 5.2% at the 95% confidence level.



Findings

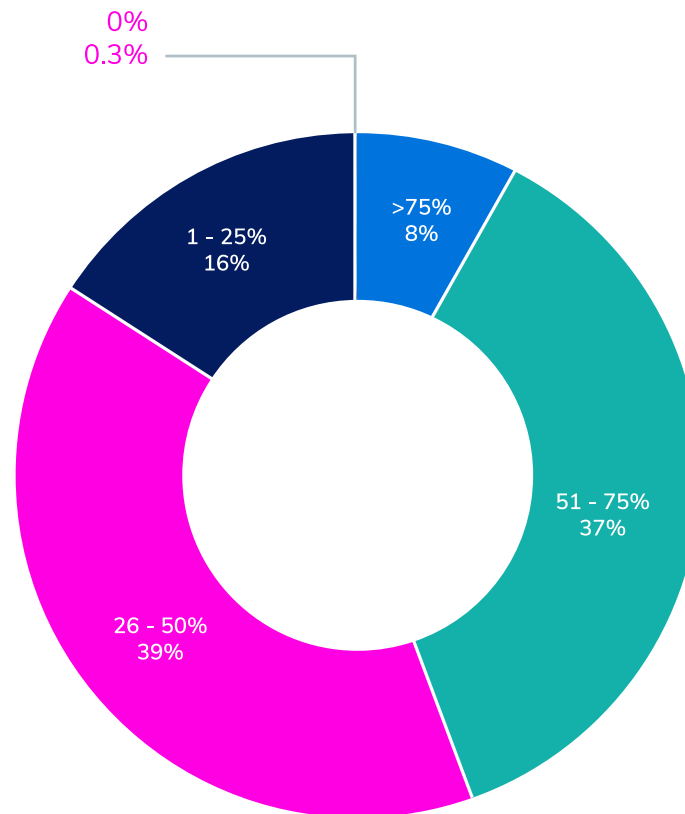
Organizations are running a significant portion of their workloads in public and private clouds

There's no doubt that the public cloud is mainstream — **84%** of respondents said their organizations have put at least one-quarter of their workloads in the public cloud, and **45%** are running more than half their workloads in the public cloud. (Figure 1)

The very largest organizations are far more likely to have **more than three-quarters of their workloads in a public cloud** compared to smaller companies (19% vs. 6–10%).

FIGURE 1

What percentage of your organization's workloads are currently deployed in the public cloud? (n=350)



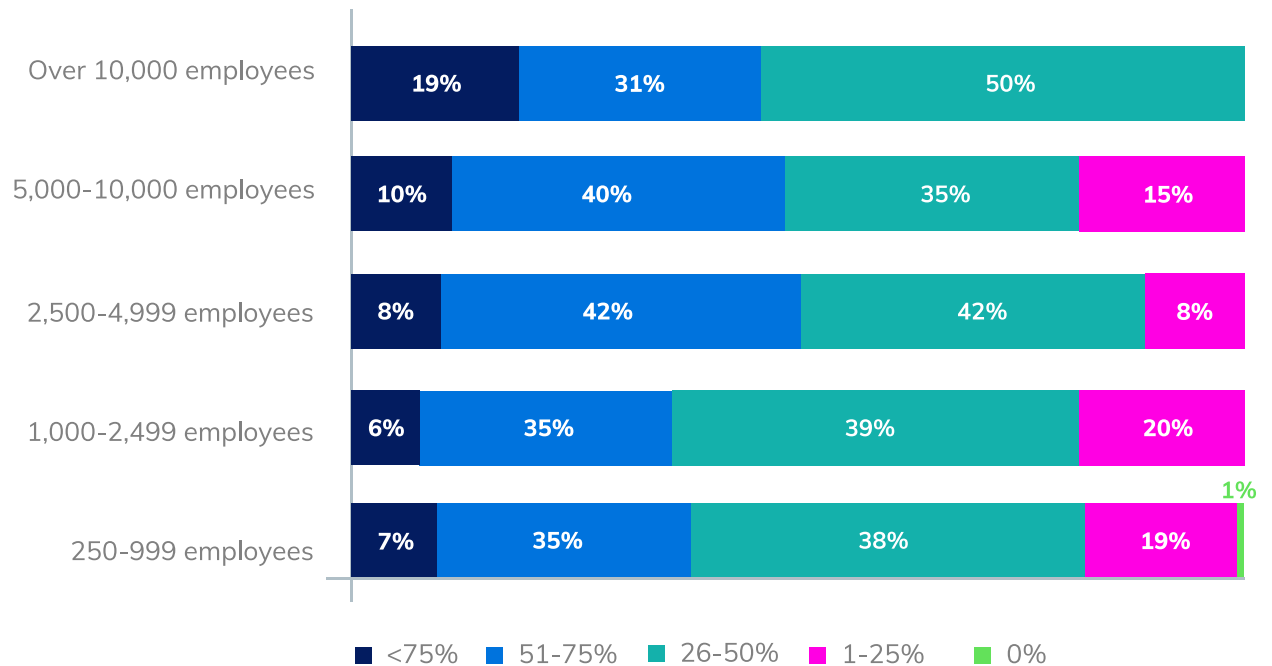


Breaking down the numbers by company size shows that the very largest organizations are far more likely to have more than three-quarters of their workloads in a public cloud compared to smaller companies (**19% vs. 6–10%**). And none of the respondents in those big enterprises have less than one-quarter of their workloads in a public cloud, compared to **8–20%** of companies of all other sizes. (Figure 2)

The very largest organizations are far more likely to have **more than three-quarters of their workloads in a public cloud** compared to smaller companies (19% vs. 6–10%).

FIGURE 2

What percentage of your organization's workloads are currently deployed in a public cloud? (n=350)



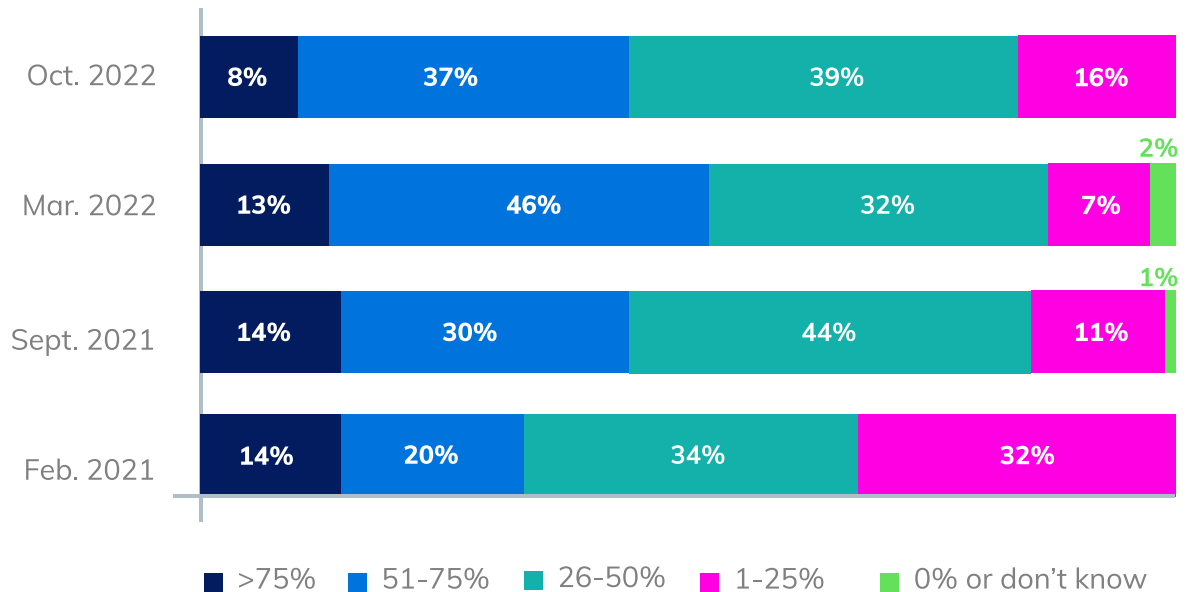


The maturity of the public cloud environment doesn't, however, mean a steady deployment increase. While it's true that the overall number of respondents with less than one-quarter of their workloads has dropped dramatically from **32%** in February 2021, it has gone up slightly to **16%** from a low of **7%** in March. And while the number of organizations with more than three-quarters of their workloads in the public cloud was hovering at a steady **13–14%** from February 2021 to March 2022, that number has dropped to **8%**. (Figure 3) These changes aren't a tectonic shift but show an evolution as companies settle into and refine their public cloud deployments.

The maturity of the public cloud environment doesn't, however, mean a steady deployment increase.

FIGURE 3

What percentage of your organization's workloads are currently deployed in the public cloud?

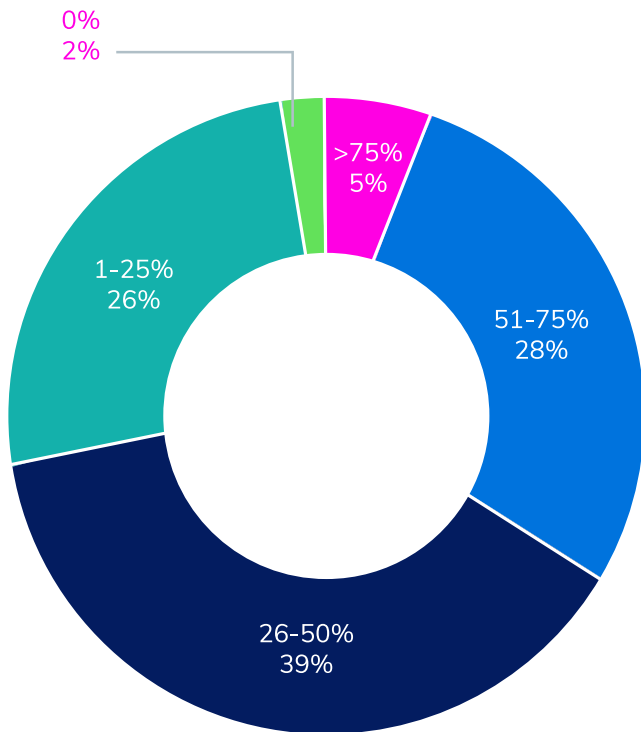




We also asked about private cloud deployments. These numbers are slightly smaller, with **72%** having more than one-quarter of their workloads in a private cloud and **33%** with more than half their workloads in a private cloud. (Figure 4)

FIGURE 4

What percentage of your organization's workloads are currently deployed in a private cloud? (n=350)



Unlike with public cloud deployments, the private cloud numbers have not changed significantly since March. (Figure 5)

FIGURE 5

What percentage of your organization's workloads are currently deployed in a private cloud?

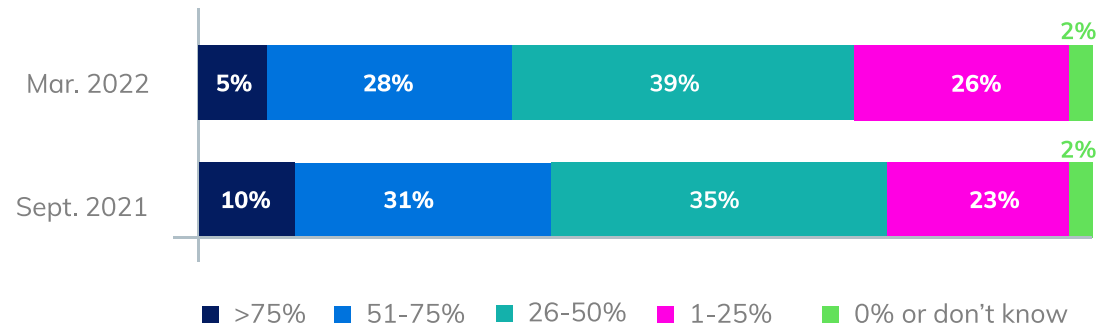
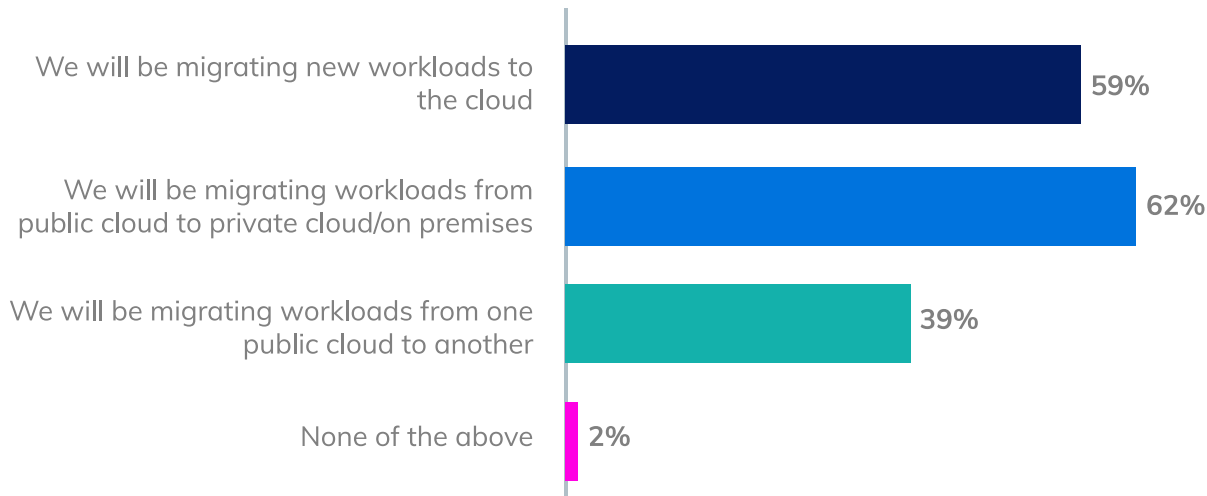




FIGURE 6

What are your plans for future cloud migrations? (n=350)



Organizations have continued migrations in their sights. Close to two-thirds of respondents **(59–62%)** are planning to move workloads between public cloud and on premises/private cloud. Far fewer, however, have plans for cross-cloud migrations—only **39%**. (Figure 6)

Close to two-thirds of respondents **(59–62%)** are planning to move workloads between public cloud and on premises/private cloud.



Managing multiple instances across multiple CSPs creates complexity

The vast majority of respondents (83%) are using more than one cloud service provider (CSP). This number has been steady in the 81–84% range over the course of previous surveys. This time, however, we wanted to dig into more details of the multi-cloud deployments. While 39% are using just two CSPs, a larger number—44%—have workloads deployed in more than three. This, of course, increases the management complexity. (Figure 7) It's no surprise that the most prevalent CSPs are the big three: AWS, GCP, and Azure, with IBM and Oracle coming in a distant second. (Figure 8)

MARCH 2024

How many different public cloud service providers (CSPs) is your organization currently using? (n=350)

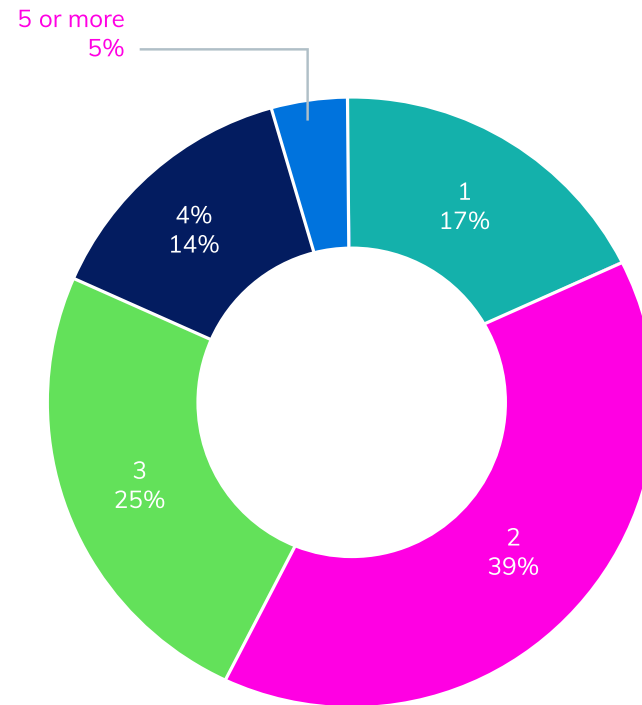
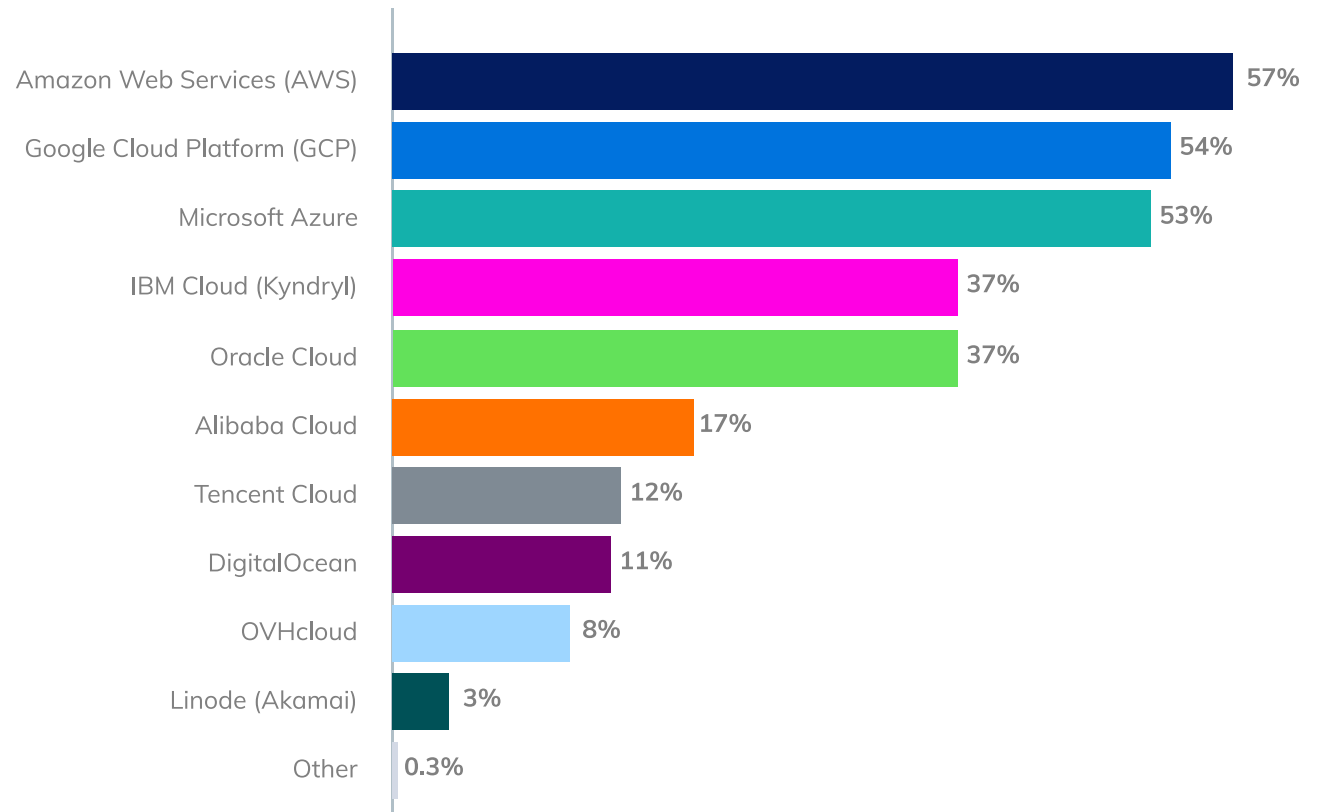




FIGURE 8

Which public CSPs are you using?
(n=350)



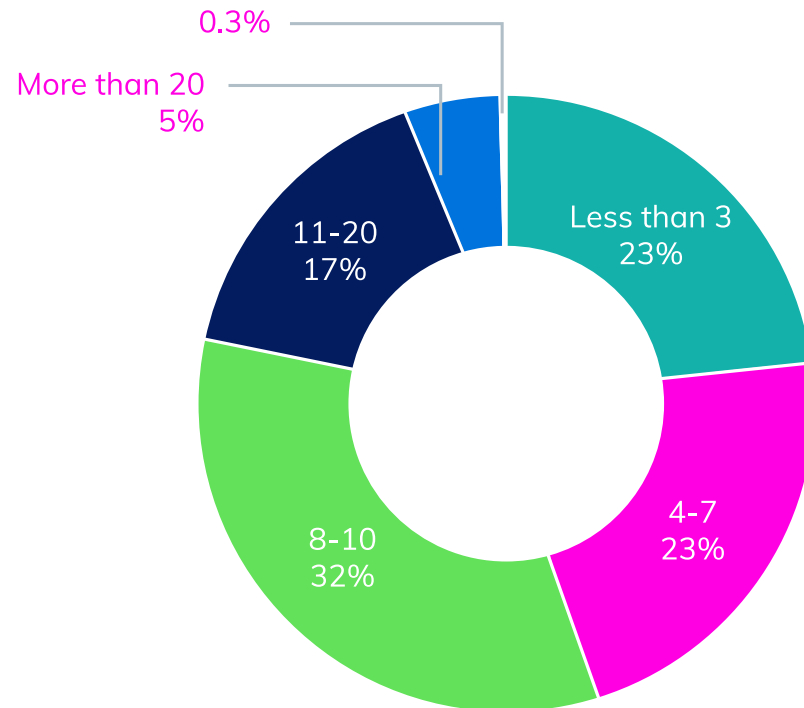


It's not just the number of CSPs that create multi-cloud management complexity—it's also the number of instances you have across those CSPs. More than half of respondents **(54%)** are managing more than eight public cloud instances, and almost one-quarter **(22%)** are using more than 10. **(Figure 9)**

More than half of respondents (54%) are managing more than eight public cloud instances, and almost one-quarter (22%) are using more than 10.

FIGURE 9

How many public cloud instances is your organization using across all CSPs? (n=350)

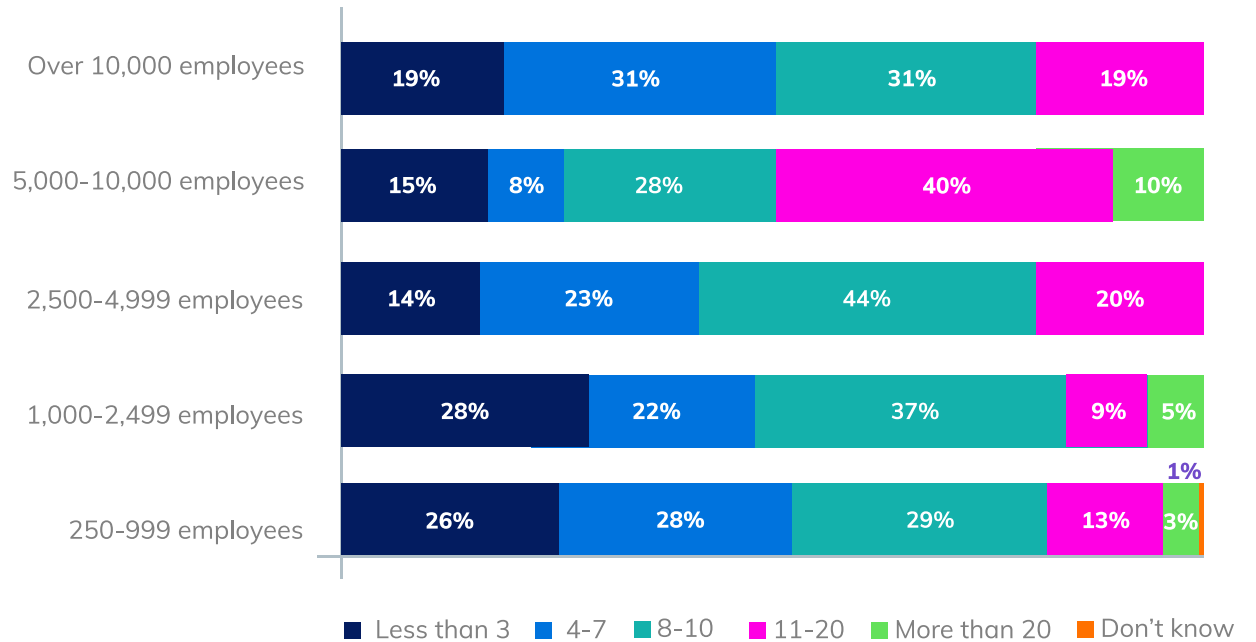




The larger the company, the more public cloud instances are being used, with **50%** of enterprises with more than 5,000 employees using more than 10 instances, compared to **14–20%** of smaller organizations. (Figure 10)

FIGURE 10

How many public cloud instances is your organization using across all CSPs? (n=350)





Cloud cost tracking is all over the place

Most respondents (**73%**) said that understanding cloud costs at a detailed level is somewhat or very important. (Figure 11) Interestingly, smaller businesses—those with less than 2,500 employees—are more likely to say that it's not important (**13–18% vs. 5–8%** of the larger companies). It could be that with fewer cloud instances to manage, they believe it's less important to have granular cost details. (Figure 12)

FIGURE 11

How important is it to your organization to understand your cloud costs at a detailed level? (n=350)

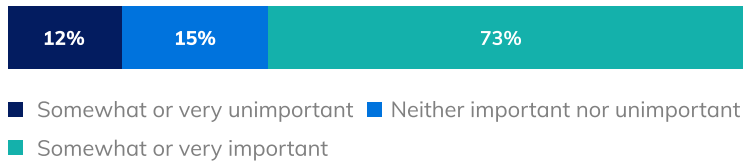
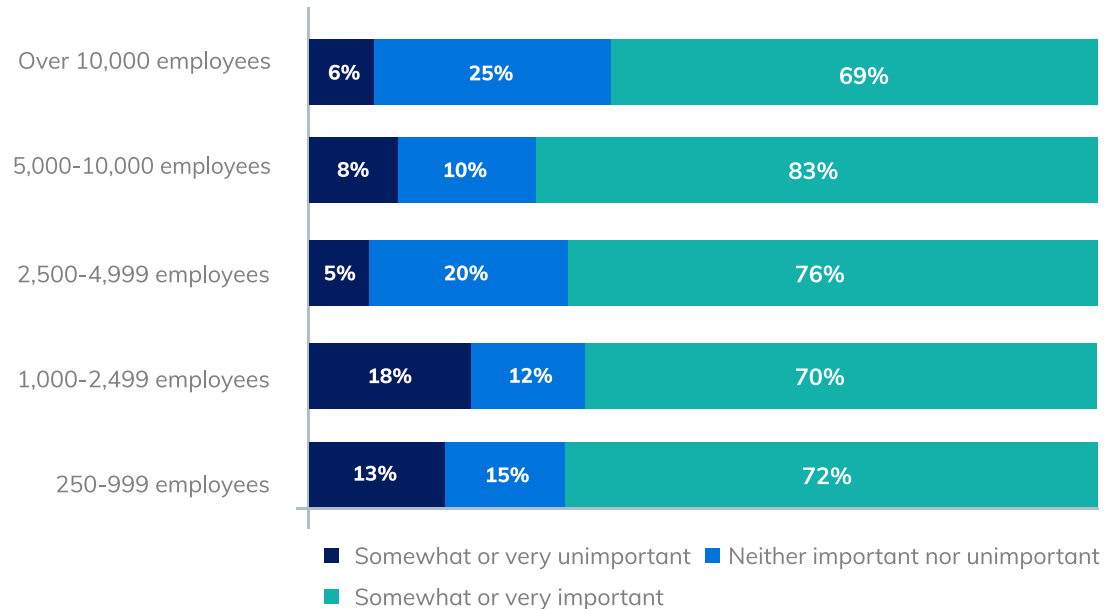


FIGURE 12

How important is it to your organization to understand your cloud costs at a detailed level? (n=350)





When it comes to the frequency of tracking cloud costs, most do so monthly (34%) or weekly (33%). (Figure 13) Frequency of cloud cost tracking does seem to differ by company size. The smaller companies are far more likely to track daily (22%) than the largest enterprises (6%). And while 37% of companies with more than 10K employees track once a quarter or less, that number drops to 12% for companies with 250-999 employees. (Figure 14)

FIGURE 13

How often do you track cloud costs? (n=350)

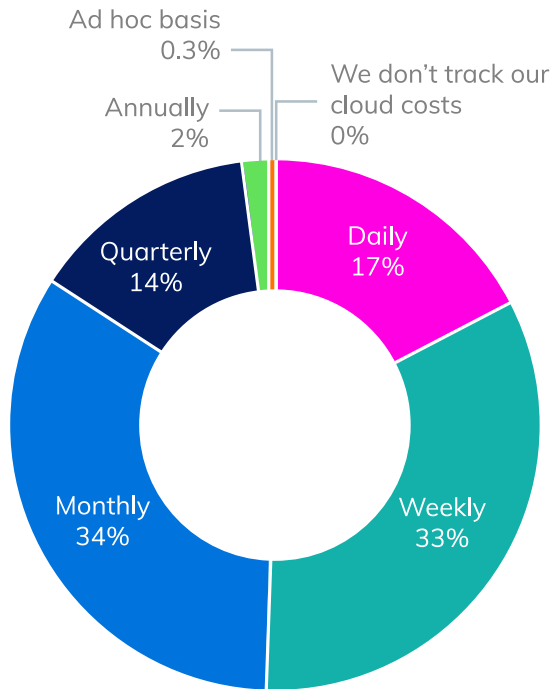
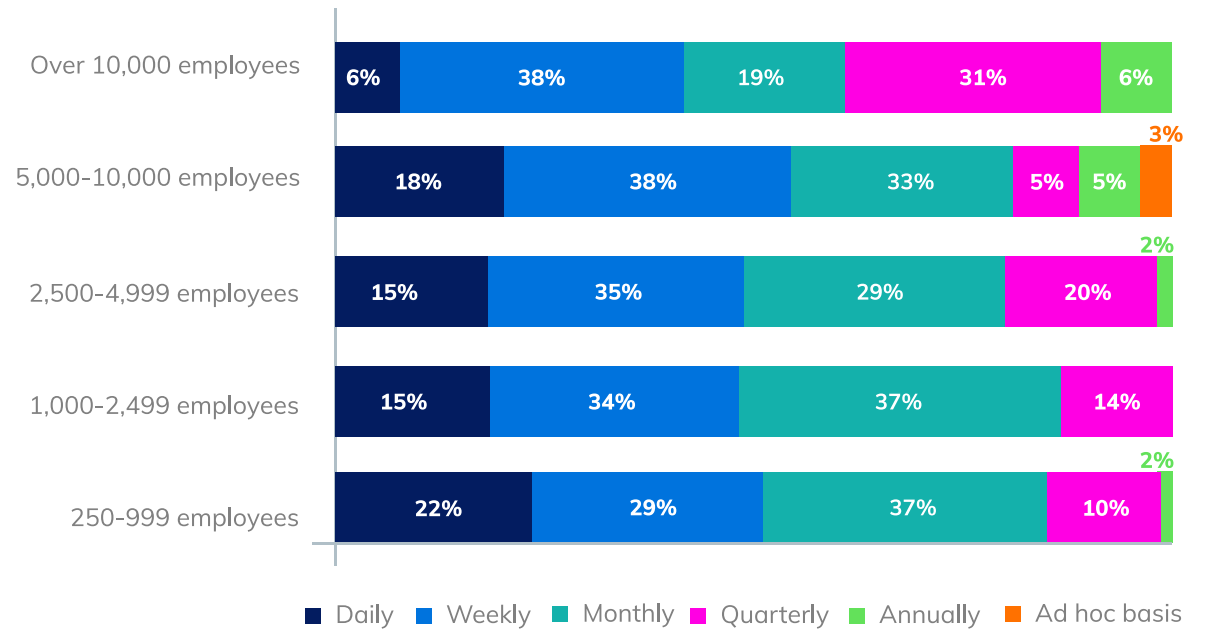


FIGURE 14

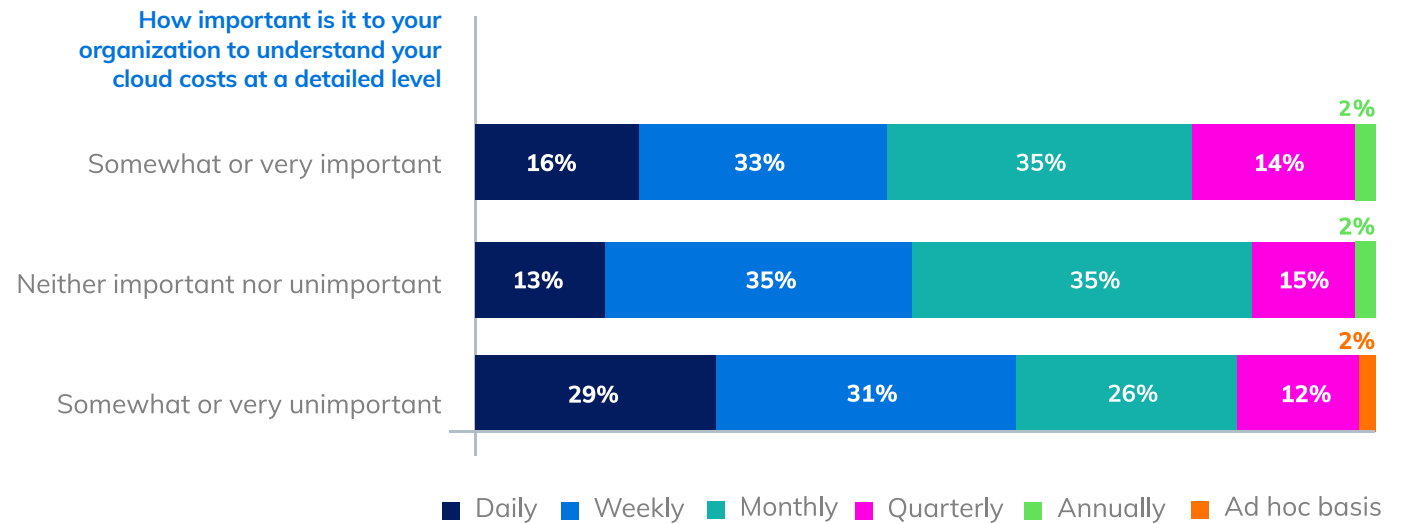
How often do you track cloud costs? (n=350)





Interestingly, respondents who said it's not important to understand cloud costs on a detailed level are far more likely to track those costs daily (29% vs. 16%). (Figure 15)

FIGURE 15
How often do you track cloud costs? (n=350)

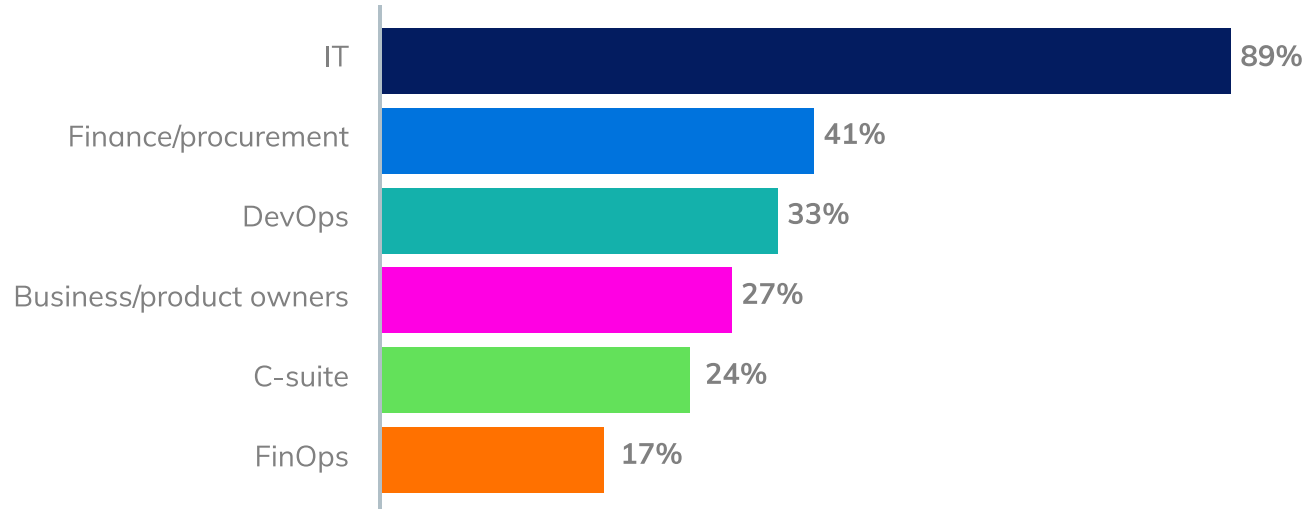




It's not surprising that IT tracks cloud costs regularly in **89%** of organizations. What is surprising, however, is that the number plummets to **41%** for finance/procurement. It's curious that FinOps is at the bottom of the list at only **17%**—more than that below. (Figure 16)

FIGURE 16

Who within your organization tracks cloud costs on a regular basis?
(n=350)

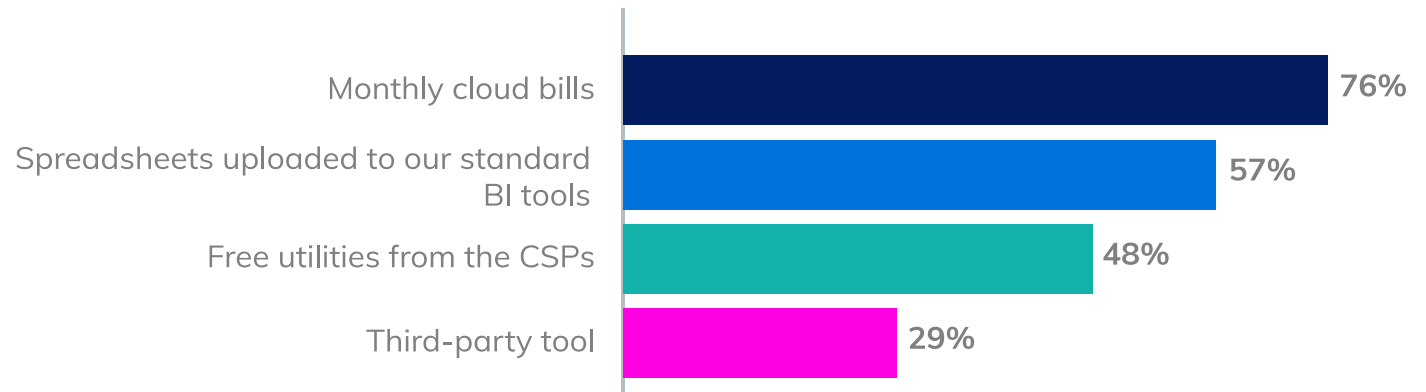




So, how do companies track their cloud costs? Most **(76%)** use their monthly cloud bills, more than half **(57%)** are manually crunching the data in their business intelligence (BI) tools, and slightly less than half **(48%)** are taking advantage of the free tools provided by their CSPs. [\(Figure 17\)](#)

FIGURE 17

Which of the following do you use to track cloud costs?
(n=350)

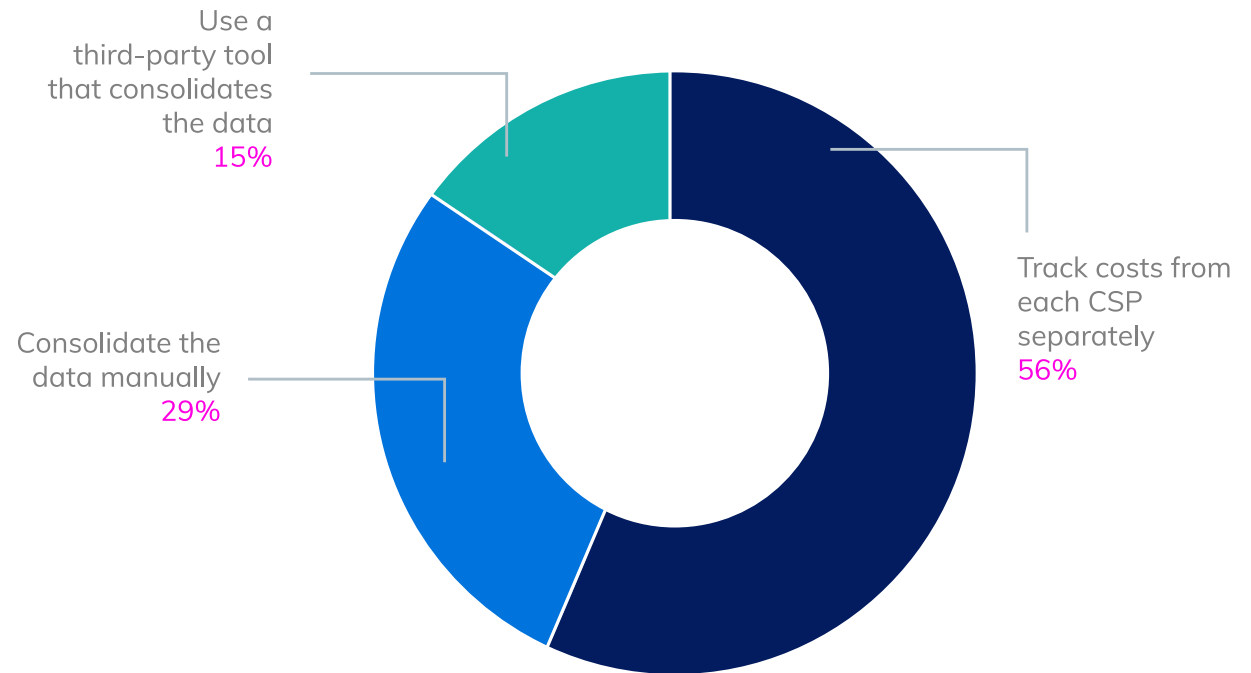




We also wanted to know how companies were tracking costs across multiple CSPs. More than half of respondents **(56%)** aren't even trying to consolidate cloud costs from multiple CSPs. Of the **44%** who are consolidating multi-cloud cost information, two-thirds are doing that work manually. **(Figure 18)**

FIGURE 18

How do you primarily track costs across multiple CSPs? (n=350)





It's interesting to note that **69%** of respondents using five or more CSPs are tracking costs in a siloed way, compared to **54–58%** of those using fewer CSPs. (Figure 19)

FIGURE 19

How do you primarily track costs across multiple CSPs?
(n=350)

How many public cloud instances is your organization using across all CSPs?

5 or more

4

3

2

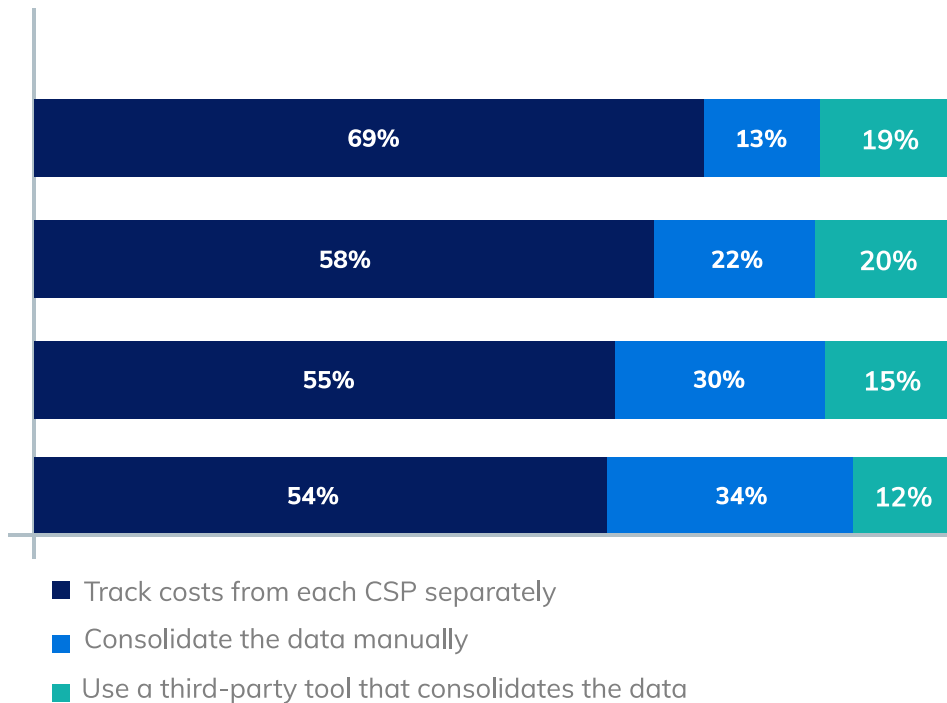




FIGURE 20

How do you typically find out about cost-impacting changes in utilization? (n=350)

The highly dynamic nature of the cloud means changes can drive up costs at any time. The good news is that two-thirds of respondents (**64%**) get real-time alerts based on specified thresholds, which means they can act fast to prevent hefty charges from racking up. **(Figure 20)** This is up from **52%** just one year ago. **(Figure 21)**

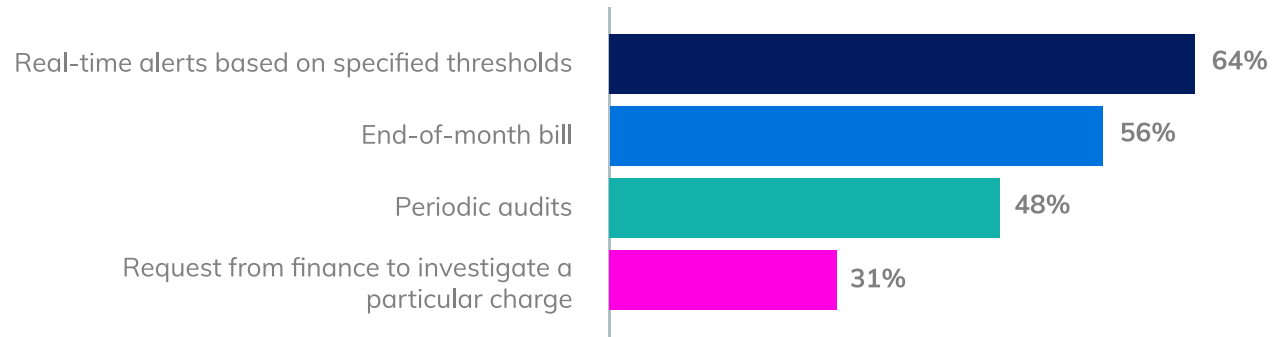
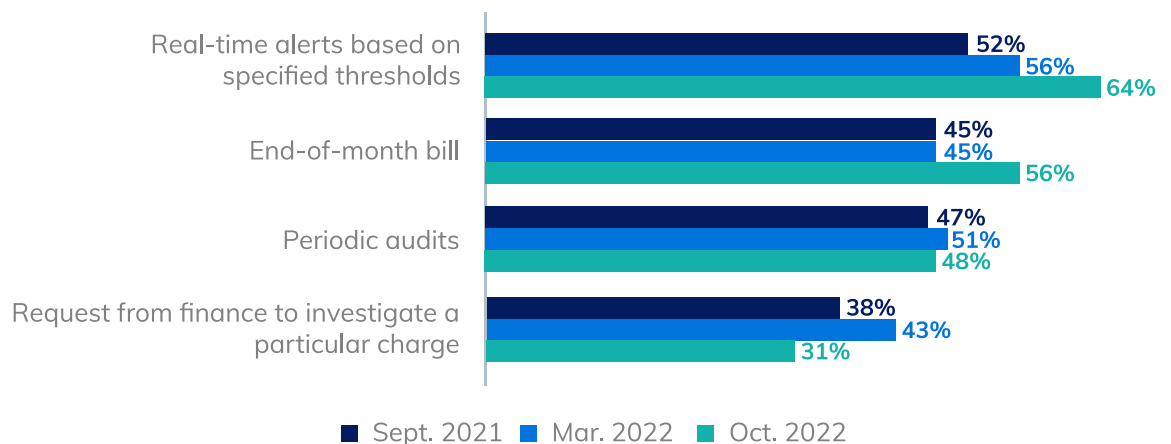


FIGURE 21

How do you typically find out about cost-impacting changes in utilization?



■ Sept. 2021 ■ Mar. 2022 ■ Oct. 2022



Organizations have high levels of confidence that they understand who is responsible for most or all of their cloud charges. (Figure 22) The more frequently an organization tracks cloud costs, however, the more likely they are to know exactly who is responsible for cloud charges. (Figure 23)

FIGURE 22

How well do you understand who is responsible for your cloud charges? (n=350)

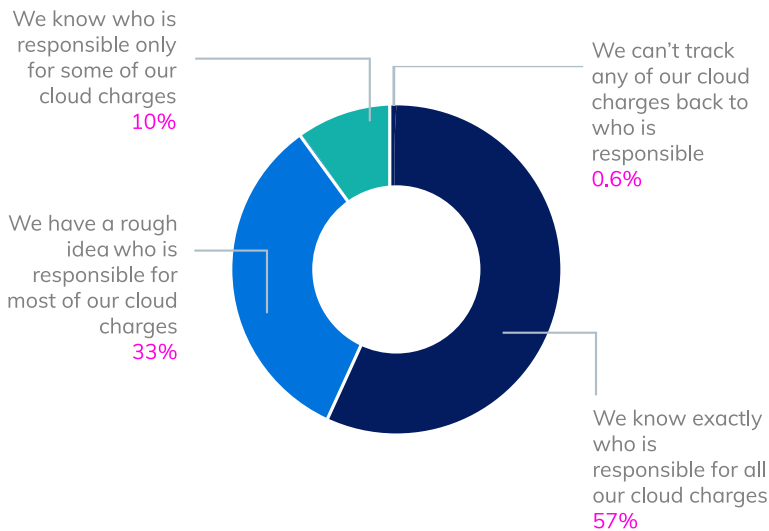
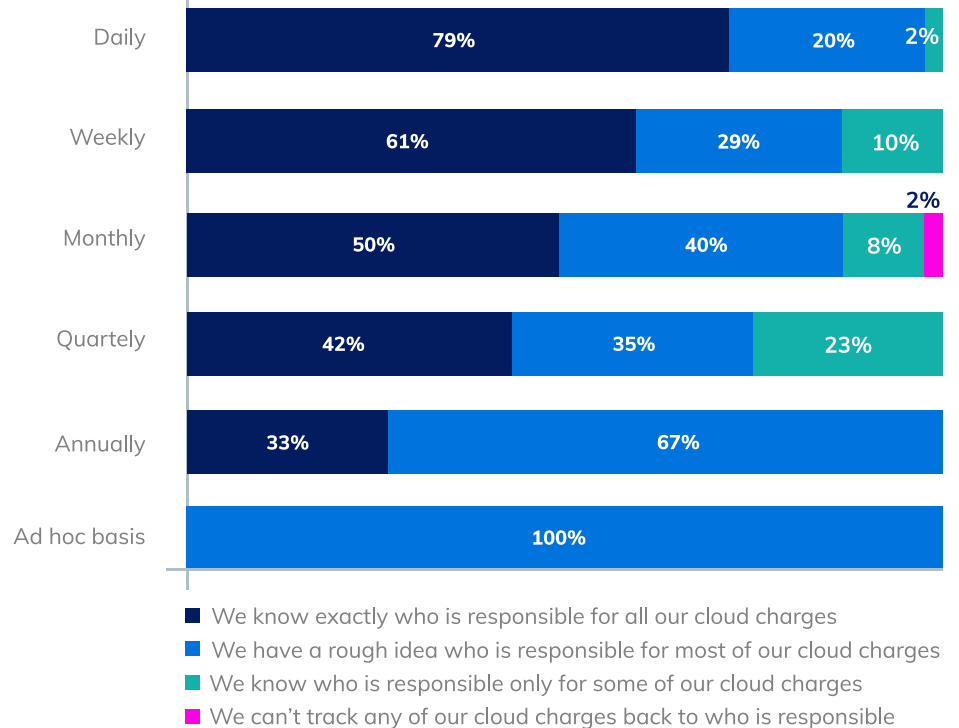


FIGURE 23

How well do you understand who is responsible for your cloud charges? (n=350)

How often do you track cloud costs?





Similarly, respondents overall are highly confident they can easily allocate cloud costs for chargeback, which, of course, requires them to know who is responsible for those costs. (Figure 24) Once organizations have more than 20 cloud instances, however, they are less likely to agree that they can easily allocate cloud costs for chargeback (69% vs. 77–90%). (Figure 25)

Once organizations have more than 20 cloud instances, however, they are less likely to agree that they can easily allocate cloud costs for chargeback (69% vs. 77–90%).

FIGURE 24

We can easily allocate cloud costs for a chargeback (n=350)

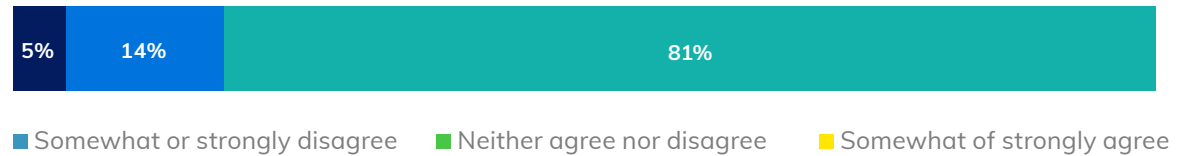
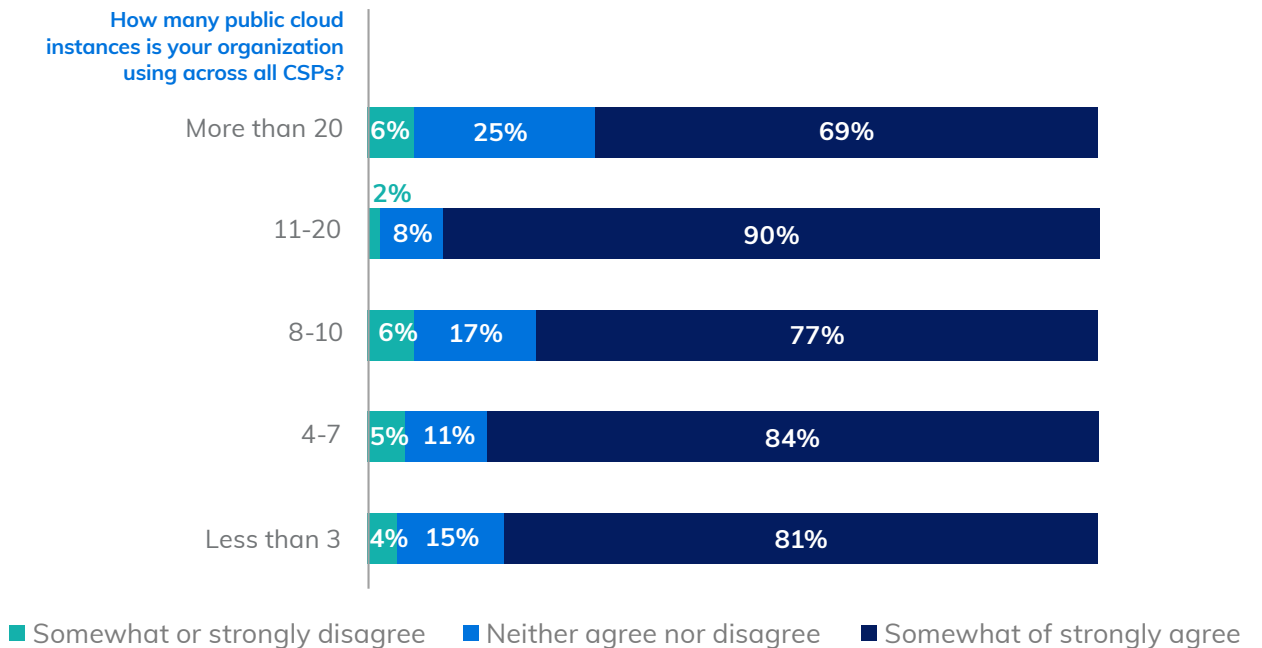


FIGURE 25

We can easily allocate cloud costs for chargeback (n=350)





FinOps is not driving consistent levels of accountability

When it comes to FinOps—an approach to bring financial accountability to the variable spend model of the cloud, enabling all teams to make business trade-offs between speed, cost, and quality—only **24%** of respondents said they have a mature program in place, up from **18%** in March. But another 38% have moved beyond the early stages, meaning nearly two-thirds (**62%**) have solid, established FinOps practices. (Figure 26, Figure 27) But we saw above in Figure 16 that only **17%** of respondents reported that FinOps tracks cloud costs regularly in their organizations. Why is the number so low? Do they not have the capabilities to get accurate, timely information? Are they more focused on planning/procurement rather than on incurred costs?

FIGURE 26

How would you characterize your organization's approach to FinOps? (n=350)

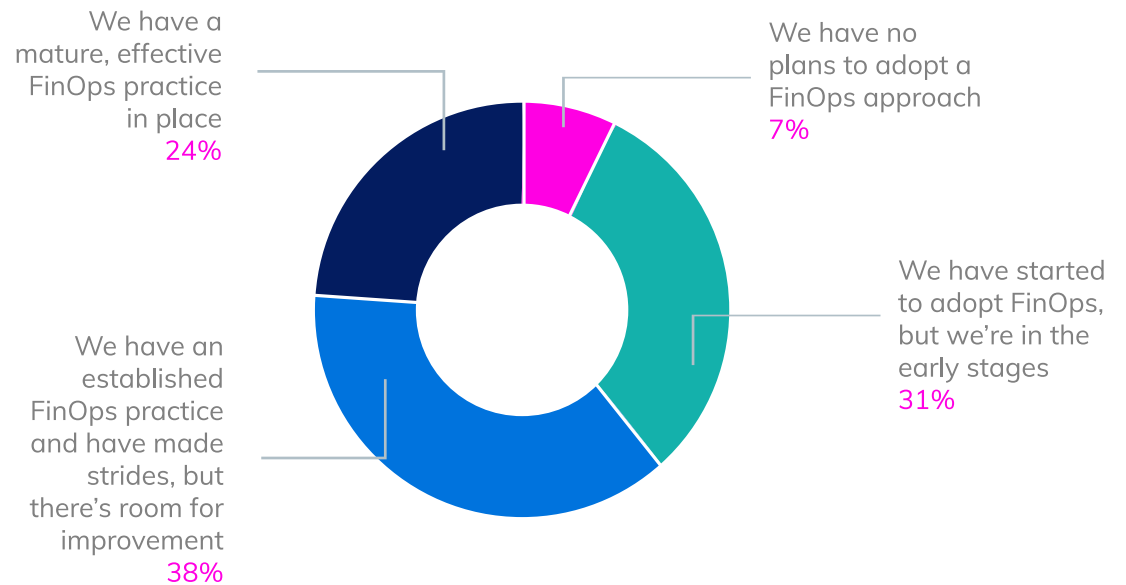
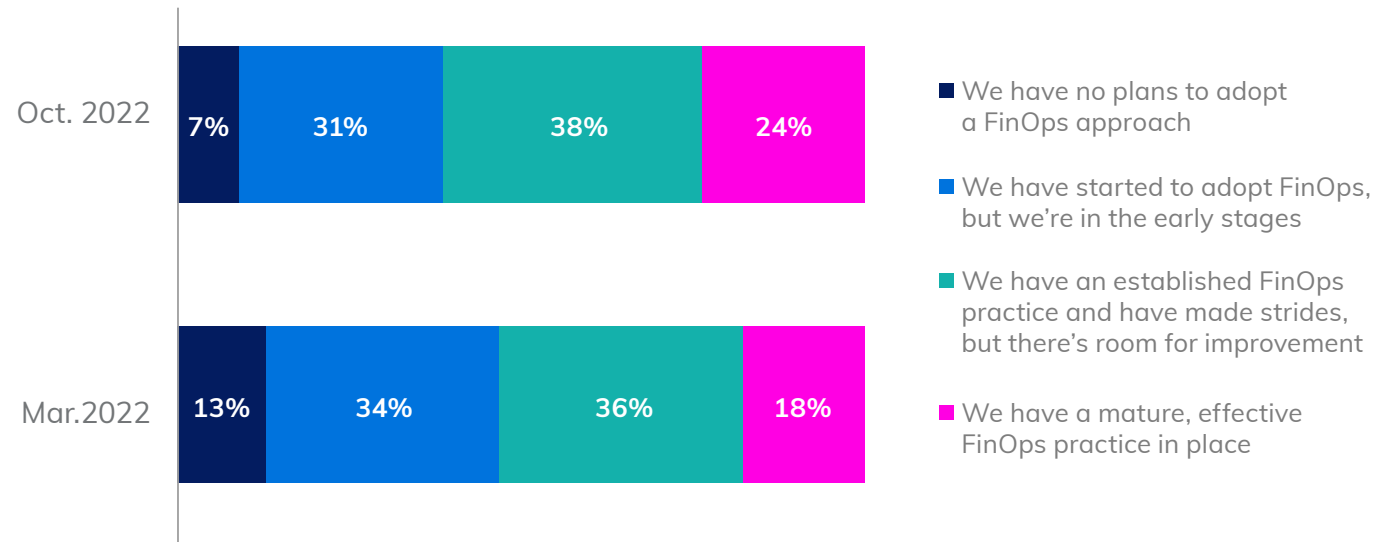




FIGURE 27

How would you characterize your organization's approach to FinOps?

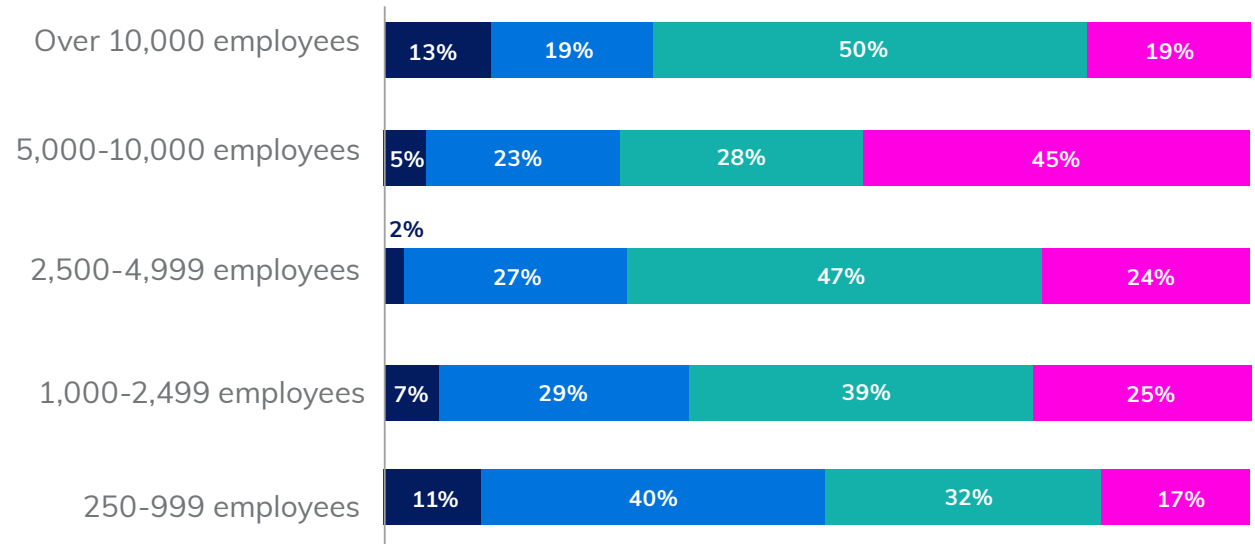




The larger the company, the more likely it is to have already started its FinOps journey. But organizations in the **5K-10K** employee range are far more likely to have a mature practice in place compared to enterprises with more than **10K** employees, which could be due to size and complexity within the latter group. (Figure 28)

FIGURE 28

How would you characterize your organization's approach to FinOps?
(n=350)



- We have no plans to adopt a FinOps approach
- We have started to adopt FinOps, but we're in the early stages
- We have an established FinOps practice and have made strides, but there's room for improvement
- We have a mature, effective FinOps practice in place



Most respondents (82%) are confident they have controls to keep LOBs accountable for cloud costs. (Figure 29) However, respondents at the largest companies are significantly less certain about having controls in place to hold LOBs accountable than their counterparts in smaller organizations (63% vs. 81– 86%). (Figure 30) And the more frequently an organization tracks cloud costs, the more likely they are to also have controls in place to ensure LOB accountability. (Figure 31)

Most respondents (82%) are confident they have controls to keep LOBs accountable for cloud costs.

FIGURE 29

Controls are in place to ensure LOBs are accountable for cloud costs

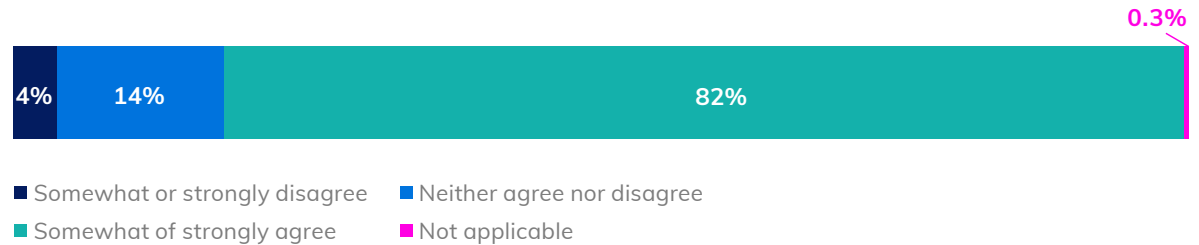


FIGURE 30

Controls are in place to ensure LOBs are accountable for cloud costs

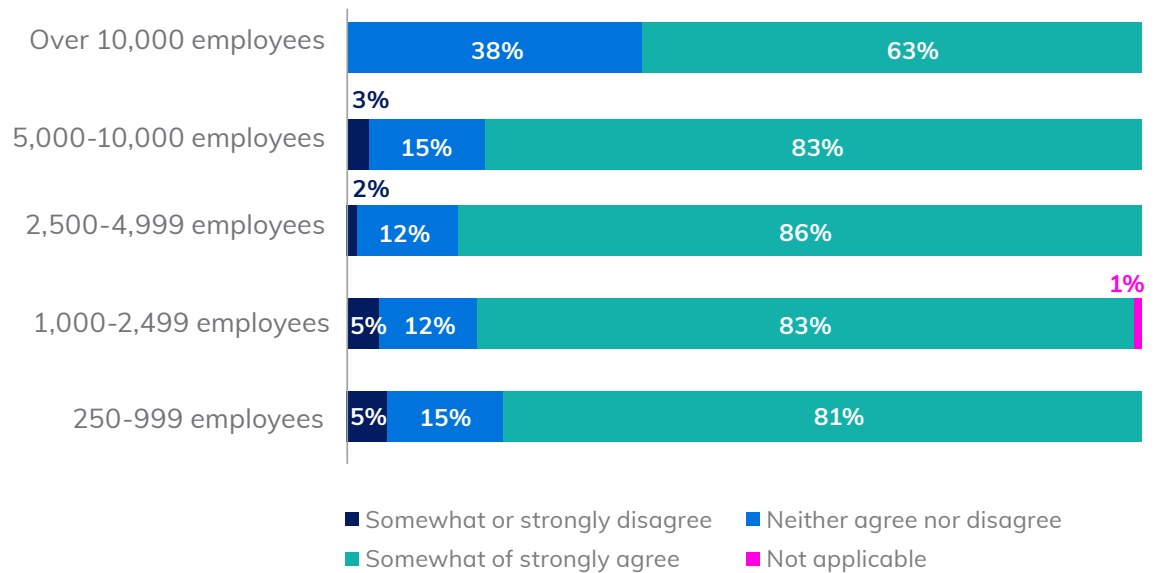
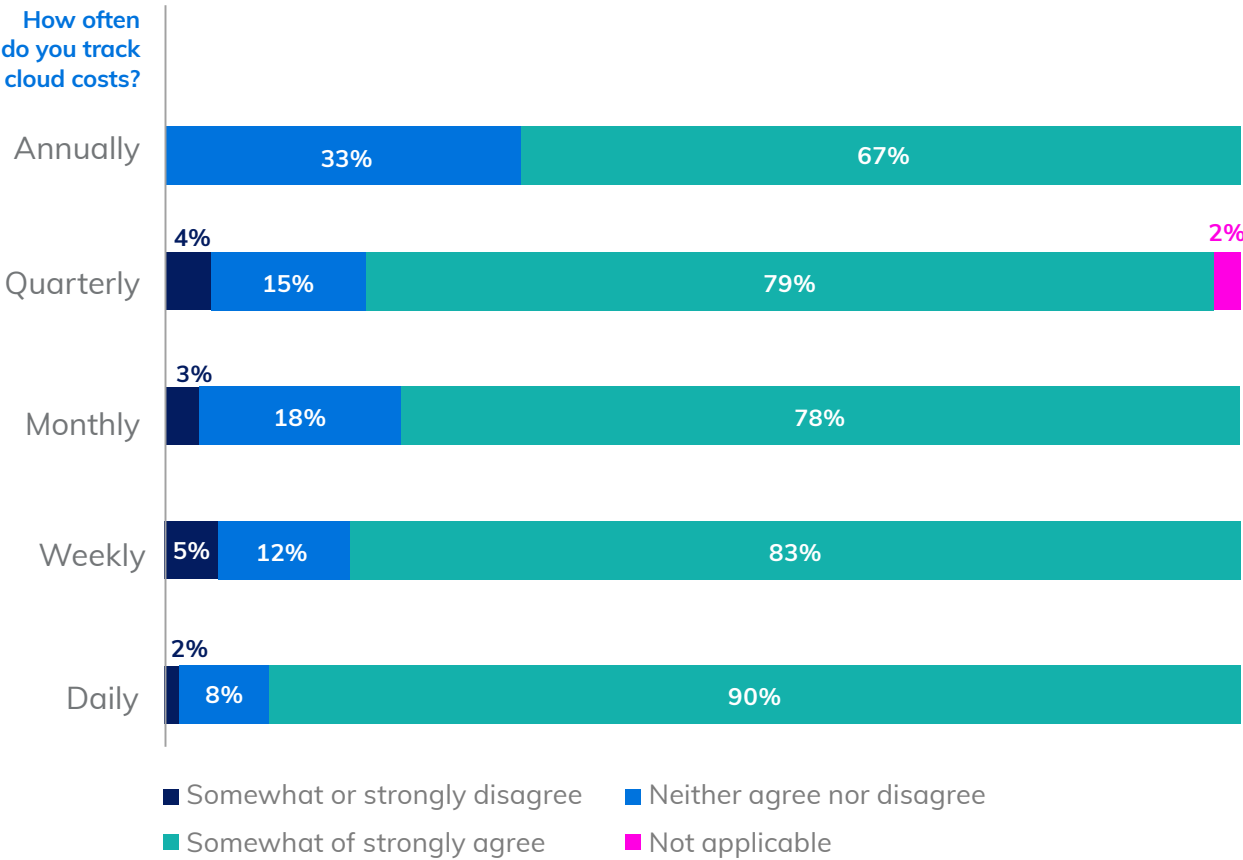




FIGURE 31
Controls are in place to ensure LOBs are accountable for cloud costs



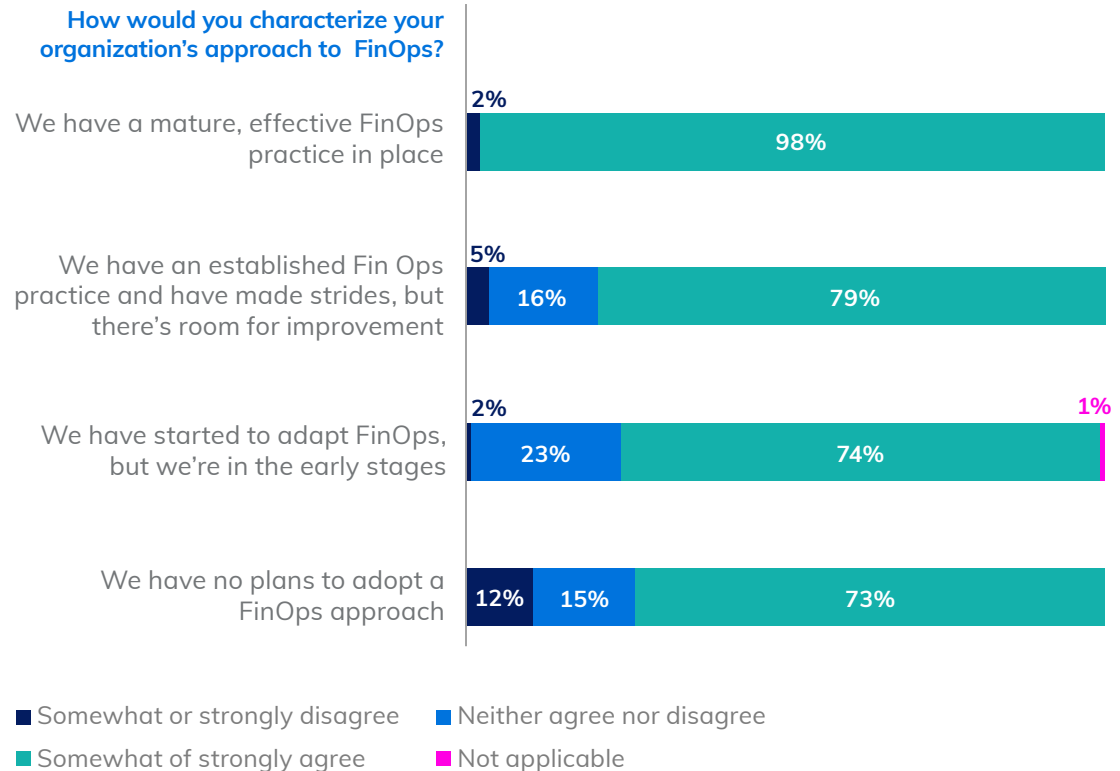


Unsurprisingly, **98%** of respondents with a mature FinOps practice said they have controls in place to ensure LOB accountability. What is surprising, however, is that those who are well on their way with FinOps but aren't fully mature are only slightly more likely to have those controls in place compared to those who have just started and even those with no plans for FinOps (**79% vs. 74% and 73% respectively**), indicating a steep progress curve. (Figure 32)

98% of respondents with a mature FinOps practice said they have controls in place to ensure LOB accountability.

FIGURE 32

Controls are in place to ensure LOBs are accountable for cloud costs



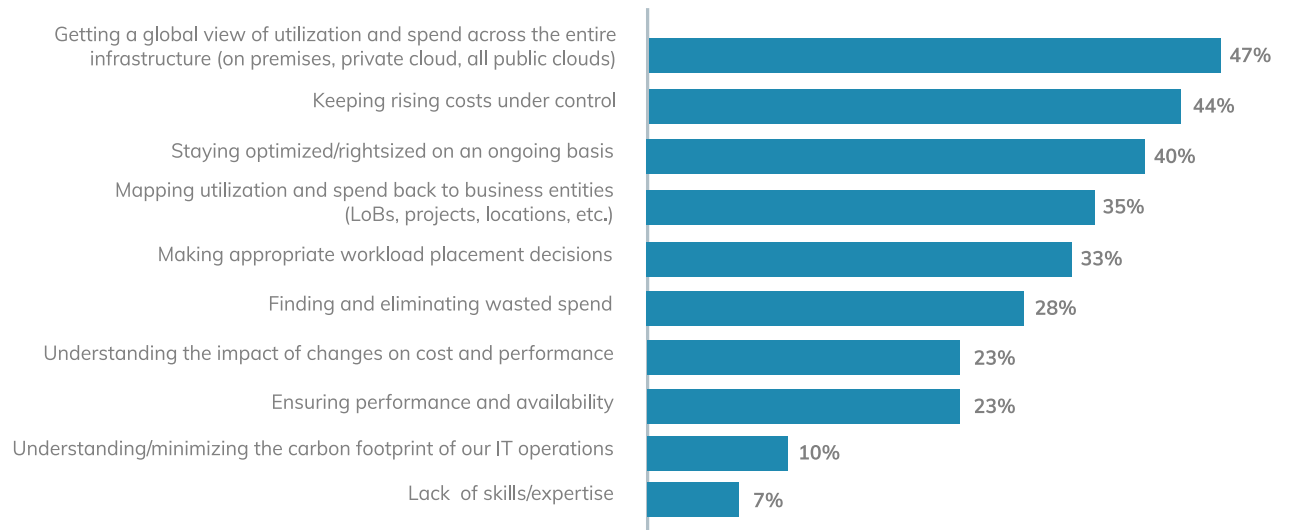


Organizations struggle with cost control, global visibility, and optimization

Given the complexity of hybrid/multi-cloud environments, managing them isn't easy. The biggest challenge, cited by **47%** of respondents, is getting a global view of utilization and spend across a hybrid/multi-cloud infrastructure. They are also concerned with keeping rising costs under control (**44%**) and staying optimized/rightsized on an ongoing basis (**40%**). (Figure 33)

FIGURE 33

What are your top three challenges in managing your hybrid/multi-cloud infrastructure? (n=350)

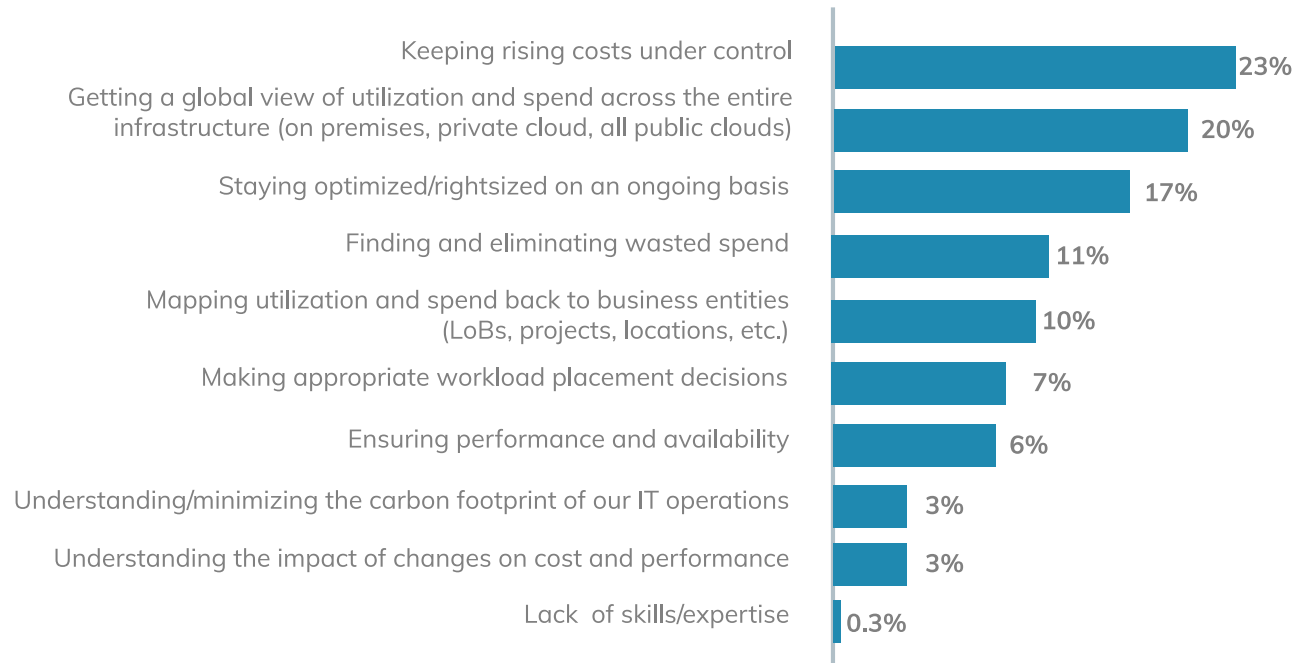




When forced to name the single biggest challenge, however, the first two swap places with keeping costs under control coming out on top (**23%**), followed by getting a global view of utilization and spend across a hybrid/multi-cloud infrastructure (**20%**). (Figure 34)

FIGURE 34

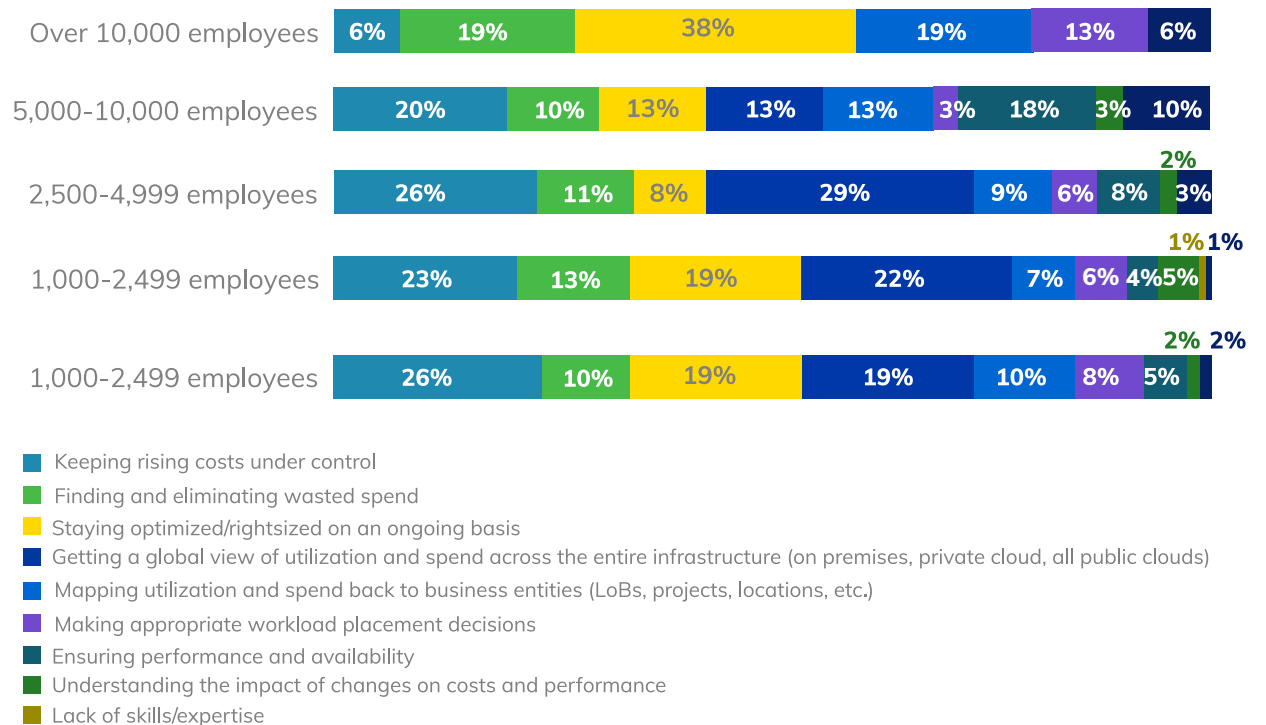
What is your number one challenge in managing your hybrid/multi-cloud infrastructure? (n=350)



But these priorities do depend on company size. The largest enterprises are far more concerned with staying optimized/rightsized on an ongoing basis than other companies (**38% vs. 8–19%**). Organizations with less than 5K employees are more concerned with getting a global view of utilization and spend across the hybrid infrastructure (**19–29% vs. 0–13%**). And keeping rising costs under control is much less of a concern for companies with more than 10K employees than everyone else (**6% vs. 20–26%**). (Figure 35)

FIGURE 35

What is your number one challenge in managing your hybrid/multi-cloud infrastructure?
(n=350)

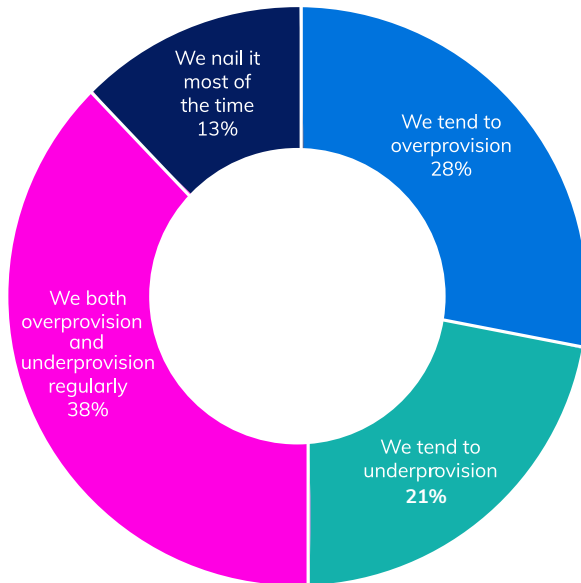




Capacity planning is a challenge

FIGURE 36

Which statement best reflects the results of your cloud capacity planning? (n=350)



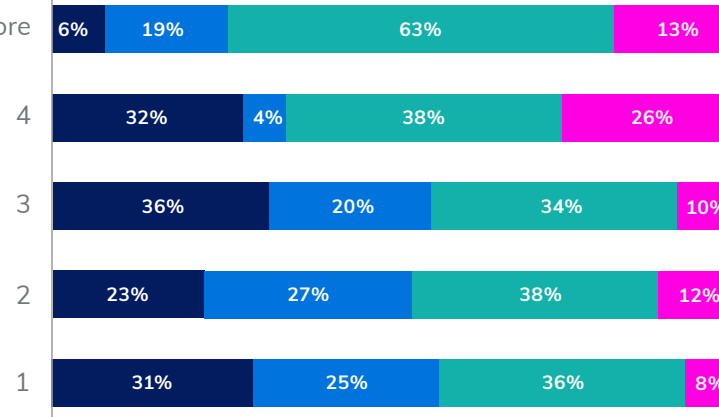
The vast majority of respondents (**87%**) aren't doing effective capacity planning. (Figure 36) Is this a factor of how many CSPs an organization is using? Perhaps. In general, **34-38%** of organizations both over- and underprovision regularly, but that number jumps to **63%** when managing five or more CSPs. (Figure 37)

FIGURE 37

Which statement best reflects the results of your cloud capacity planning? (n=350)

How many different public CSPs is your organization currently using?

5 or more



- We tend to overprovision
- We tend to underprovision
- We both overprovision and underprovision regularly
- We nail it most of the time



Despite these provisioning challenges, most respondents (**83%**) are confident in their ability to manage the capacity of hybrid infrastructure elements and estates up and down the stack. (Figure 38)

Companies that cannot do this are significantly more likely to underprovision than those that agree with the statement and those that are neutral (**43% vs. 19% and 29%, respectively**). (Figure 39)

FIGURE 38

We can manage the capacity of infrastructure elements and estates up and down the stack from on-premises storage and compute to multi-cloud resources (n=350)

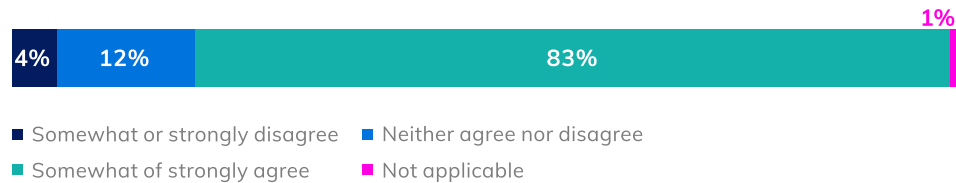
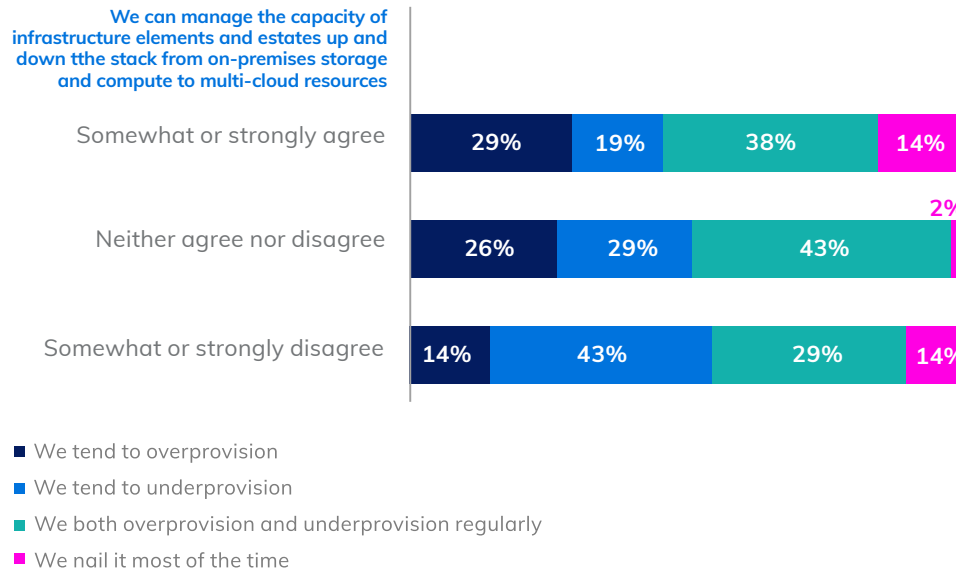


FIGURE 39

Which statement best reflects the results of your cloud capacity planning? (n=350)

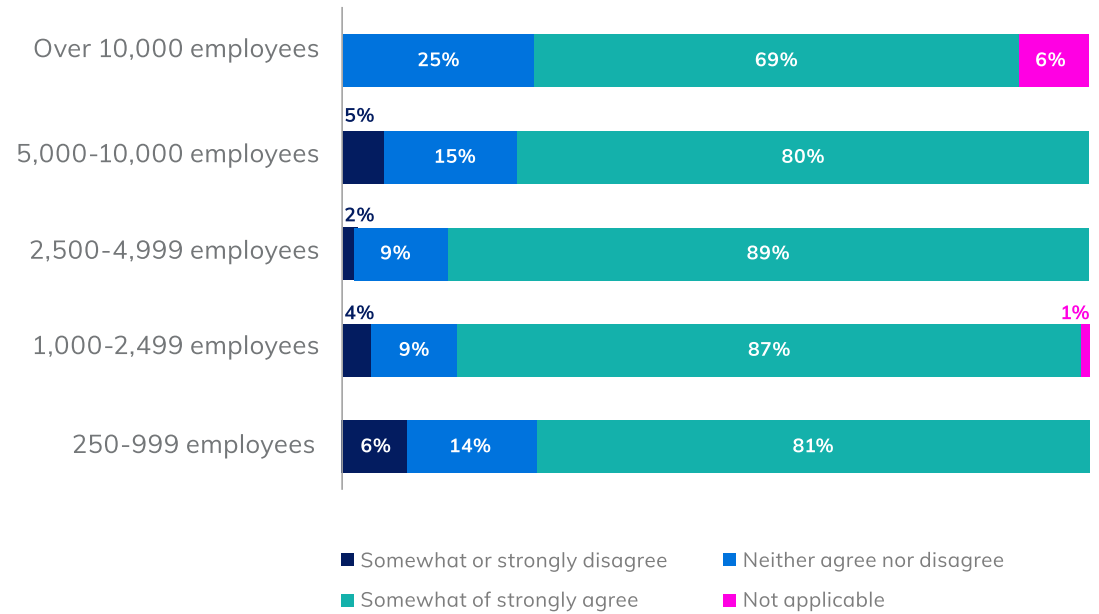




Company size also matters—**80–89%** said they can manage capacity, but for respondents with more than 10K employees, the number drops to **69%**. (Figure 40)

FIGURE 40

We can manage the capacity of infrastructure elements and estates up and down the stack from on-premises storage and compute to multi-cloud resources (n=350)





Most respondents **(82%)** are confident they can automatically discover, map, tier, and monitor their infrastructure regardless of location. **(Figure 41)** That number dips to **69%** within the largest enterprises, compared to **78–89%** of organizations with less than 10K employees. **(Figure 42)**

FIGURE 41

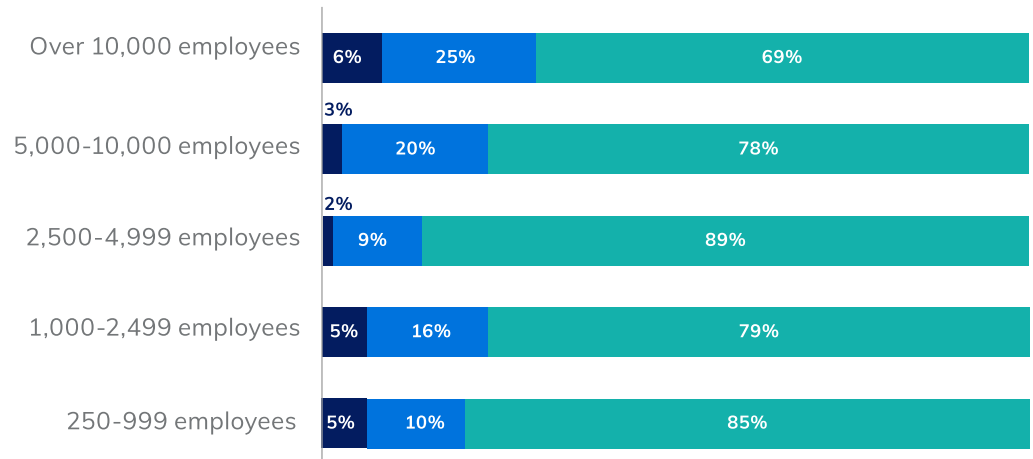
We are able to automatically discover, map, tier, and monitor our infrastructure regardless of location (n=350)



■ Somewhat or strongly disagree ■ Neither agree nor disagree
■ Somewhat of strongly agree

FIGURE 42

We are able to automatically discover, map, tier, and monitor our infrastructure regardless of location (n=350)



■ Somewhat or strongly disagree ■ Neither agree nor disagree
■ Somewhat of strongly agree



There are also high levels of agreement when it comes to the ability to monitor and manage performance regardless of location. (Figure 43) In this case, it's the number of cloud instances being managed that affects this confidence. Three-quarters of respondents (75%) who are not able to monitor and manage performance regardless of location have more than eight public cloud instances, compared to only around half of those who neither agree nor disagree (49%) or those who agree (54%). (Figure 44)

FIGURE 43

We are able to monitor and manage the performance of critical services and application infrastructure anywhere within our distributed enterprise environments (n=350)

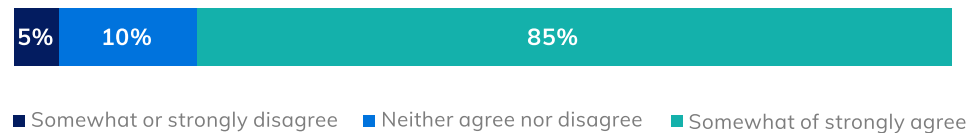
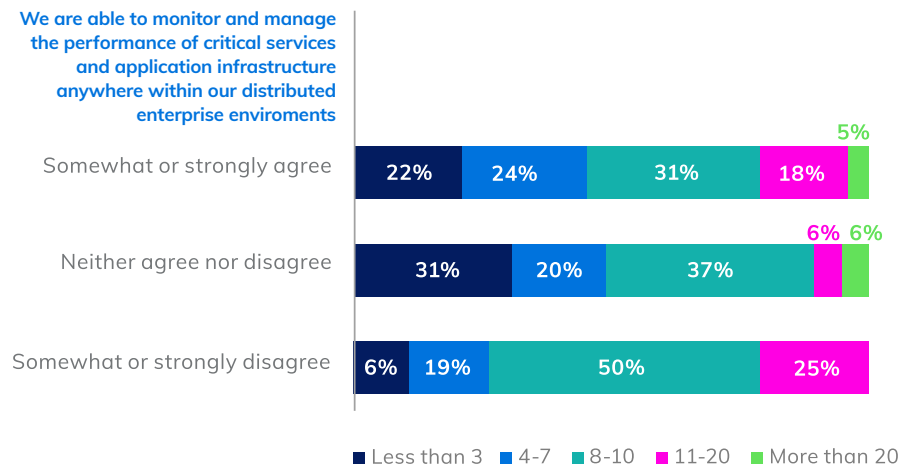


FIGURE 44

How many public cloud instances is your organization using across all CSPs? (n=350)





Silos persist

Siloed teams are an age-old problem, and despite structural and technology-enabled strides to improve collaboration, it's still an issue today. In fact, **73%** somewhat or strongly agree that their on-premises and different cloud teams work in silos. (Figure 45) The results are consistent across the different company sizes with one notable—and surprising—exception. The percentage of respondents who said their teams work in silos drops from the **72–76%** range to **38%** in companies with 10K+ employees. You'd think the biggest enterprises would be where it's hardest to break down silos. Perhaps because of this, respondents in these businesses are more likely to appreciate minor incremental improvements in cross-team collaboration. (Figure 46)

FIGURE 45

Our teams (on-premises, different clouds) work in silos (n=350)

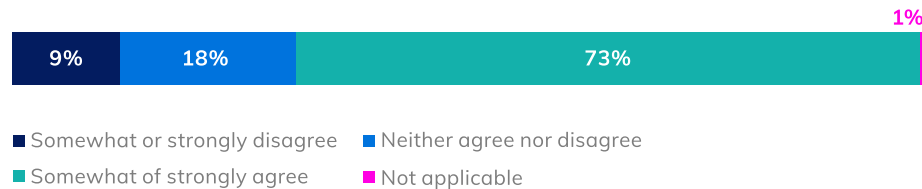
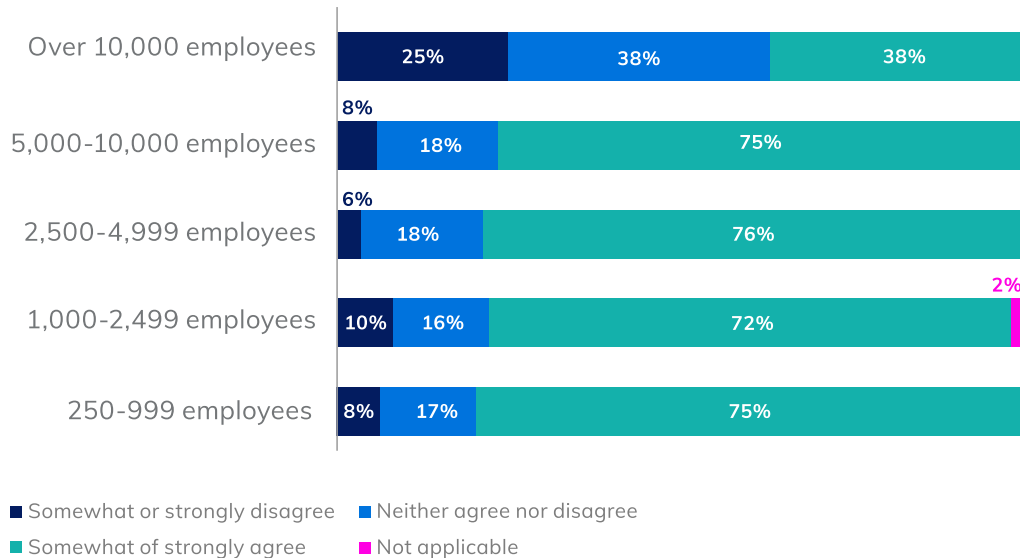


FIGURE 46

Our teams (on-premises, different clouds) work in silos (n=350)





There will always be hybrid cloud chaos — but it can be controlled

A hybrid/multi-cloud infrastructure is a complex and dynamic environment, which means there will always be changes to address and challenges to overcome. No matter what issues organizations are grappling with at any given time, or what may be lurking around the corner, unified visibility and simplified management are critical to helping keep everything running as efficiently and cost-effectively as possible.

About Virtana

Virtana provides a unified multi-cloud management platform to simplify the optimization, migration, and monitoring of application workloads across public, private, and hybrid cloud environments. The cloud-agnostic SaaS platform allows enterprises to efficiently plan their cloud migrations and then right size workloads across their hybrid cloud infrastructure for performance, capacity, and cost—most customers see **25%** cloud cost savings or more within the first 10 days of use. Get a free 14-day trial of Virtana's optimization solution at virtana.com/optimize-free-trial

Virtana was named Coolest Cloud Company by CRN, Top Cloud Leader Reducing Public Cloud Costs by Business Insider, Best Company Culture by Comparably, and a Customer First company by Gartner.