

IT Trends Report  2020

The Universal Language of IT

April 2020



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Overview

After years of looking to 2020 as the beacon of the future, it's finally here.

While the last two decades have ushered in sweeping changes for IT departments, from cloud computing to mobility and digital transformation, there are no signs of slowing down.

We're now years into an era marked by hybrid IT, where on-premises and cloud infrastructures live in harmony—as long as the tech pros in charge of those environments can successfully manage them. This era has brought with it the breaking down of siloes, IT roles converging out of necessity, and blurring the lines of IT responsibilities, often driving more complexity. We call this reality the universal language of IT.

The findings are based on a survey fielded in December 2019, yielding responses from 983 technology practitioners, managers and directors from public- and private-sector small, mid-size, and enterprise organizations worldwide.



Speaking the Language

SolarWinds IT Trends Report 2020: The Universal Language of IT analyzes how this shift has affected tech pros. Specifically, it explores the evolving role of technology in business and the tech pros in charge of driving business performance.

This annual report encompasses a broad range of tech pros to uncover the landscape realities of their roles, change drivers, needed skill sets, and perceptions about their place within larger business and technology contexts. The study covers on-premises and cloud environments as well as application management, security, and managed service provider (MSP) functions to provide a broad overview of the effects of modern complexities.

Findings from the IT Trends Report 2020 uncover a new reality for tech pros in which siloes have indeed broken down, but budgets remain overwhelmingly focused on hybrid IT. In fact, 74% of respondents manage hybrid IT in-house or with an MSP, whereas multi-site and multi-cloud is managed in-house or via MSP by 13% and 10% of respondents, respectively. As cloud computing continues to grow, so too does the need for application performance management (APM) and security management—increasing priorities for tech pros. And with the convergence of IT roles, tech pros are setting their sights on nontechnical and interpersonal skills to ensure teamwork and communication with business leaders falls under the universal language of IT.



In fact, 74% of respondents manage hybrid IT in-house or with an MSP, whereas multi-site and multi-cloud is managed in-house or via MSP by 13% and 10% of respondents, respectively.

Key Findings Tech Priorities

Tech pros are focusing less on emerging technology like artificial intelligence (AI) and edge, and more on hybrid IT and security.

The top three technologies influencing organizations' staffing needs (by weighted rank) are:

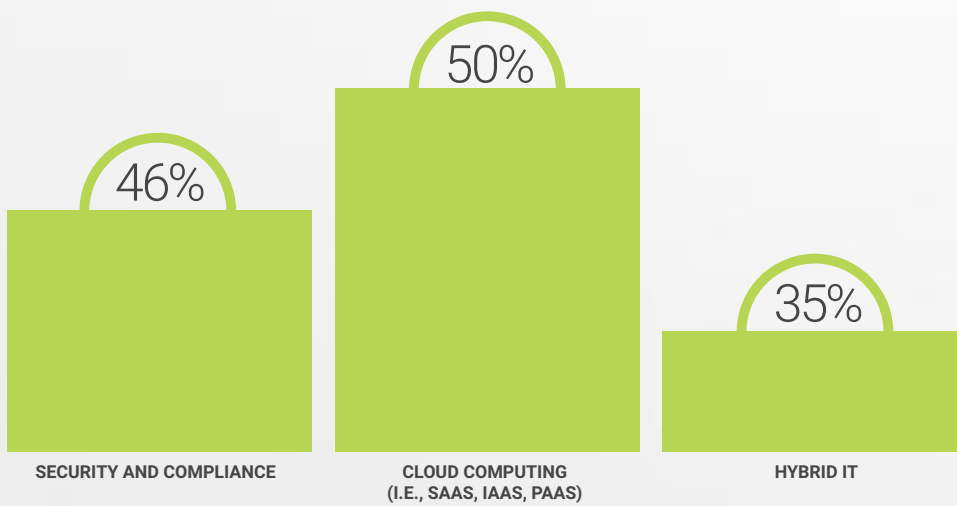


Figure 1: Top three influencing organizations' staffing needs



Only a collective 29% name emerging technologies—like AI, edge, microservices, and containers—as the biggest influence on staffing needs.

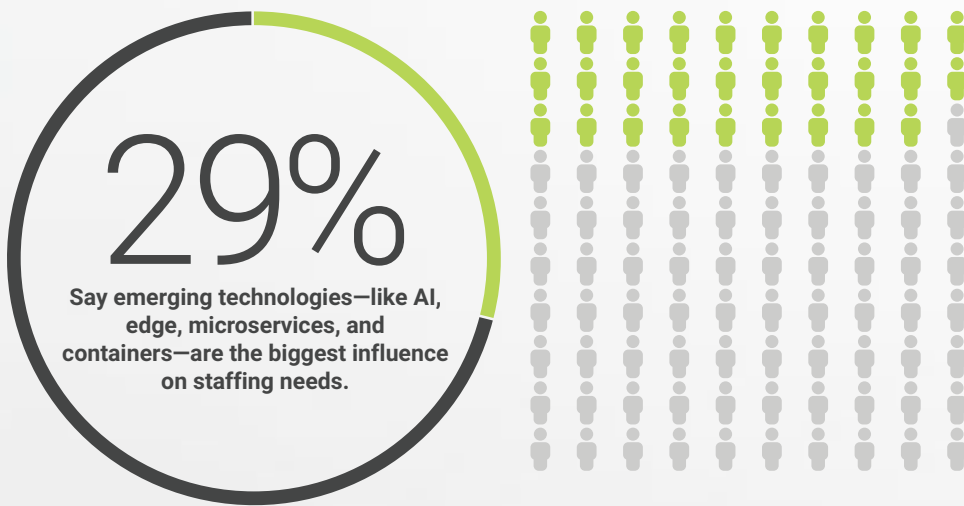


Figure 2: The biggest influence on staffing needs.

This makes sense when you consider organizations aren't allocating their budget to emerging technologies. —particularly as this year's budgets are reevaluated in the face of economic challenges. Over two-thirds (68%) indicate their organizations' tech budgets allocate less than 25% of their spending to emerging technologies.

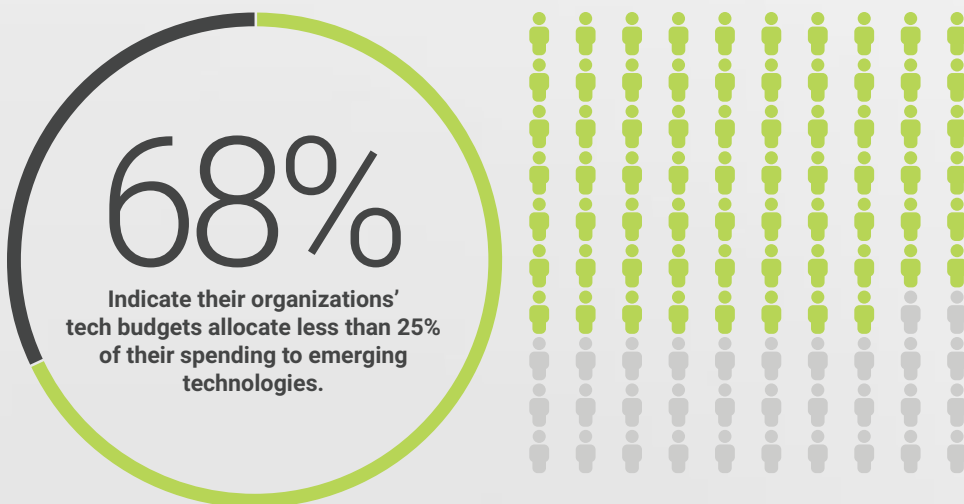


Figure 3: Organizations aren't allocating their budget to emerging technologies

Key Findings

Role Convergence

Today's hybrid IT reality has created a universal language of IT where tech pro roles and siloes converge, and complexities are exacerbated by flat to shrinking budgets and a lack of qualified personnel.

With the convergence of technologies and responsibilities, the top three ways tech pro roles have changed over the past 3 – 5 years are:

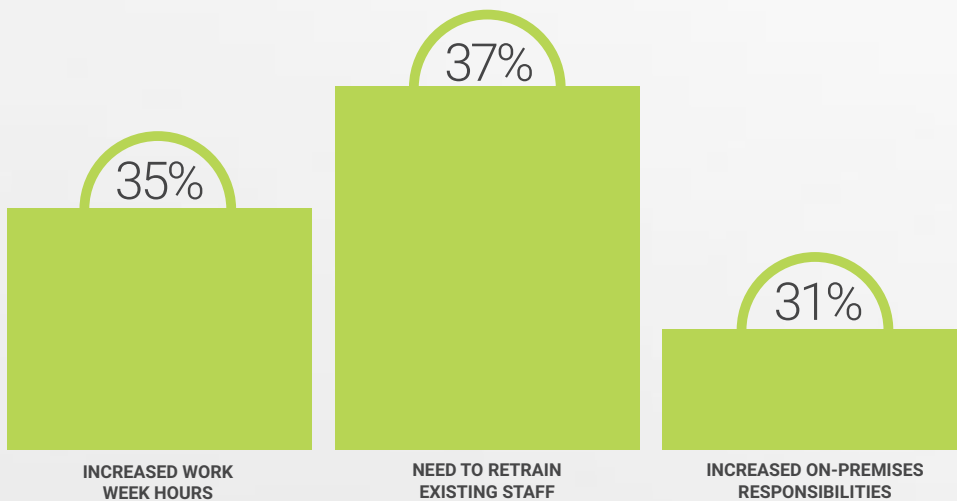


Figure 4: The top three ways tech pro roles have changed over the past 3 – 5 years



At the same time, tech pros are experiencing barriers to successfully supporting their organizations, including:



Figure 5: The top three ways tech pro roles have changed over the past 3 – 5 years

What’s more, over one-third (41%) of respondents believe tech pros entering the workforce today don’t have the necessary skills to manage modern, distributed IT environments.



Figure 6: Over one-third of respondents believe tech pros entering the workforce today don't have the necessary skills

Key Findings

Growth Areas

Many personnel and skills issues relate to growing areas like APM and security and compliance.

Sixty percent of tech pros/teams/IT departments are spending more time managing apps and services rather than infrastructure and hardware. This represents a monumental shift in the strategic importance of applications to the modern business.

This growth in the influence of cloud applications on IT and managed services will continue to rise: according to **Gartner®**, by 2022, as many as 60% of organizations will use an external service provider's cloud managed service offering, doubling the 2018 figure. Gartner also predicts the ongoing effect on skills: by 2020, 75% of enterprises will experience visible business disruptions due to infrastructure and operations (I&O) skills gaps, which is an increase from less than 20% in 2016.

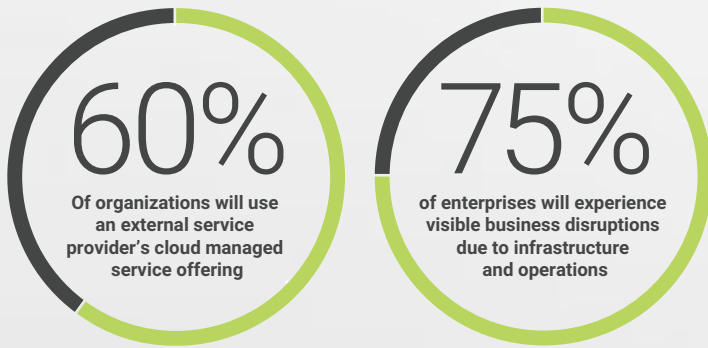


Figure 7: This growth in the influence of cloud applications on IT and managed services will continue to rise: according to Gartner®, by 2022

When organizations adopt cloud and/or SaaS technologies, 56% use network traffic analysis/network app analysis, 52% use user experience monitoring, and 49% use log analysis as their top three approaches. When it comes to APM tools, 51% use a mix of native tools (provided by the cloud service provider) and third-party tools.



For 65% of tech pros, at least 10% of their daily responsibilities include IT security management. At the same time, the top three areas of security skills management tech pro organizations are prioritizing for development include (by weighted rank):



Figure 8: The top three areas of security skills management tech pro organizations are prioritizing for development

Similar to the way the universal language of IT has affected IT departments, compliance policies have resulted in 40% of tech pros adding additional IT staff.

Compliance policies with the greatest effect on IT departments include:

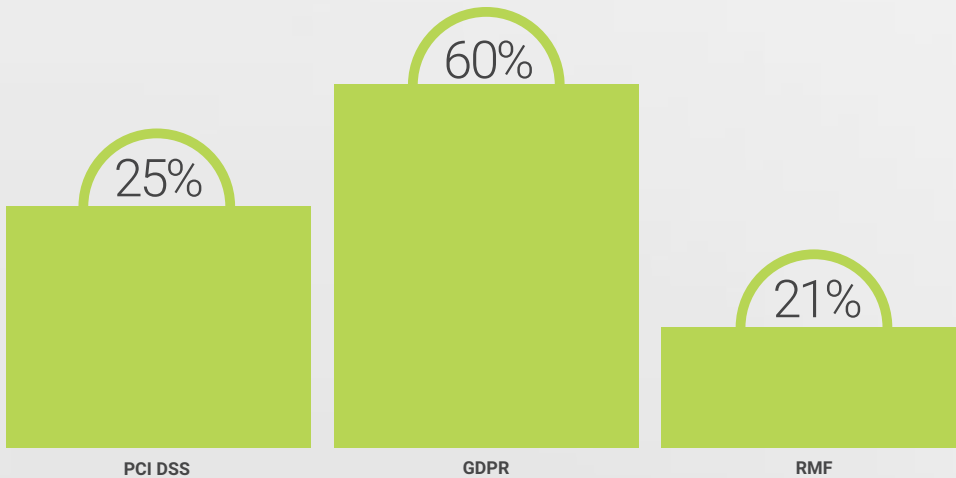


Figure 9: Compliance policies with the greatest effect on IT departments

Key Findings
Skills

Tech pros need to develop nontechnical skills to operate within the universal language of IT reality where cross-functional and business-level communication is necessary.

The nontechnical skills tech pros feel are most critical to successfully manage today's modern IT environments include:



Figure 10: The most critical nontechnical skills needed to successfully manage today's modern IT environments

These results are echoed by CIO's annual [State of the CIO Survey](#), which revealed the top skills needed for digital transformation were strategy building (40%), project management (32%), and business relationship management (25%). These critical interpersonal skills become more important as tech pros increasingly communicate and collaborate across previously siloed IT functions.

According to the [LinkedIn 2020 Emerging Jobs Report](#), the demand for soft skills like communication, collaboration, and creativity will continue to rise across the SaaS industry.

Despite the budget and skills issues tech pros report, 88% of surveyed tech pros say they're comfortable communicating with business leadership when requesting technology purchases, investing time/budget into team trainings, and the like.



Figure 11: Surveyed tech pros say they're comfortable communicating with business leadership when requesting technology purchases





Recommendations

Push Past the Hype:

Even before the world was gripped by the global pandemic, this year's report revealed organizations have moved away from chasing much-hyped emerging technologies to instead renewing their focus on core strategies like hybrid IT, cloud computing, and security—technologies with better, more practical use cases. While enterprises have invested in engineering teams over the last three years to evaluate and build prototypes, ultimately they discovered many of the buzzworthy technologies—from blockchain to artificial intelligence (AI), and machine learning (as defined by the hype)—haven't added real value or delivered significant business transformation. Hype dies in the light of experience.

While organizations reassess priorities in the shadow of an oncoming recession, tech pros routinely should ask management to define the core competencies of the business as they relate to technology, and then monitor for gaps between priorities and training. Is the organization prioritizing digital transformation and its related investments? If so, what are the key performance metrics for evaluating true impact in a time when operational stability and security are paramount? It's the job of IT pros to provide clarity and guidance around the functional details of the technologies themselves. In 2020, tech pros should be empowered to move past the hype and instead invest the IT department's time, resources, and efforts in developing skills in the technologies expected to have the most impact on their business.



Tech pros routinely should ask management to define the core competencies of the business as they relate to technology

Show Your Receipts:

Tech pros' ability to justify technology investments and operations decisions to business leadership continues to be a significant barrier to success—and an opportunity. The SolarWinds® IT Trends Report 2020 findings clearly outlined two key barriers, most notably that managing hybrid IT complexities are all too often exacerbated by flat budgets and shifting internal priorities, a fact only amplified as budgets constrict. Tech pros' best course of action is to become educators. They'll need to invest time in continuous education and regular communication with business leadership and demonstrate the tight correlation between IT success and business success.

One approach is for tech pros to assume a trusted advisor mantle with their managers, arming them both with answers and specific details (such as ROI for an IT purchase or strategy) most important to senior leadership in setting strategy. Identify ways to discuss the basics, like what AI and machine learning really are, and then the specific cost-benefit analysis of how the tech can benefit the business and what it means for service integration and service delivery. In doing so, the IT department will earn a seat at the table in agenda-setting, and leadership will feel a stronger connection to the technology powering the organization. This will also help address a leading tech pro pain point by helping business leaders more clearly see the benefit of a tightly focused set of priorities for IT so they can drive greater progress.



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Bridge the Gap With Technology:

As in past years, tech skills development emerged as a key focus area for tech pros across IT disciplines in 2020. However, the underlying challenge of hybrid IT management will continue to escalate with complexities like multi-cloud and distributed environments. Visibility inside and outside the firewall remains critical, coupled with the need to oversee application performance, and security and compliance policies, especially with a workforce now largely, if not entirely, remote. Leveraging technology solutions with a breadth and depth of cross-functional visibility can help bridge the gap for organizations either working to develop the skillset of their current staff or in the process of hiring specialists to manage these responsibilities, particularly when IT teams are under increasing pressure to keep the organizations they serve performing optimally despite distributed personnel and increasing security attack surfaces.

Tech pros also should remember each day they expand upon and get a little better at their skillsets, and the things they learn today will apply tomorrow. DBAs today, for example, are tomorrow's data analysts and data scientists. Today's network admins are tomorrow's security team. IT skills and roles have a significant amount of overlap, and something you currently know or have experienced can always be applied elsewhere.



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Make It (Inter)Personal:

The top three non-technical skills tech pros feel are most critical to successfully manage today's hybrid IT environments are project management, interpersonal communication, and people management. While developing tech skills often is informed by current areas of expertise, it's not just about IT skills. This year's survey continues to suggest the lines between siloed workload and application delivery are increasingly blurring. As a result, one set of skills is key to develop: interpersonal skills. Interpersonal skills are commonly referred to as "soft skills," which is a misleading term, considering their overall importance. Soft skills are not optional. They're human skills—everyone needs to relate to other people and speak in a way they can relate to and understand. Find a mentor: someone on your team who can help you learn. Practice your communication skills and try your hand at project management. You'll learn by doing and working closely with your mentor along the way is essential. You don't need to be an expert, but recognizing human, non-cognitive, and interpersonal skills must be prioritized in communicating with others. As a tech pro, your involvement in projects and initiatives with the capability to drive the business forward and make a difference across the organization you support, makes effective communication critical.



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Security Is a Core Competency:

While security isn't an immediate casualty of increased complexity, the challenge of maintaining an effective security posture certainly increases in parallel with greater IT complexity. And as global workforces have moved to their homes, either for health reasons, or by governmental orders, IT teams have been faced with a rapid expansion of attack vectors. Between this rate of change, complexity, and new devices and technologies needing to be secured—and in new ways—we continue to play a seemingly never-ending game of catch-up in preventing security threats. Although many tech pros reported wanting to prioritize security skills over the past several years of IT Trends Report research, security remains an area of opportunity within many organizations.

Throughout this extended work from home period, and the months to follow, security must enter the core competency set of every tech pro, whether as a self-managed skillset or outsourced to an MSP or MSSP. To start, tech pros must have complete understanding of the IT environment they support to uncover any potentially hidden risks and help explain key elements to business leaders. You should also apply the recommendation in “Show Your Receipts,” and find opportunities to educate management on the risks to their data and implications of a breach, specifically explaining data risks in financial terms. Many businesses don't understand the risks to their data, or even realize they may have a problem in the first place. Alternatively, explore the services of an MSSP or MSP with experience in security: these providers deploy technologies for clients of many sizes and vulnerabilities. They're tested and battle-hardened, and are suited to most use cases, too.



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Upgrade Your APM Strategy:

With hybrid IT solidified as the reality in most environments, tech pros acknowledge the need for comprehensive, full-stack application monitoring and management to deliver cross-functionality visibility and go beyond reactive troubleshooting. This recognition, combined with the current reliance on application availability to remote workforces and consumers, has elevated application performance monitoring (APM) solutions and strategies as a consideration for a growing number of IT departments. However, as revealed in the 2020 [SolarWinds Cloud Confessions](#) survey, the largest challenges tech pros face in monitoring and managing application and infrastructure performance relate to an existing knowledge and skills gap. As a result, tech pros continue to grapple with the troubles of troubleshooting, despite nearly all using some type of APM tool in the last 12 months.

To counteract these operational pain points, tech pros should evaluate which APM solution will best meet the needs and challenges of their current environments—spanning applications and infrastructure—by assessing which key technologies must be monitored and, more importantly, why. Tech pros must develop skills to empower them to successfully deploy and use these tools. Thankfully, they can leverage many of their existing skills: the nouns may have changed, but the verbs remain the same. Where we used to have “server” or “virtual machine,” now we have “containers.” But the verbs? They’re still focused on optimizing performance, ensuring availability, and planning capacity.



Tech pros also should develop skills to empower them to successfully deploy these tools.



Study Overview: Respondent Demographics



983 technology practitioners, managers and directors WORLDWIDE from public- and private-sector small, mid-size and enterprise organizations participated in a December 2019 online study

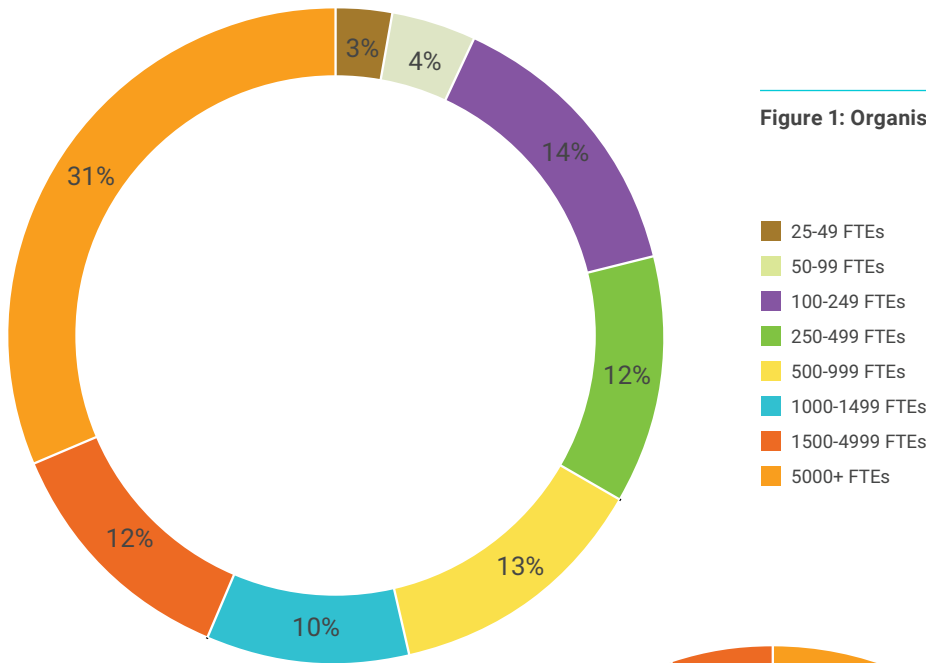


Figure 1: Organisation Size (Number of Employees)

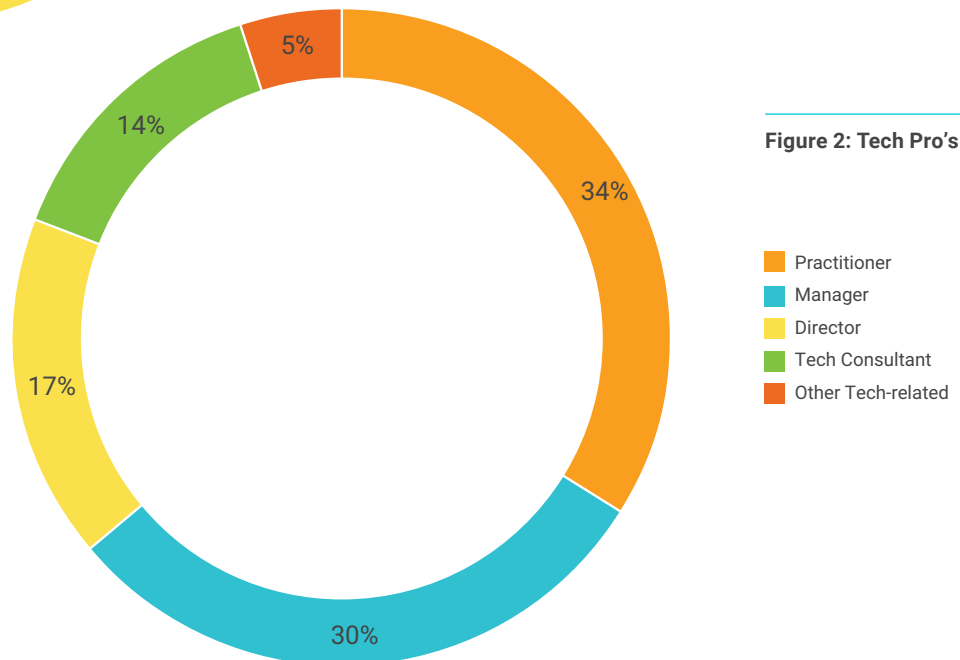


Figure 2: Tech Pro's Role

Study Overview: Impact of Emerging Technologies on Tech Pros



Percentage of Overall Technology Budget Allocated to Emerging Technologies

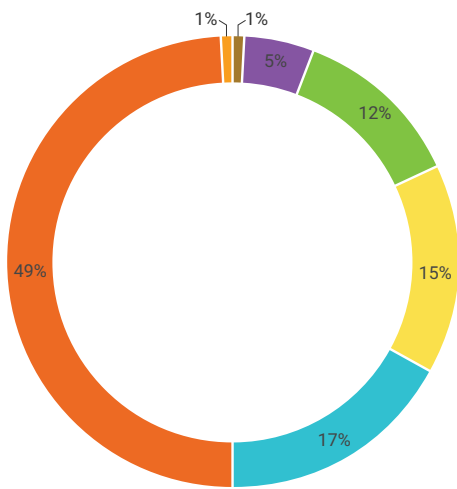


Figure 3: Years as Tech Pro

- 0-1 Years
- 2-4 Years
- 5-9 Years
- 10-14 Years
- 15-19 Years
- 20+ Years
- It's complicated

Figure 4: Technology Environment Managed In-house or as a Managed Service (not mutually exclusive)

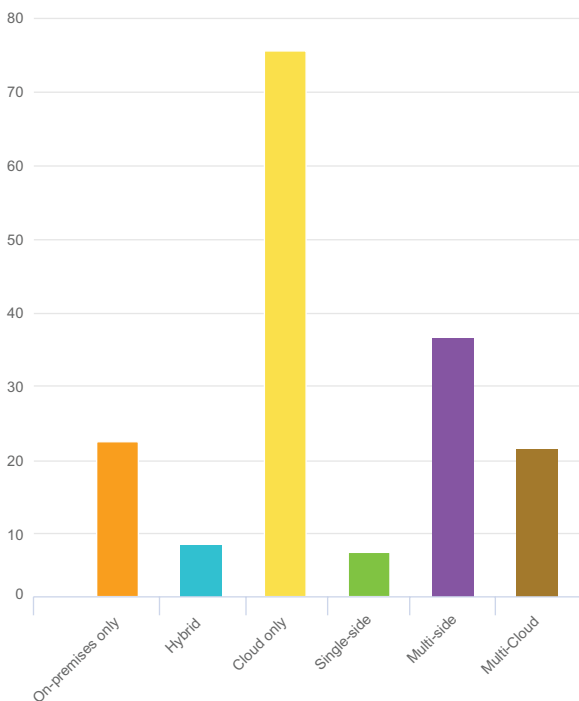
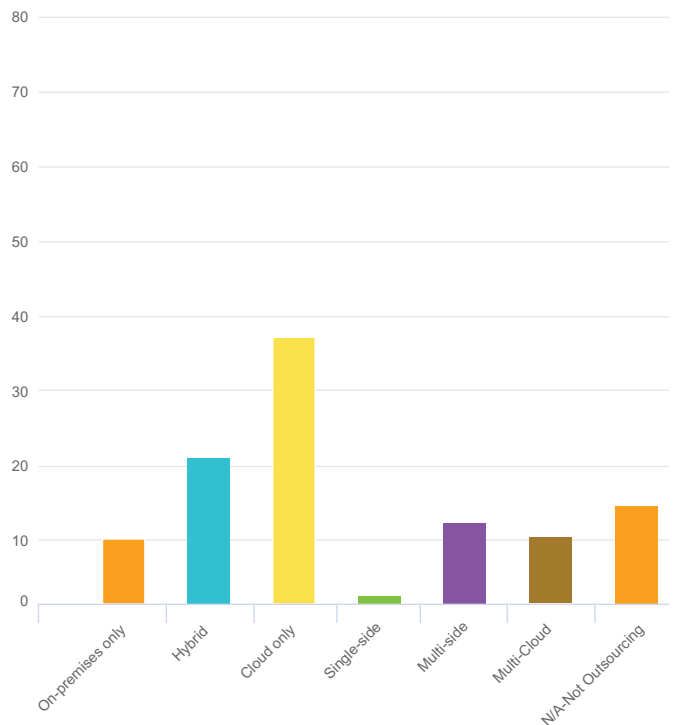


Figure 5: Technology Environment that is Outsourced (not mutually exclusive)



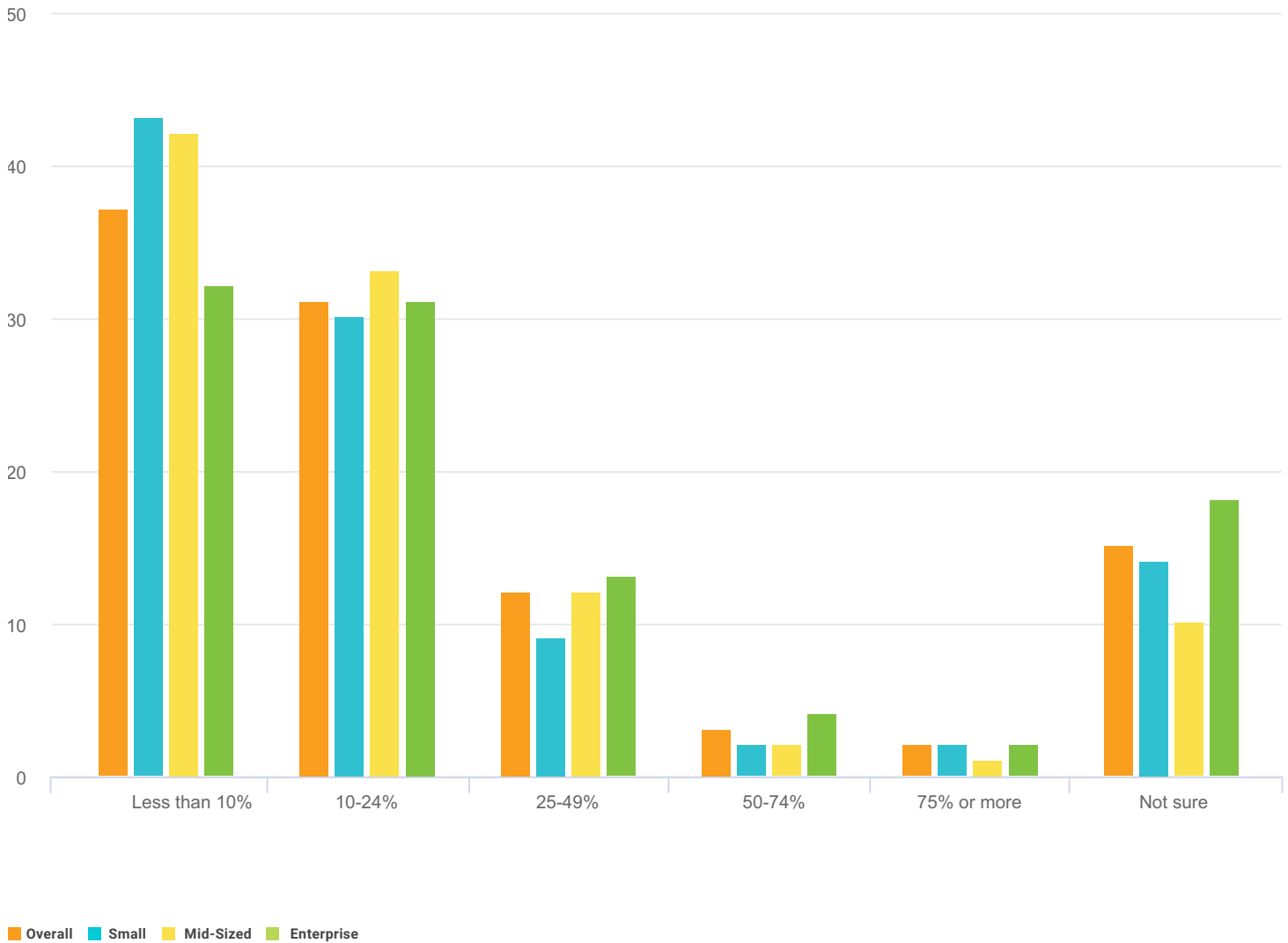
Study Overview: Impact of Emerging Technologies on Tech Pros



We asked:

“Emerging technologies” refers to those technologies that are disrupting or are set to disrupt IT but have not yet gained widespread adoption (i.e. artificial intelligence (AI)). What percentage of your organization’s overall IT budget is allocated to new/emerging technologies?

Figure 6: Percentage of Overall Technology Budget Allocated to Emerging Technologies



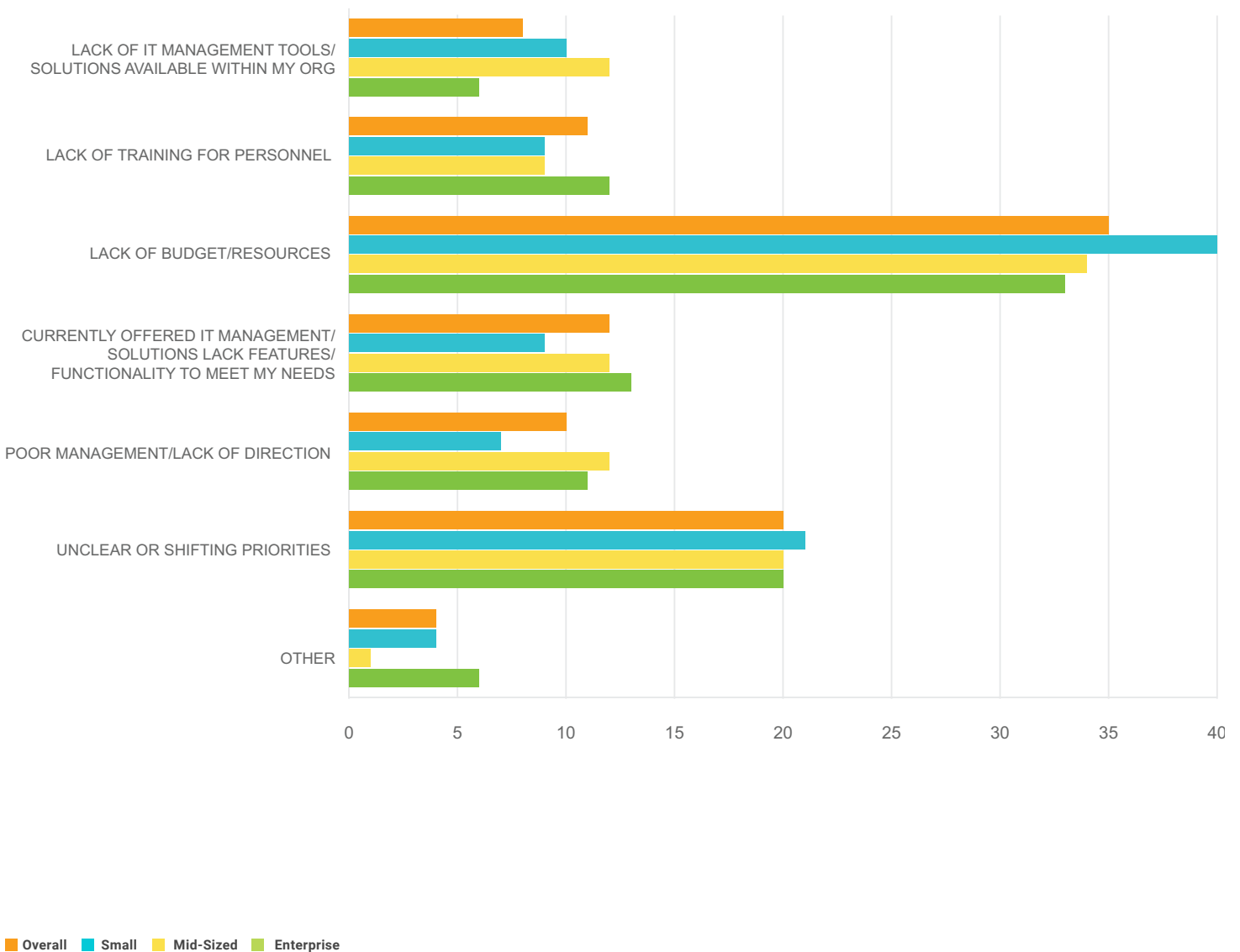
Study Overview: Impact of Emerging Technologies on Tech Pros



We asked:

What is your TOP barrier/challenge when it comes to successfully supporting your organization (i.e. delivering optimal service performance, reliability, etc.)?

Figure 7: Tech Pro's Single Biggest Barrier/Challenge to Successfully Supporting Organization



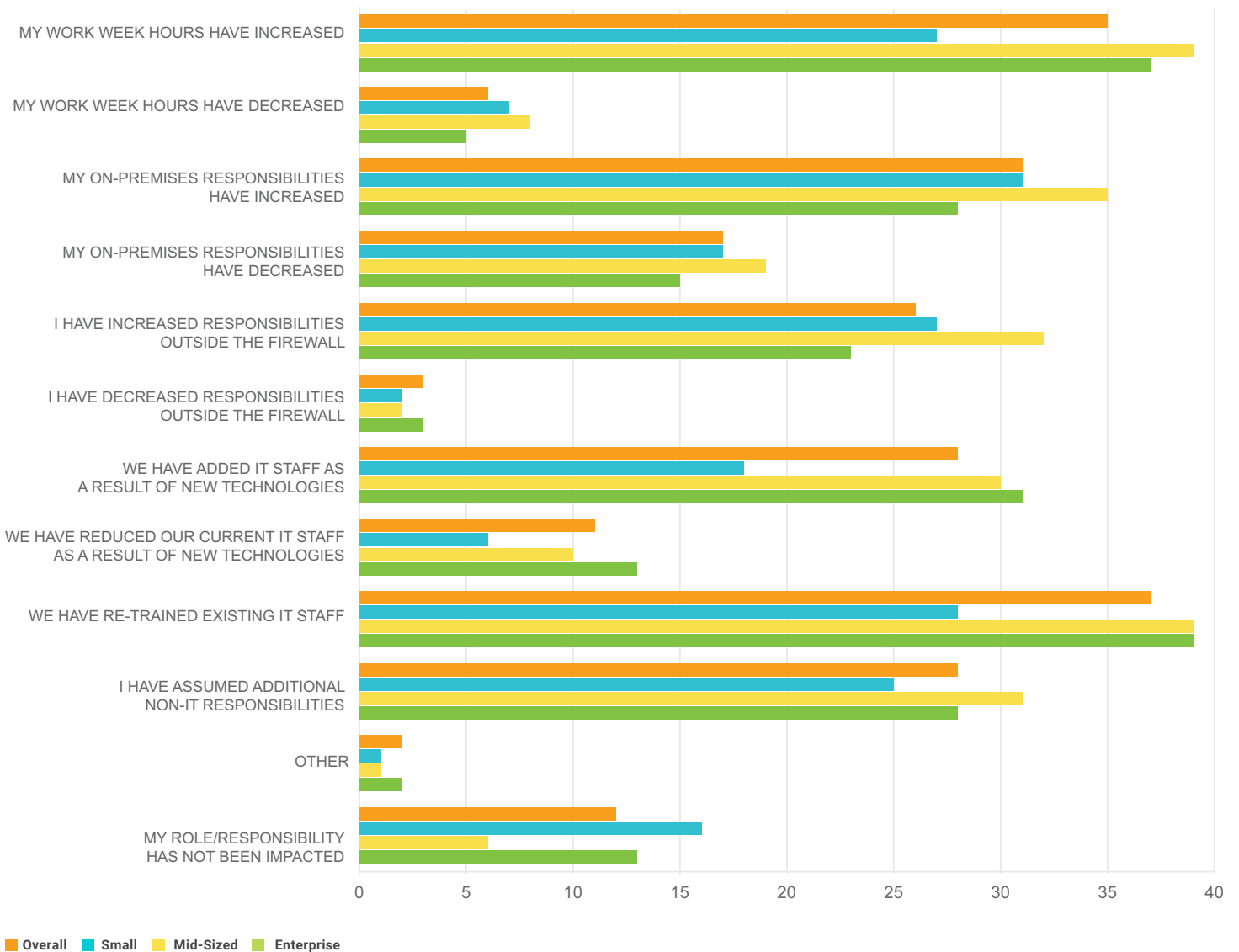
Study Overview: Impact of Emerging Technologies on Tech Pros



We asked:

The “Universal Language of IT” is defined as the convergence of previously siloed IT roles, responsibilities, and technologies. Based on this definition, how much has the convergence of technology and responsibilities changed your role in the past 3-5 years?

Figure 8: Tech Pro’s Evolving Role in Past 3-5 Years Given the Convergence of Previously Siloed Roles & Technologies



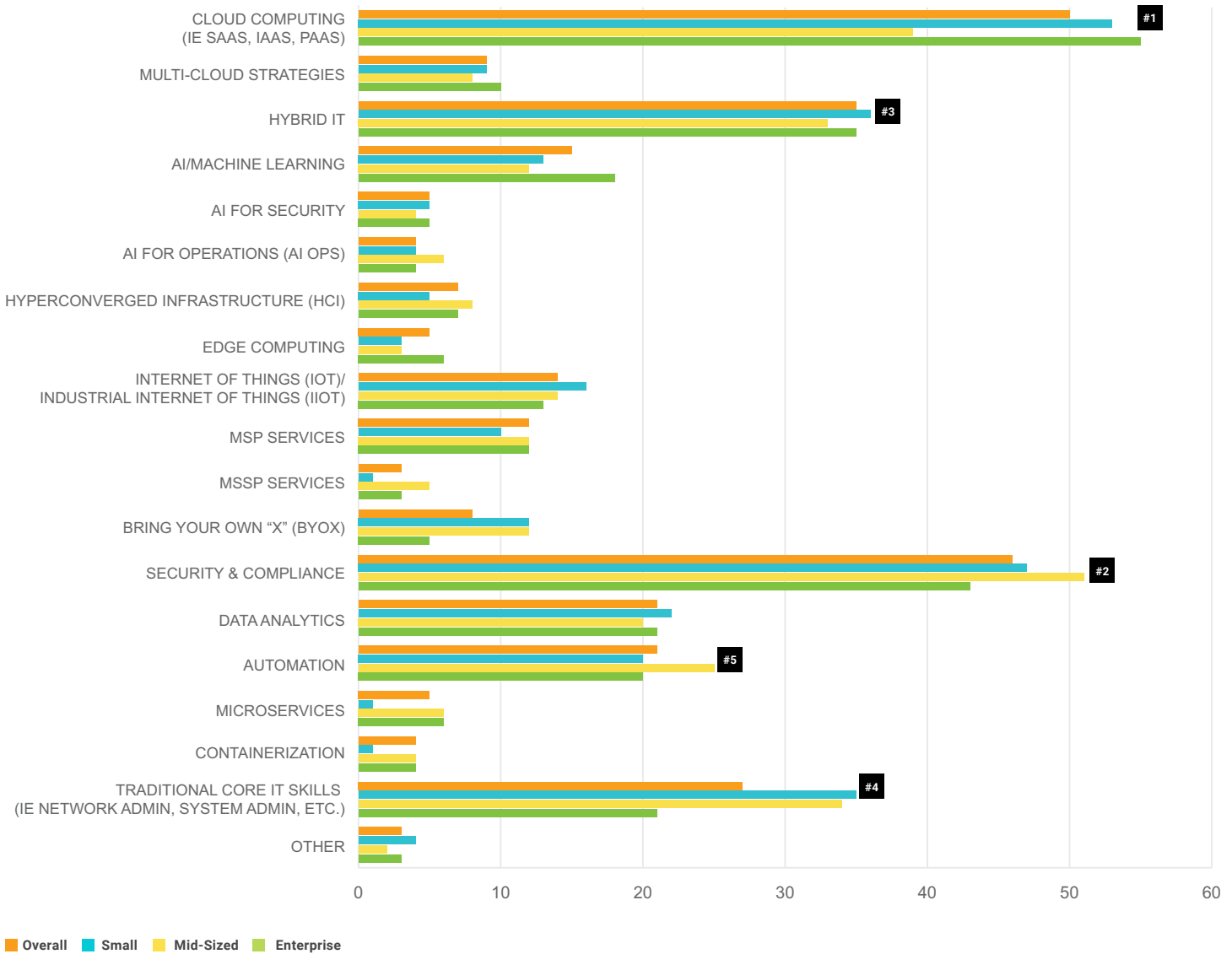
Study Overview: Impact of Emerging Technologies on Tech Pros



We asked:

What are the top three technologies that have most influenced the staffing needs of your team, department, &/or division over the past 3-5 years?

Figure 9: Top Technologies Most Influencing Staffing Needs of Tech Pro Team in Past 3-5 Years



Study Overview: Tech Pro's Readiness to Provide Greater Business Value



We asked:

Which NON-technical skills do you feel are most critical for you to successfully manage today's modern IT environments?

Figure 10: Non-Technical Skills Tech Pros Feel are Most Critical to Successfully Manage Today's IT Environments



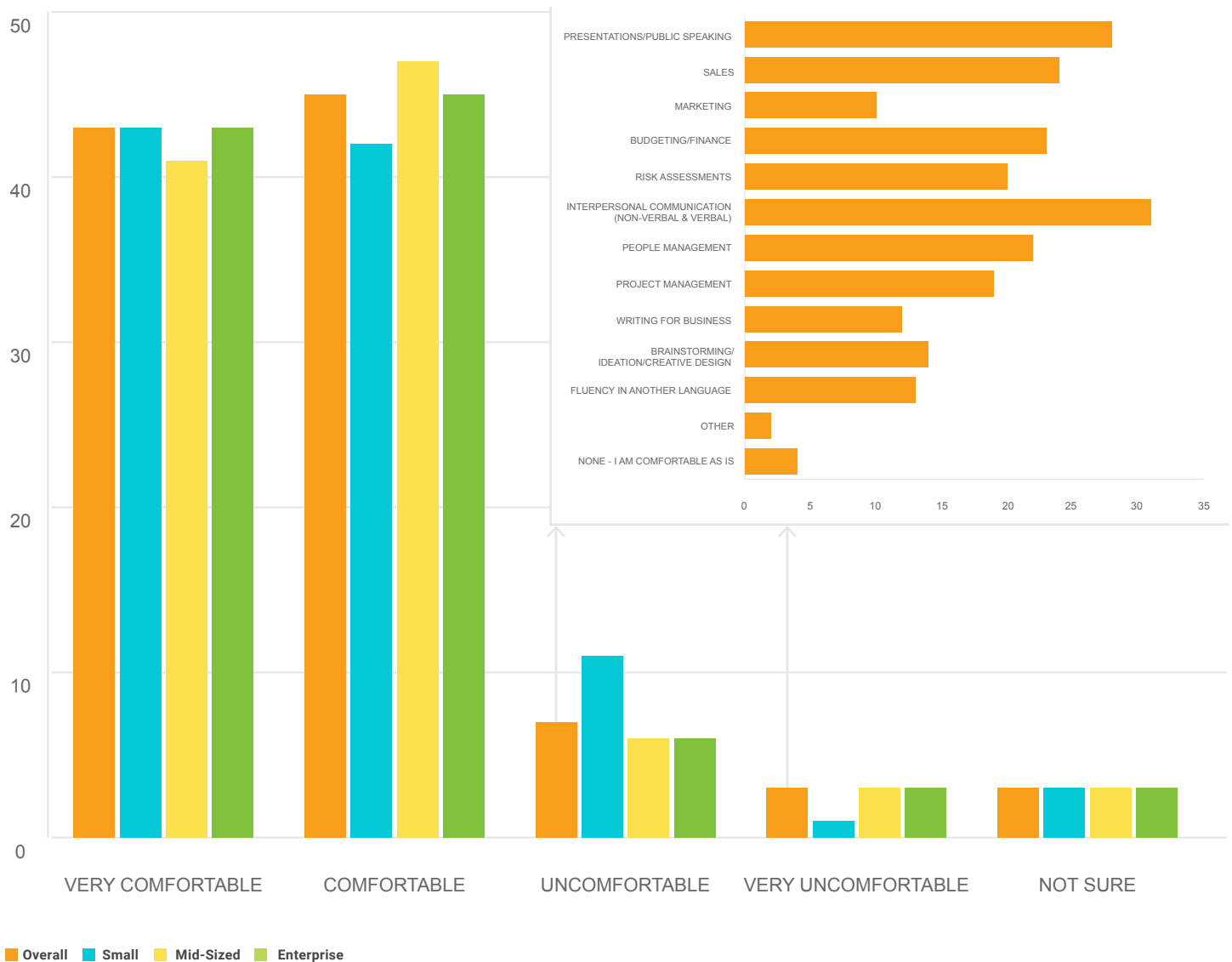
Study Overview: Tech Pro's Readiness to Provide Greater Business Value



We asked:

How comfortable are you in communicating with your business leadership when it comes to requesting technology purchases, investing time/budget into team trainings, and the like?

Figure 11: Tech Pro's Comfort Level in Communicating with Organization Leadership for Technology/Training Requests



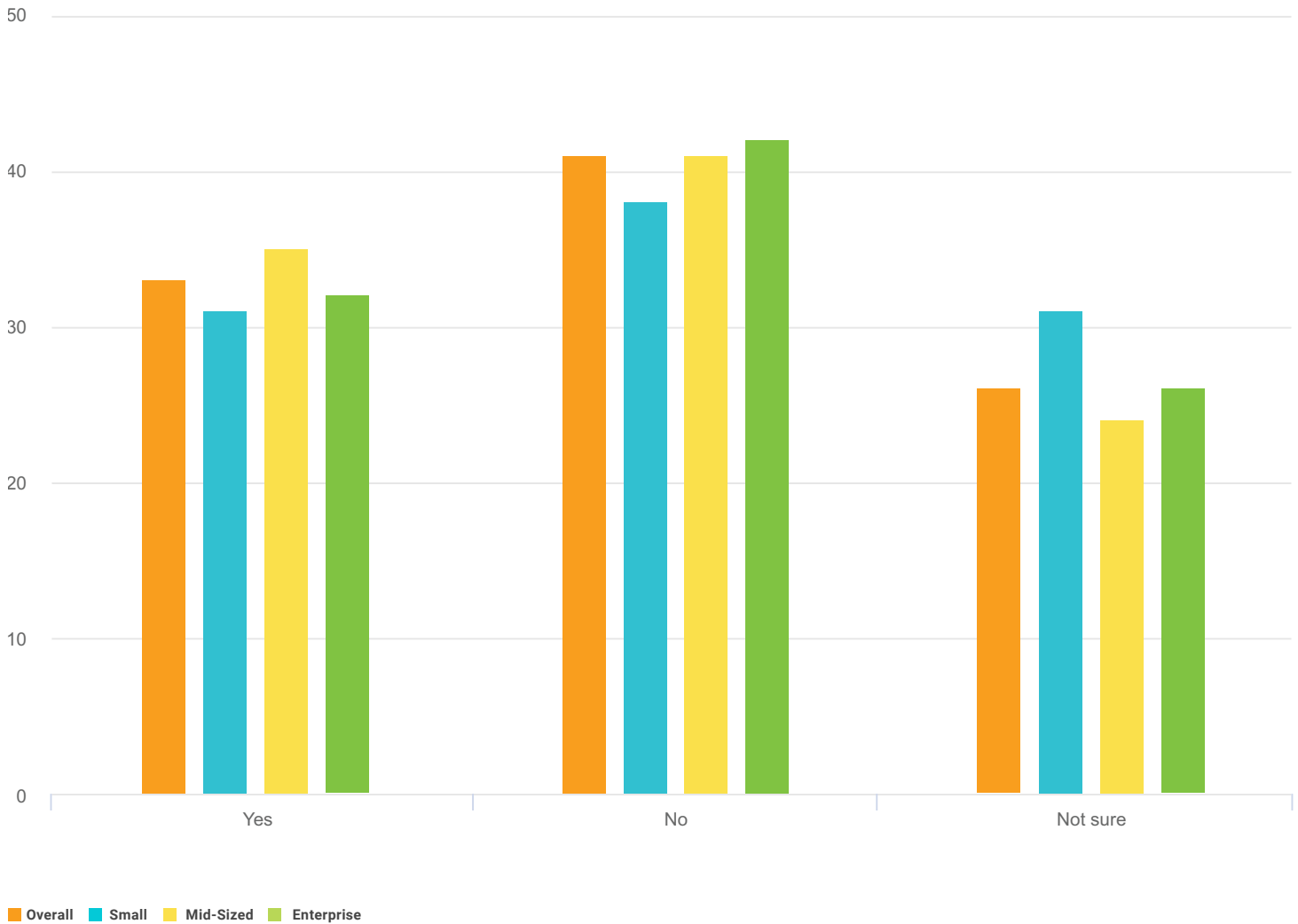
Study Overview: Tech Pro's Readiness to Provide Greater Business Value



We asked:

Do you believe technology professionals entering the workforce today have the necessary skills to manage modern, distributed IT environments?

Figure 12: Do Tech Pros Entering Workforce Today Have Necessary Skills to Manage Distributed IT Environments?



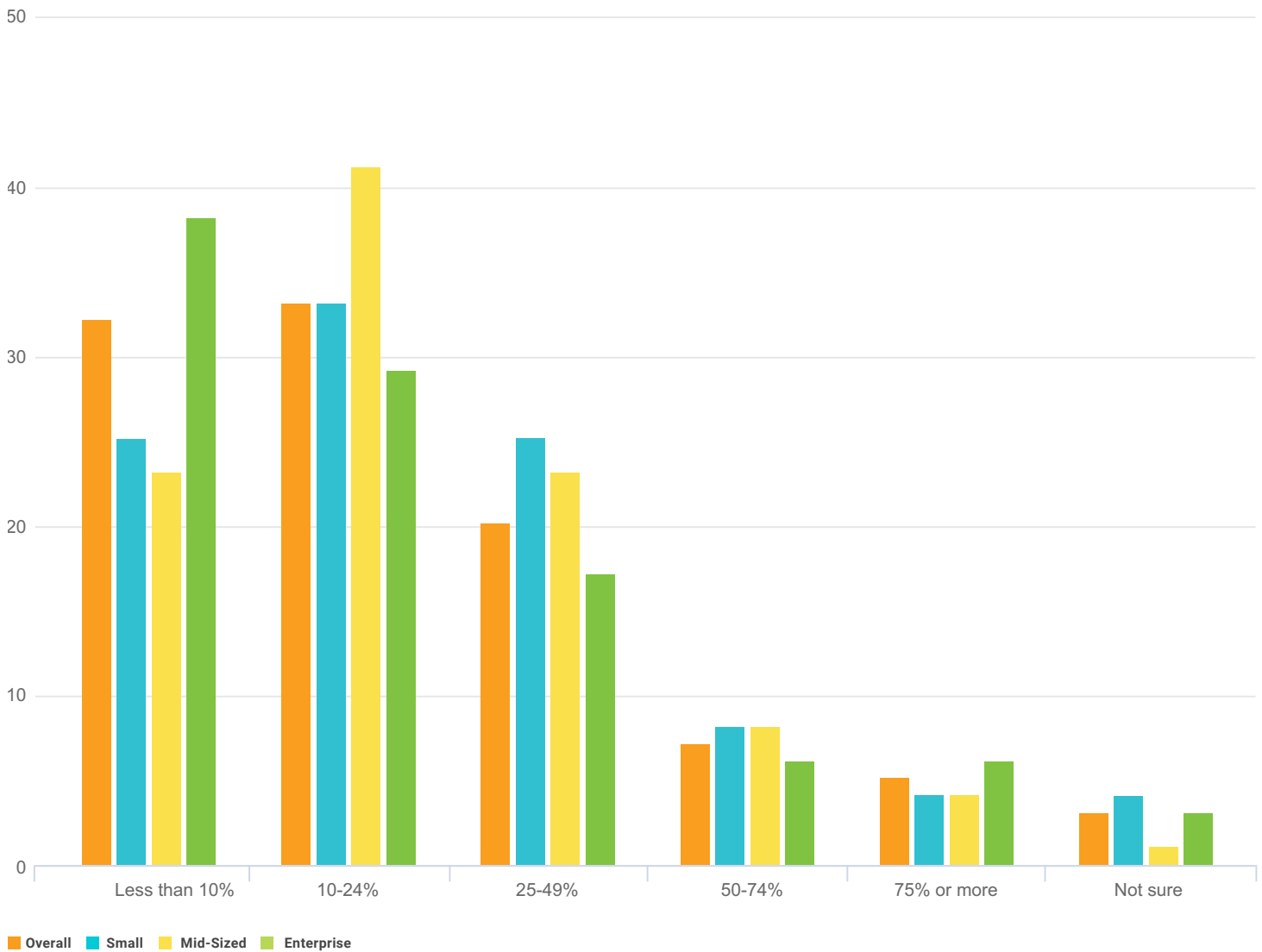
Study Overview: Impact of Infrastructure Complexity on Tech Pro Role



We asked:

What percentage of your daily responsibilities/tasks includes IT security management?

Figure 13: Percentage of Tech Pro's Daily Responsibilities/Tasks that Includes IT Security Management



Study Overview: Impact of Infrastructure Complexity on Tech Pro Role



We asked:

Which three areas of security skills and management is your organization prioritizing for development?

Figure 14: Top Areas of Security Skills & Management that Tech Pro's Organization is Prioritizing for Development



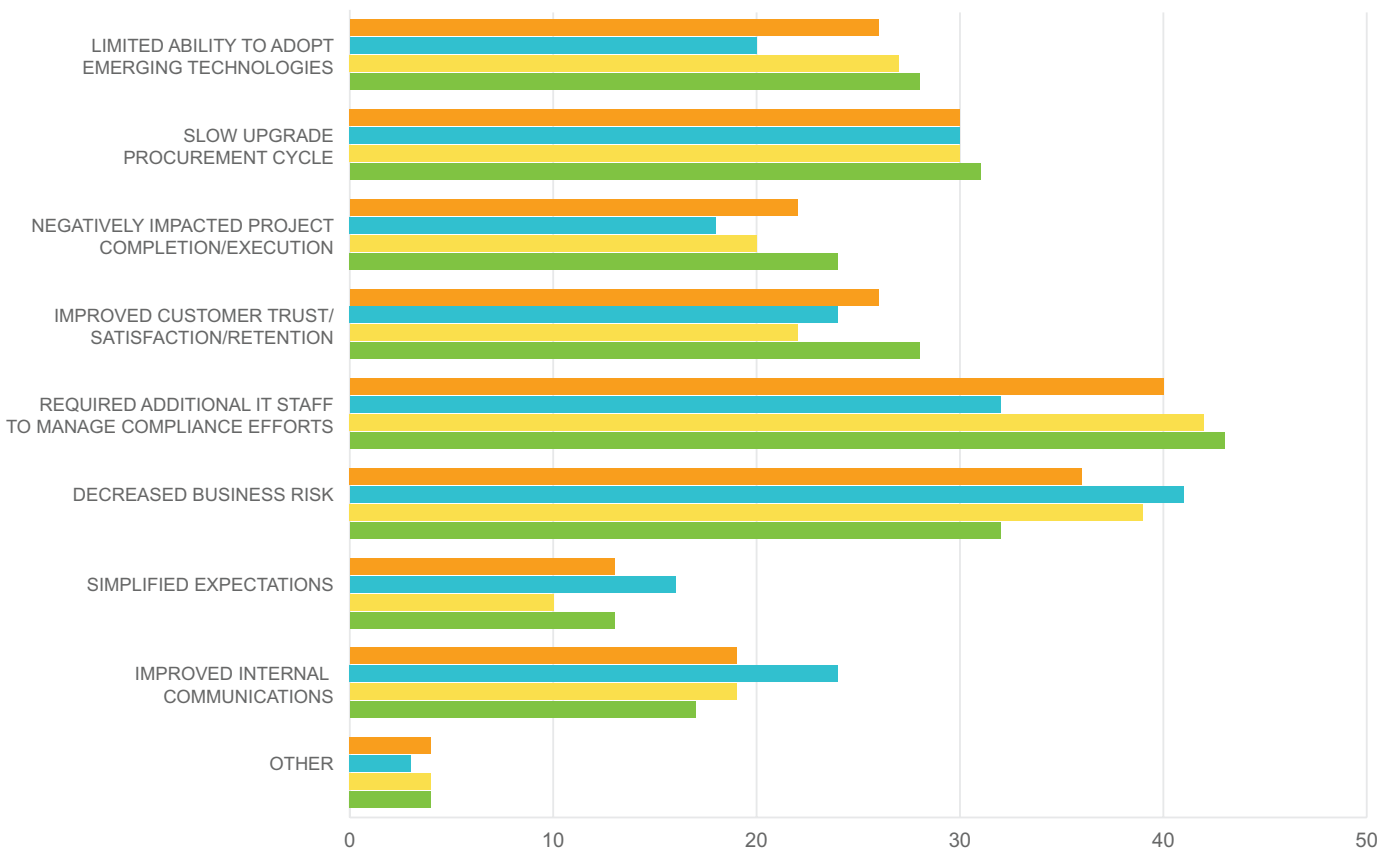
Study Overview: Impact of Infrastructure Complexity on Tech Pro Role



We asked:

How have compliance policies affected your IT department?

Figure 15: How Compliance Policies Have Affected Tech Pro's IT Department



Overall Small Mid-Sized Enterprise

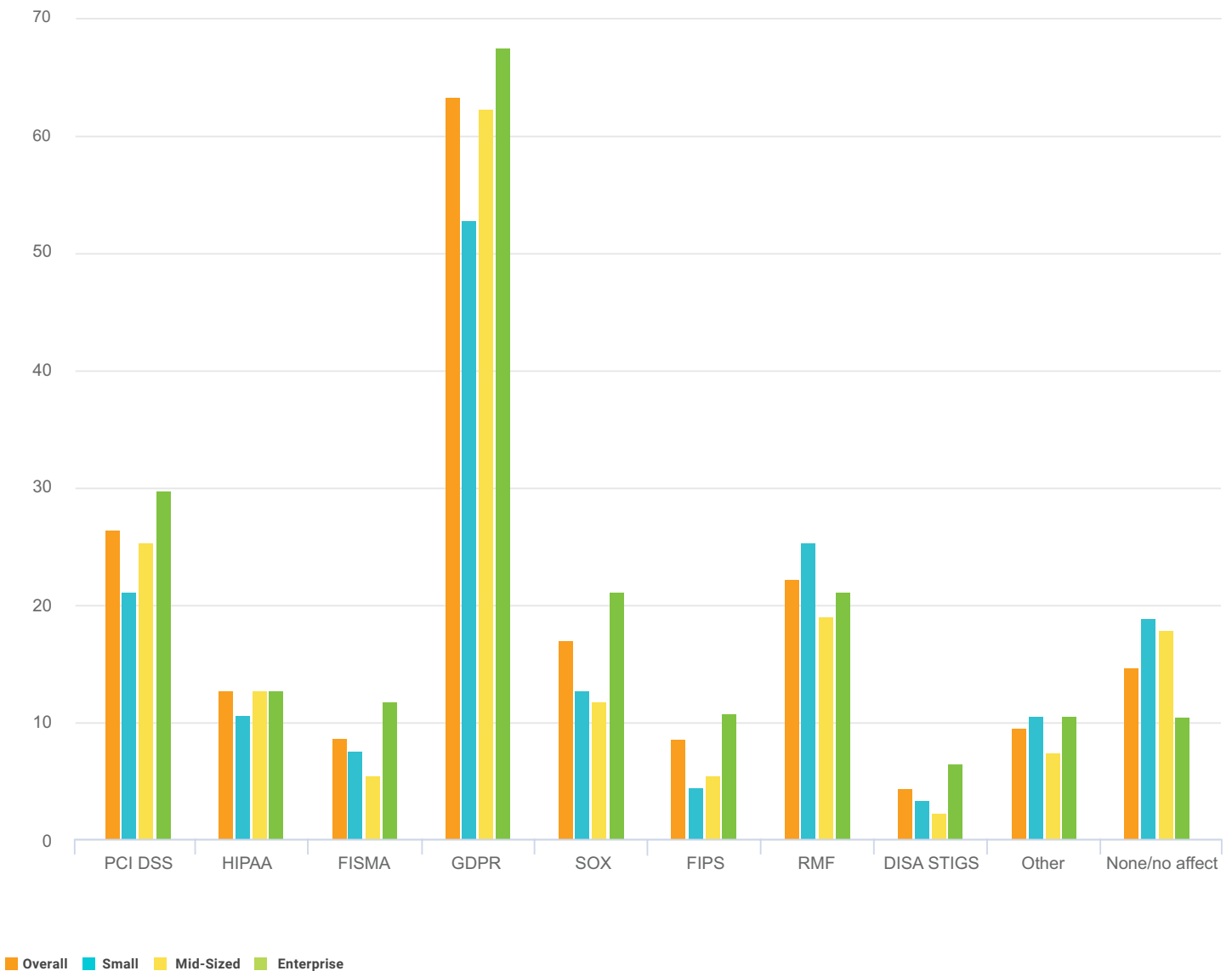
Study Overview: Impact of Infrastructure Complexity on Tech Pro Role



We asked:

Which compliance policies have affected your IT department?

Figure 16: Which Compliance Policies Have Affected Tech Pro's IT Department



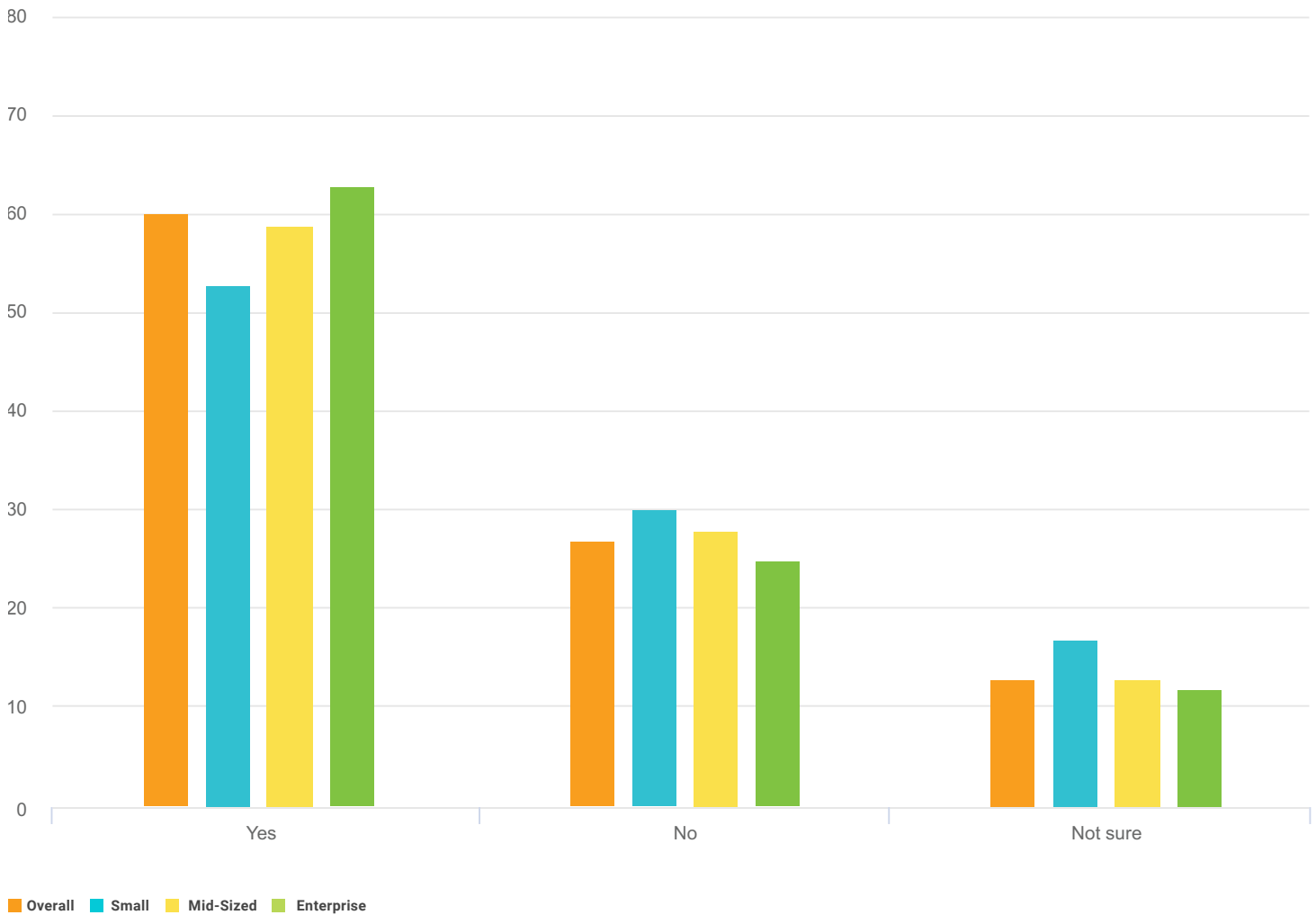
Study Overview: Impact of Infrastructure Complexity on Tech Pro Role



We asked:

Are you/your team/your department spending more time managing applications and services rather than infrastructure and hardware?

Figure 17: Do Tech Pros Spend More Time Managing Apps & Service Delivery than Infrastructure & Hardware?



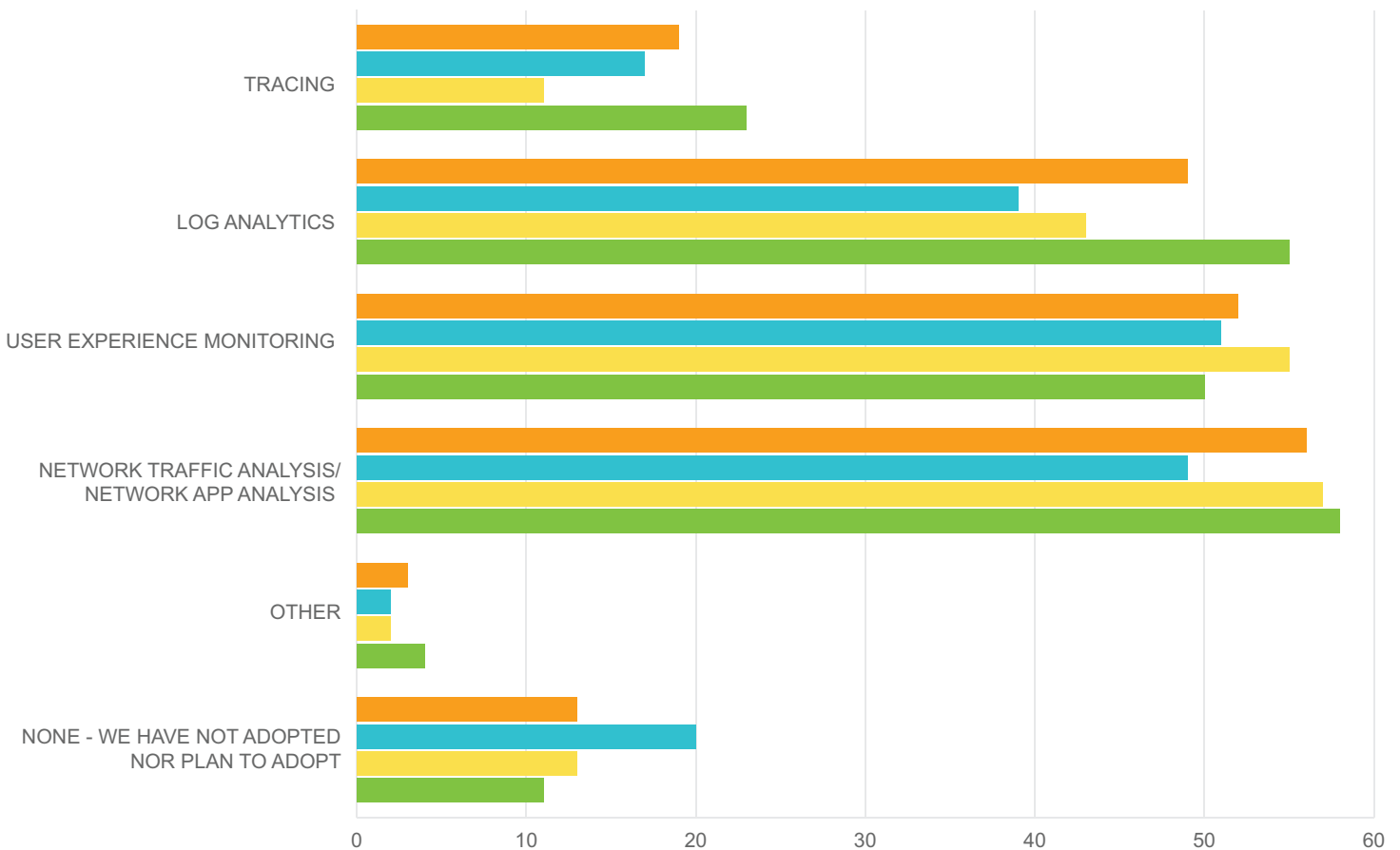
Study Overview: Impact of Infrastructure Complexity on Tech Pro Role



We asked:

When your organization adopts cloud and/or Software-as-a-Service (SaaS) technologies, what technical approaches do you use to gain visibility into those applications?

Figure 18: Technical Approaches Used by Tech Pros to Gain Visibility into Adopted Cloud &/or SaaS Technologies



Overall Small Mid-Sized Enterprise

Study Overview: Impact of Infrastructure Complexity on Tech Pro Role



We asked:

What type of tools are you using to gain visibility into cloud and/or Software-as-a-Service (SaaS) technologies?

Figure 19: Type of Tools Used by Tech Pros to Gain Visibility into Cloud &/or SaaS Technologies

