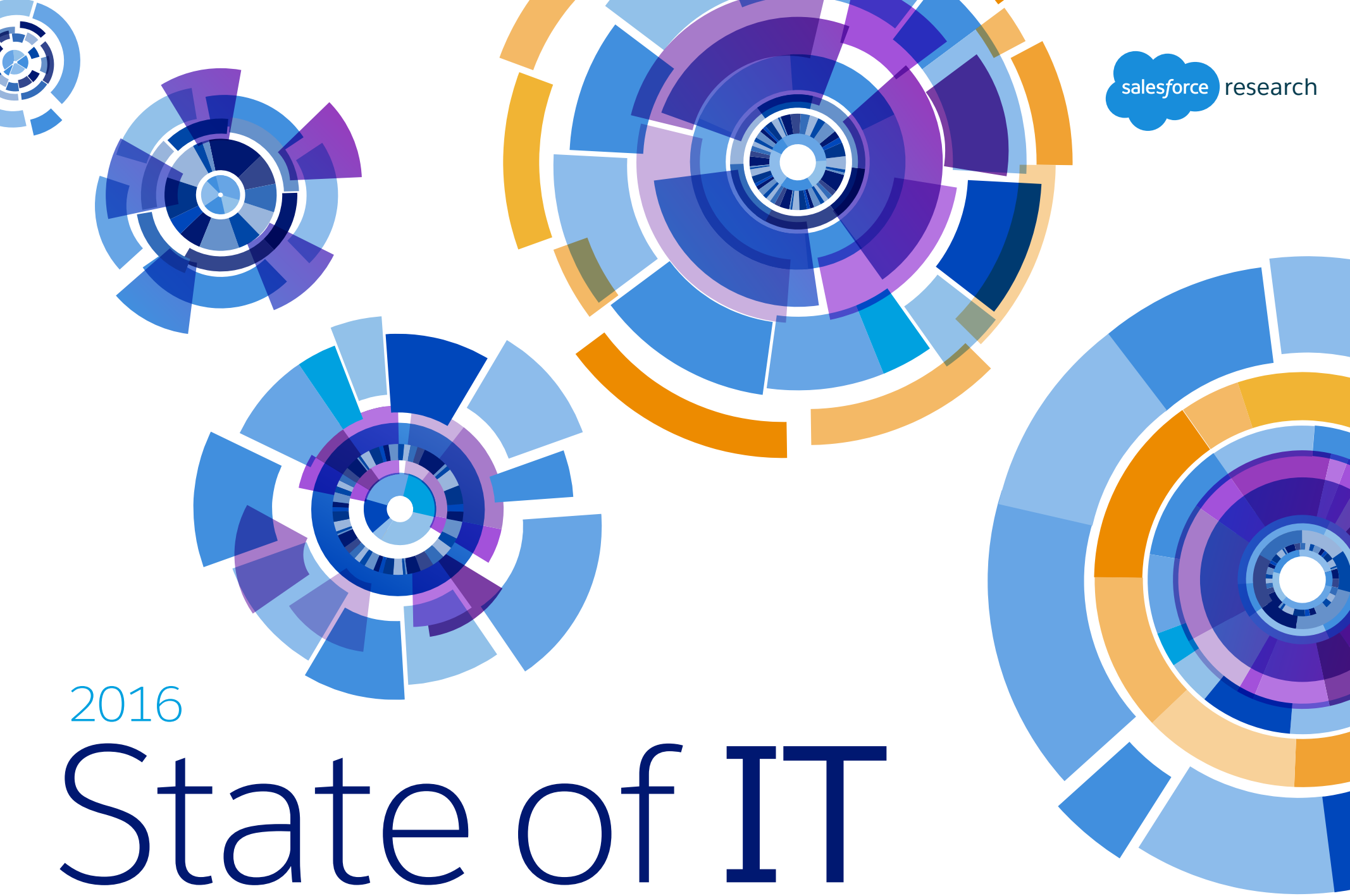


salesforce research

2016

State of IT

Digital transformation insights from over 2,200 IT leaders and CIOs

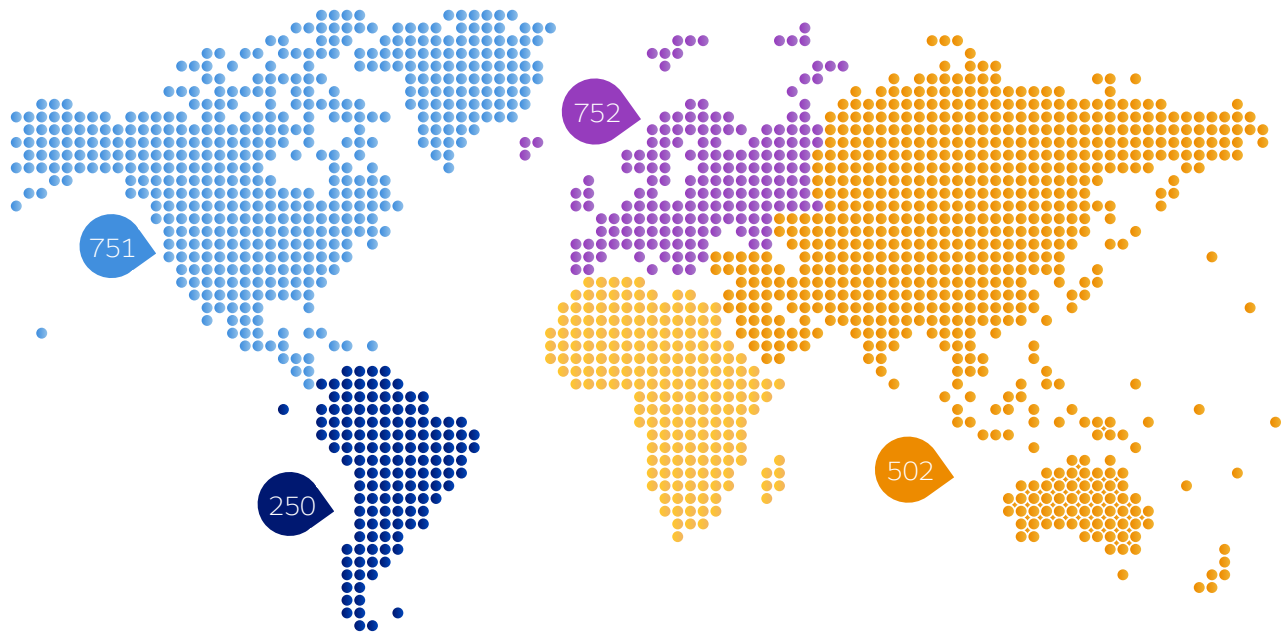
About This Report

Salesforce Research surveyed more than 2,200 global IT leaders and CIOs to discover:

- The evolving role of IT in business today
- How high-performing IT organisations are mastering digital transformation
- Areas where IT teams are investing to lead innovation in 2016 and beyond[1]

Throughout the report, data is examined relative to performance to identify patterns for overall success. We define high-performing teams as those whose IT leaders rate their company's business performance as excellent or above average and rate their company as excellent compared to its competitors.

The terminology "app" or "application" is used to define a digital (Internet-enabled) product, service, or solution created by or for an enterprise.[2] We also define "tech practice" as the organisational unit(s) within the company that are responsible for delivering, supporting, and identifying business solutions using technology/IT.



[1] *Conducted at the end of 2015, this survey generated responses from 2,255 global CIOs and IT leaders from the U.S., Canada, Brazil, Australia, Japan, France, the U.K., and Germany. This report is limited to companies who reported developing some or all enterprise applications in-house. It does not include respondents who outsource all development to service providers or partners. Due to rounding, not all percentage totals in this report equal 100%. All comparison calculations are made from total numbers (not rounded numbers).*

[2] *An app may be accessed via a desktop or mobile interface, and is either internally facing (to employees or partners) or externally facing (to consumers).*

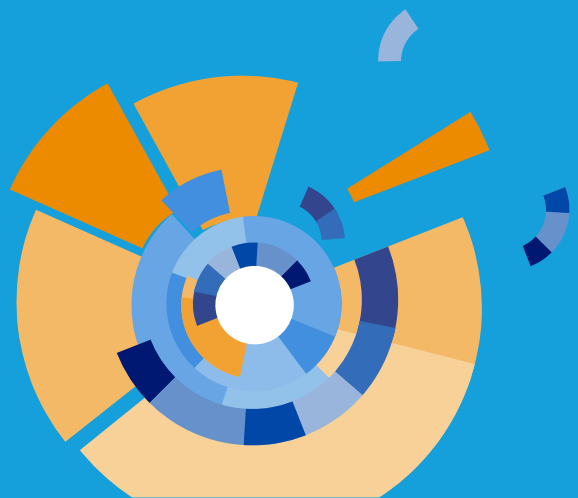
Table of Contents

Salesforce Research provides data-driven insights to help businesses transform how they drive customer success. Browse all reports at salesforce.com/research.

Executive Summary

IT has come a long way since the days of operating solely as a support arm for the business. Today's IT teams are leaping to the forefront of company strategy by leading innovation to stay ahead of the digital era and evolving customer expectations.

With new expectations comes a fundamental change in the way leadership views, structures, and runs IT organisations. In this report, we examine these shifts across three key areas – business strategy, people, and technology.



01 | Strategy Under Siege: Digital Shakes Up Traditional IT

(see page 8)

IT leaders are reshaping how they operate. Successful IT teams must now be proactive, aligned with customer needs, and on top of digital trends like mobile. This shift is most visible in the rise of the chief digital officer, a position that has emerged to address the need for a digitally driven, innovative, and customer-focused leadership role in IT. **Sixty percent of companies currently employ a chief digital officer.**

02 | The Skills Gap Widens: IT Leaders Bank on Training and Tools

(see page 11)

As customer and employee expectations change, so do the necessary skills and talents needed to exceed them. There is a widening skills gap between demand and talent, compounded by changing budget needs. **Four out of the top 10 pain points that IT leaders face are related to the skills gap.** Successful companies are using training and better tools to bridge the divide.

03 | Technology Shifts: The Cloud and Emerging Tech Lead the Way

(see page 15)

Training and tools are a part of the approach to closing the skills gap – the other part is the technology itself. IT leaders are leveraging new tech solutions to manage the back end while freeing up their teams to focus on innovation and delivering business results. **IT leaders across all performance levels list cloud migration as their top priority.**

Introduction
Today's IT: The Business of Innovation

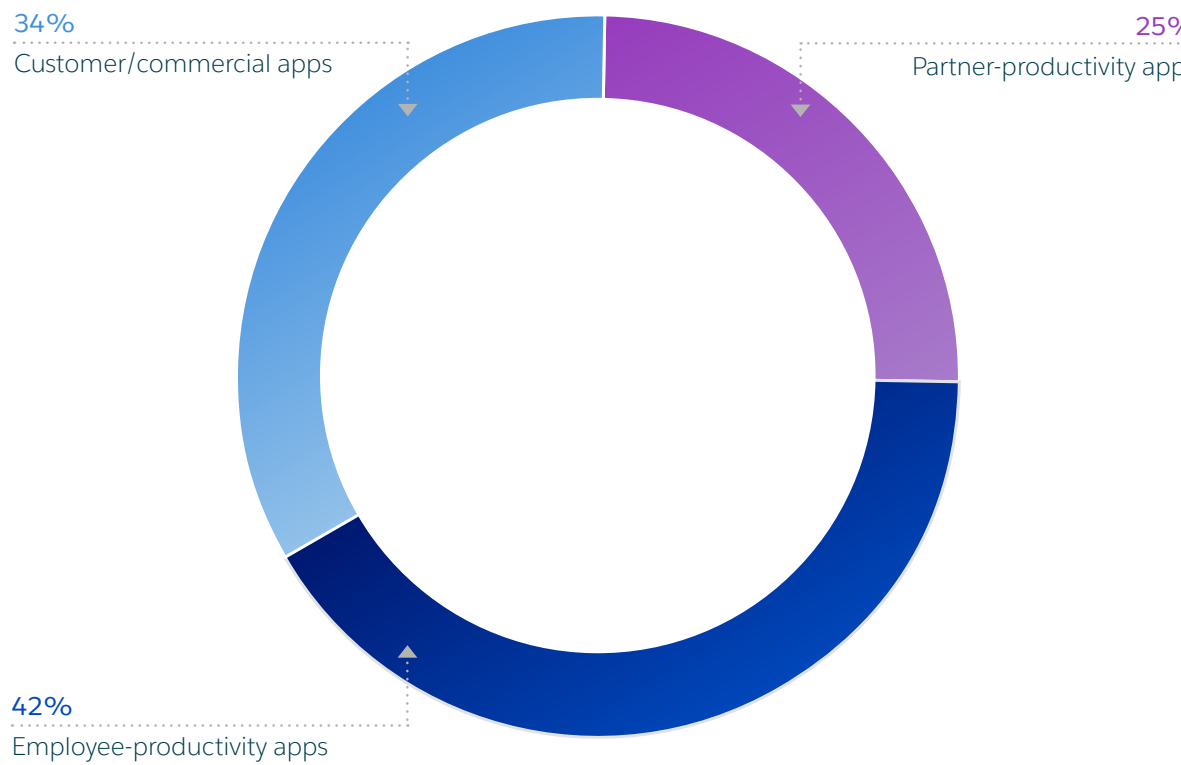
The way people interact with the companies around them has dramatically changed. Customers and employees alike have grown to expect companies to deliver easy, personalised, and on-demand experiences that evolve along with their needs.

As businesses rush to keep up with the changing market, IT's scope of responsibility is rapidly expanding. Beyond managing technical operations, IT teams are becoming increasingly central to every facet of the business.

79% of IT teams are currently developing apps for customers, partners, and employees.

App Development Scope Expands for IT Teams

App development is central to IT strategy. Here is the breakdown of apps currently being developed, by type.



While IT's impact has grown well beyond "keeping the lights on," teams still need to maintain core operations. IT leaders are expected to deliver on cutting-edge, customer-driven applications on top of everyday functions. Key business needs such as worker productivity, data visibility, and automating business processes still top the charts as the building blocks for growth.

Core IT Stays in Focus

IT leaders are expected to innovate on customer-facing apps while still delivering on typical internal needs. Here we see the top outcomes that IT teams strive to achieve; centered around solving core needs such as worker productivity, data visibility, and process automation.

IT LEADER *perspective*

BROWN-FORMAN

"At the end of the day, Brown-Forman sells and markets spirits and wine. That's what we do. If we can use our IT dollars to assist that work in any way possible, rather than just keeping the lights on, we should continue to do so." – **Toby Lester**, VP of Technology Architecture & Innovation

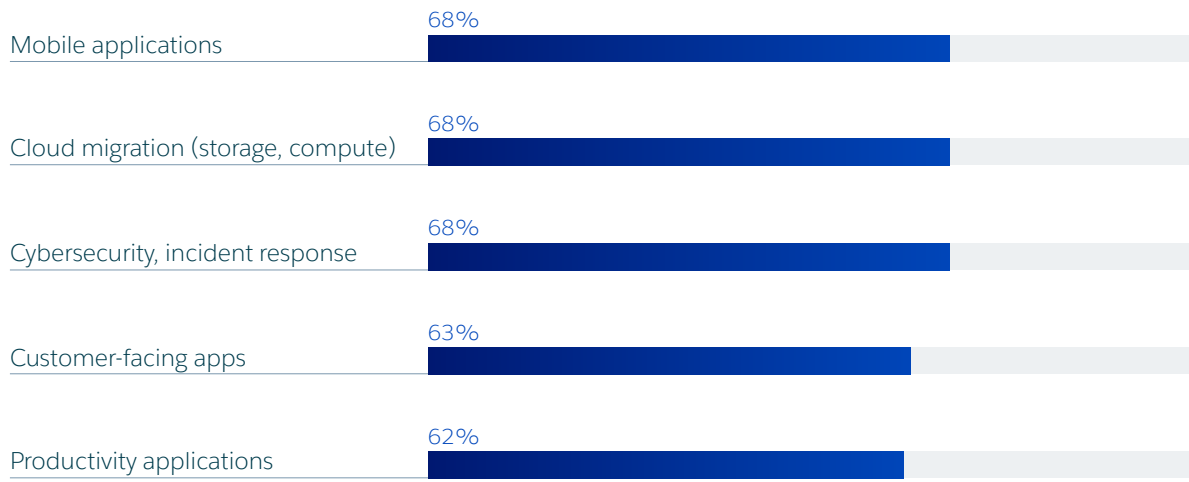
IT leaders are becoming more focused on innovative, digitally driven tech and the security that goes along with it. **The top three areas for increased spending are mobile apps, cloud migration, and cybersecurity/incident response.**

Despite IT's shift to a strategic business driver, budgets have not kept pace with the demand. Across teams at all performance levels, budget is consistently cited as the number one pain point.

Digital Trends Redefine IT Investments

*Sixty-eight percent of IT teams report spending more on mobile apps, cloud migration, and cybersecurity/incident response over the next two years. At the same time, 63% plan to increase spending in customer-facing apps. Here are the top five investment areas.**

Percentage Increasing Spending over the Next 2 Years



* This chart shows only the top five. For the complete list, see page 24.

01 Strategy Under Siege: Digital Shakes Up Traditional IT

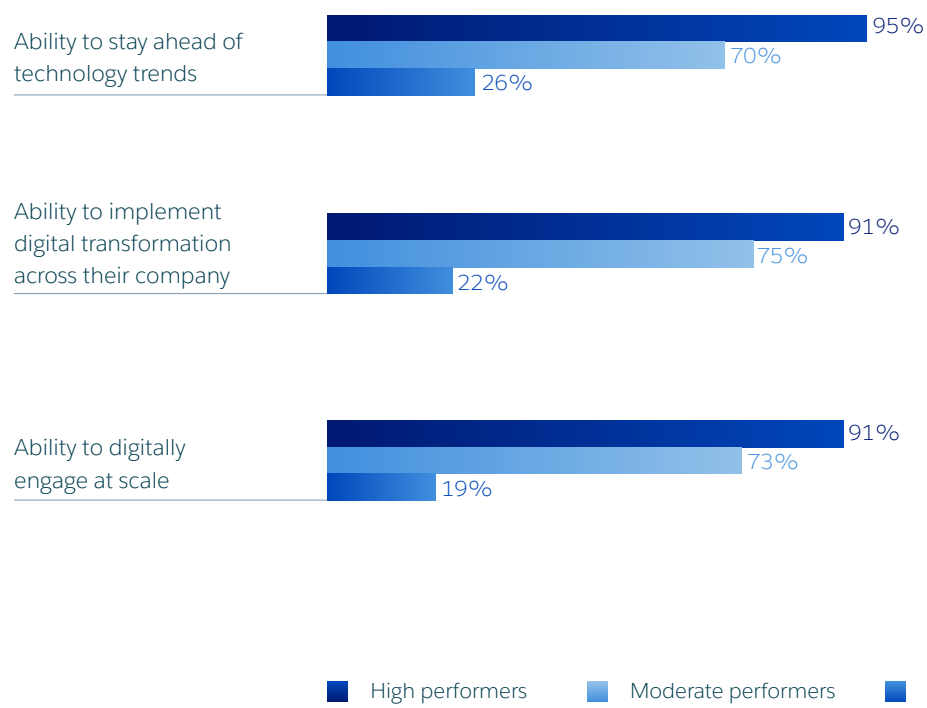
The radical shift in the way IT operates within a company – acting as innovation leaders and digital experts – has forced leadership to rethink their IT strategies. The most successful IT teams are pushing the envelope and planning for customer-facing app development as consumers grow to expect modern and mobile technology.

Top teams in the digital age are not afraid to take risks – they are actively testing, adopting, and mastering new technologies as they emerge.

Top IT Teams Embrace Digital and Tech Trends

High performers are 3.7x more likely than underperformers to say they are excellent or above average at staying ahead of technology trends. They are also 4.2x more likely to say the same about implementing digital transformation across their company.

Percentage Rating Their Ability as Excellent or above Average



High Performers vs. Underperformers

3.7x
more likely to excel at staying ahead of tech trends

4.2x
more likely to excel at implementing digital transformation

4.8x
more likely to excel at digitally engaging at scale

The movement toward a more customer-centric mindset in IT is reflected in spending, particularly among high performers. Top companies are accelerating their plans to meet the demands of mobile and connected customers.

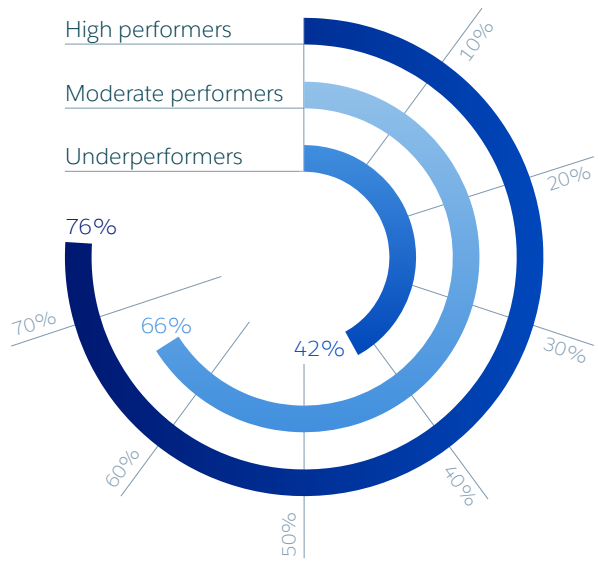
Nearly 90% of new apps launching in the next 12–18 months will be created with a mobile-first mindset.

Top Teams Double Down on Customer and Mobile App Spending

Customer needs and mobile access are becoming central to IT apps. Seventy-six percent of high-performing IT teams report increasing spending in customer-facing and mobile apps.

Percentage of IT Leaders Planning to Increase Spend over the Next 2 Years

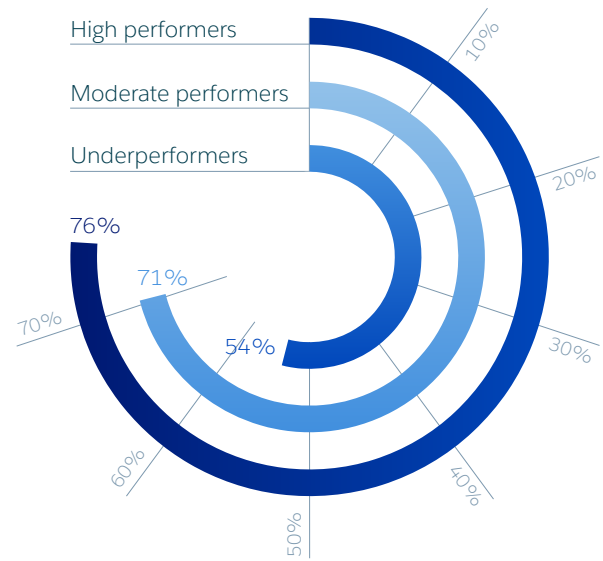
Customer-Facing Applications



High Performers vs. Underperformers

1.8x more likely to be increasing spending in customer-facing apps

Mobile Applications



High Performers vs. Underperformers

1.4x more likely to be increasing spending in mobile apps

01 Strategy Under Siege: Digital Shakes Up Traditional IT

A new emphasis on the customer and digital trends brings the need for new perspectives and skill sets. CIOs now need to be visionaries for not just their departments, but the company as a whole. A recent role, the chief digital officer (CDO), has become a must-have in many organisations. CDOs usually have a marketing background, consumer knowledge, and a hyperfocus on digital trends. The role has become more prominent as employees and customers alike expect consumer-friendly tech. In fact, **60% of companies currently employ a chief digital officer.**

The Age of the Chief Digital Officer

Sixty percent of companies surveyed already employ a chief digital officer – a leadership role that was scarcely heard of a decade ago.

IT LEADER *perspective*

SAFEWAY

"Any company that doesn't use technology to redefine themselves and keep up with the times is bound to go obsolete. One sign of that is the growing blurring of the distinction between the CMO and the CIO. Any IT leader today has to be able to straddle that divide and be able to talk the business language, and vice versa." – Sineesh Keshav, VP of IT Application Development

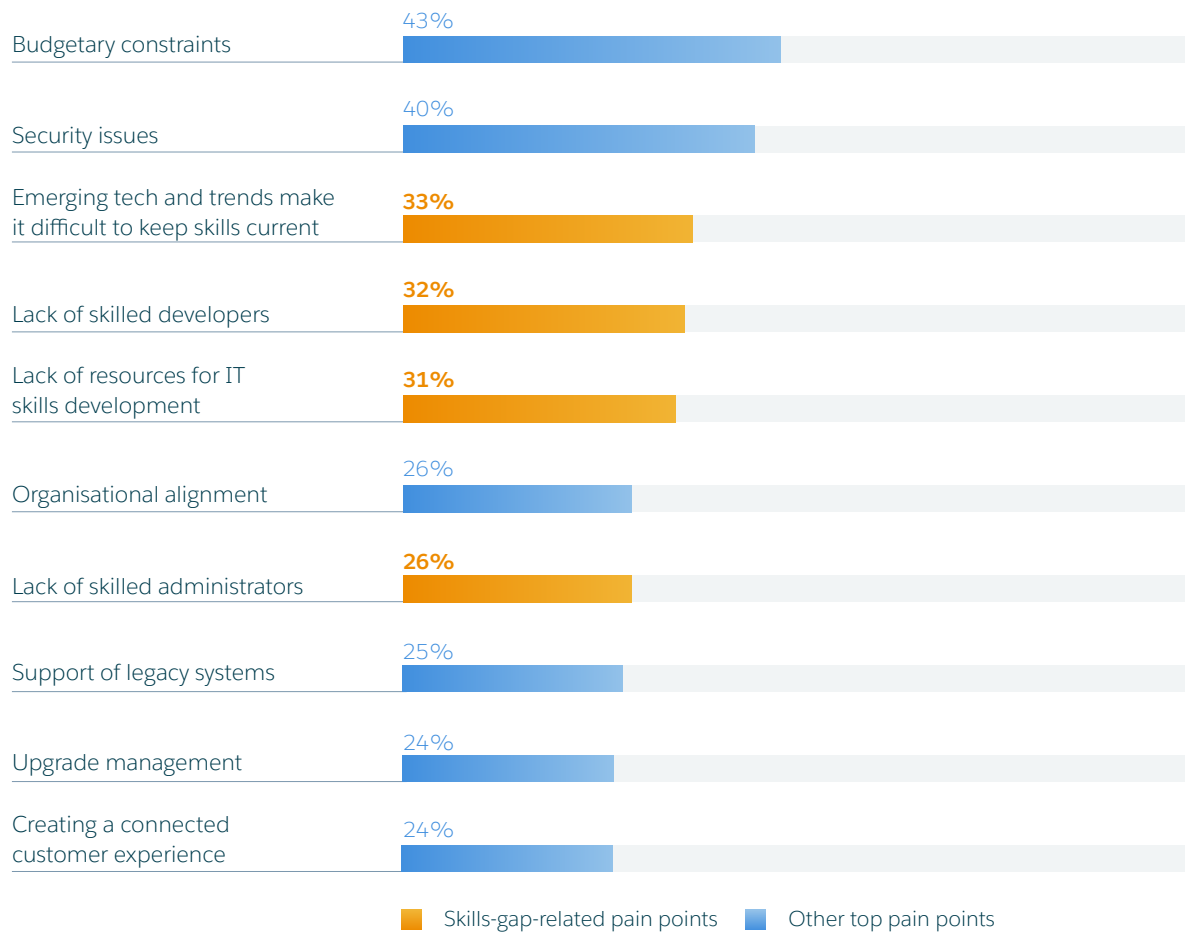
02 The Skills Gap Widens: IT Leaders Bank on Training and Tools

In order to stay ahead of digital transformation and innovate as quickly as possible, new skills are vital. There is a widening gap between demand for new types of apps and talent, made more severe by growing budget demands.

Almost **three-quarters** of IT leaders say talent/IT skills development and training will be absolutely critical or very important for their team in the next five to eight years. However, **four out of the top 10** obstacles cited revolve around the growing skills gap.

IT Leaders Mind the Skills Gap

*Four out of the top 10 pain points that IT leaders face are related to the skills gap. One-third of IT teams struggle to keep skills current with emerging tech.**



** This chart shows only the top 10. For the complete list, see page 38.*

02 The Skills Gap Widens: IT Leaders Bank on Training and Tools

As companies race to keep up with app demand and innovate on advancing technologies, the need for talent increases. **More than half of IT leaders are experiencing a skills gap in data engineering, IT security, and application development.**

The Race to Create Causes the Skills Gap to Widen

The top three areas where companies report a needed-skills gap are data engineering, IT security, and app development.

Percentage Citing a Needed-Skills Gap

IT LEADER *perspective*

ocado

"As we continue to grow fast, we need to drive efficiency, scalability, and sustainability. But as the saying goes, 'The cobbler's children have no shoes.' Like many technology companies, however fast we recruit engineers, there is an endless backlog of customer- and production-facing projects that take priority over developing new internal business applications. ... So after suffering this resourcing challenge for many years, we finally accepted that it would never change – we needed an alternative approach." – **Paul Clarke**, Director of Technology

02 The Skills Gap Widens: IT Leaders Bank on Training and Tools

IT leaders understand the importance of ramping up training and development as they work to close the skills gap. Eighty percent of IT leaders say their company's leadership cares about training and development for technical staff – and many are demonstrating that with increased investments.

Top performers are raising the stakes by ramping up their training budgets. Meanwhile, only 55% of underperformers are investing in training and development.

19% of underperforming teams say they aren't currently addressing the IT skills gap at all.

Top Performers Are Prioritising Training and Development

Training and development have become a main focus as IT leaders work to close the skills gap. Ninety-six percent of high performers invest in training for technical staff.

Percentage Investing in Training for Technical Staff

Spotlight
Leadership Support Inspires Success

IT LEADER *perspective*

NetApp

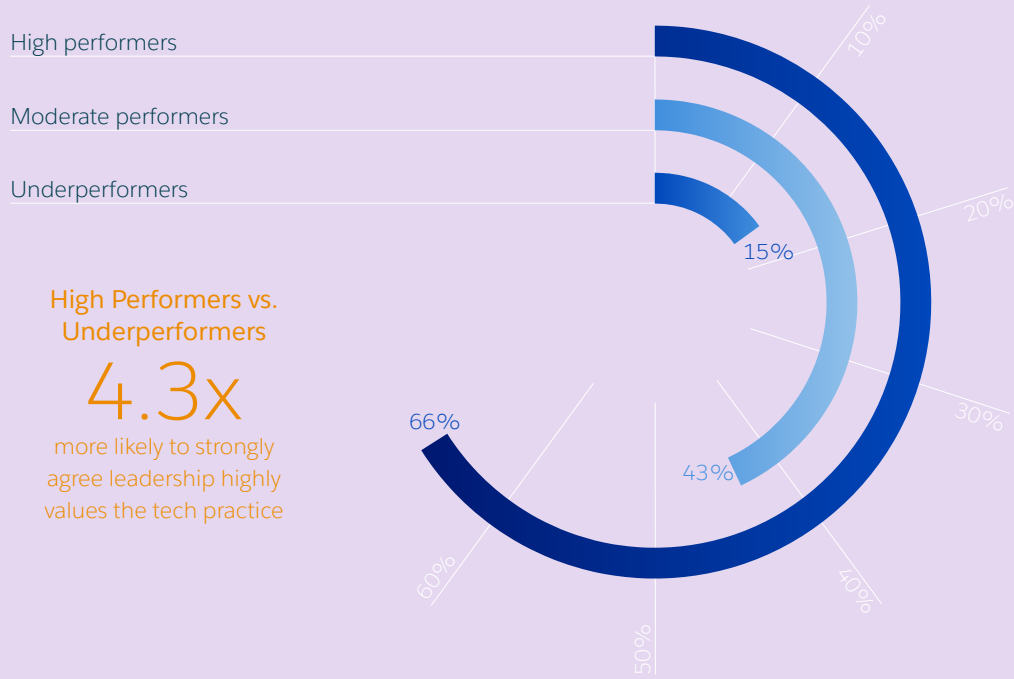
"When we first launched our cloud strategy, we had a buzzword that said 'SaaS first, cloud first,' and I think that actually scared a lot of people. So we took a step back and tried a little different approach to educate people and show them how many of their skills are very transportable to a cloud environment. There's a lot of new cool stuff they can learn. We've had lunch and learns, breakfast workshops, and actually launched some training called Cloud 101 to teach what cloud was and what cloud wasn't. Today, NetApp IT as an organisation has truly embraced the cloud."

– Cynthia Stoddard, CIO & SVP

It's important that leadership champions training and development for IT efforts to be successful. Sixty-six percent of high performers strongly agree they feel valued by their leadership, while only 15% of underperformers feel the same.

Top Performers Feel Valued by Leadership

High performers are 4.3x more likely than underperformers to strongly agree that leadership places a high value on the tech practice.



High Performers vs. Underperformers

4.3x

more likely to strongly agree leadership highly values the tech practice

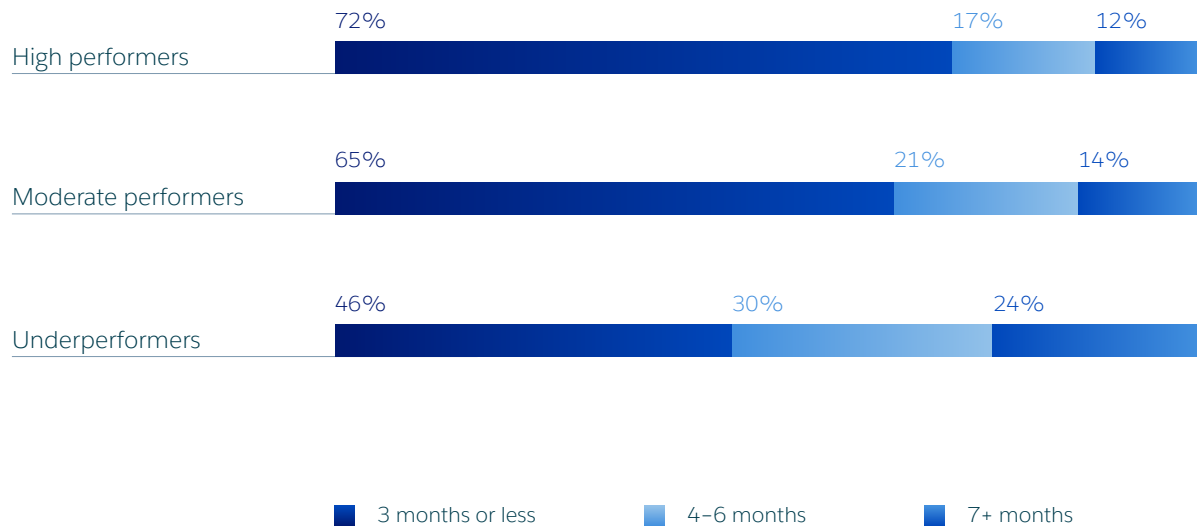
03 Technology Shifts: The Cloud and Emerging Tech Lead the Way

IT teams need to move faster than ever to propel their business into the digital era. Training and development are only part of the skills-gap story.

Embracing new technologies is an equally important aspect of accelerating innovation. The strengthening of the cloud and emergence of rapid app development platforms, for example, are enabling successful IT teams to free up talent for business transformation.

Speed Wins the Race: Top Performers Develop Apps Faster

Seventy-two percent of high-performing companies can develop an app in three months or less, while only 46% of underperformers can do the same. Here we see the difference in app development time as divided by performance level.



03 Technology Shifts: The Cloud and Emerging Tech Lead the Way

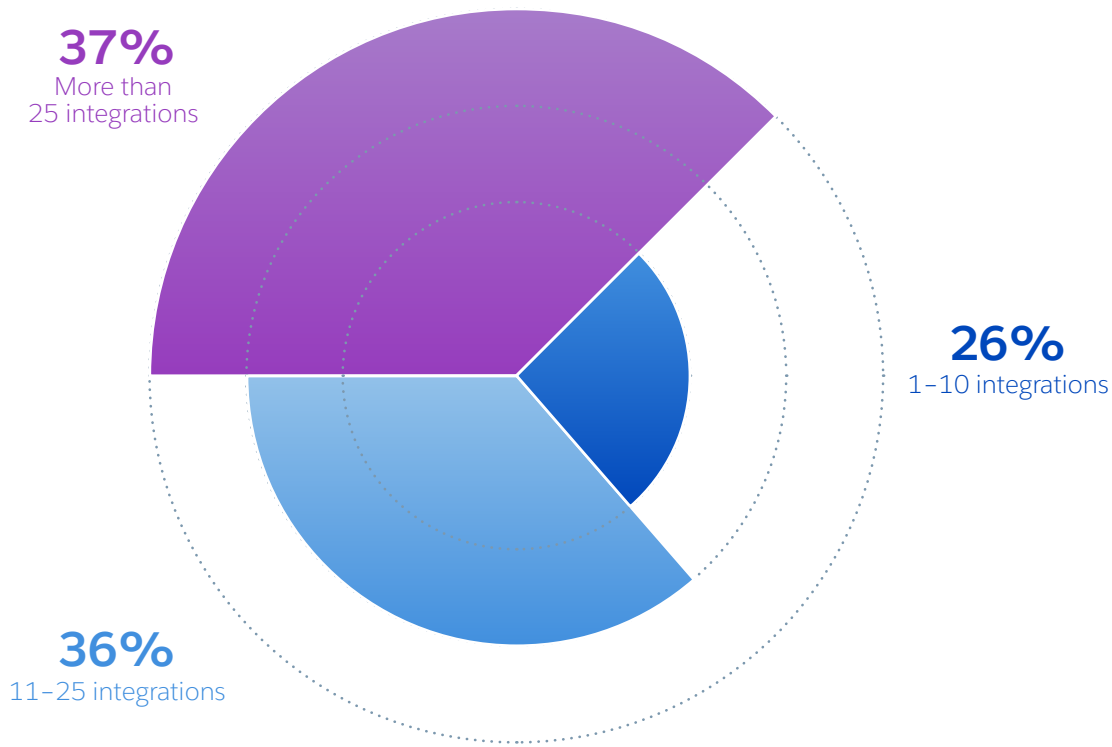
While IT teams strive to increase their pace, the proliferation of apps and integrations can be a bump in the road. Nearly one-third of IT leaders say their tech practice supports between 11 and 50 apps. Beyond that, **two-thirds of teams are integrating with 11 or more systems.**

As app development becomes more rigorous and integrations become more complex, companies are using the cloud to support fast-paced development. Nearly two-thirds (63%) of companies who operate in the cloud can develop an app in three months or less.

80% of those developing in the cloud say they are working primarily on projects that will transform their business.

Complexity Grows as Integrations Multiply

Two-thirds of IT leaders say they are integrating with 11 or more systems. As the complexity of integrations increase, cloud migration becomes a priority for tech practices.



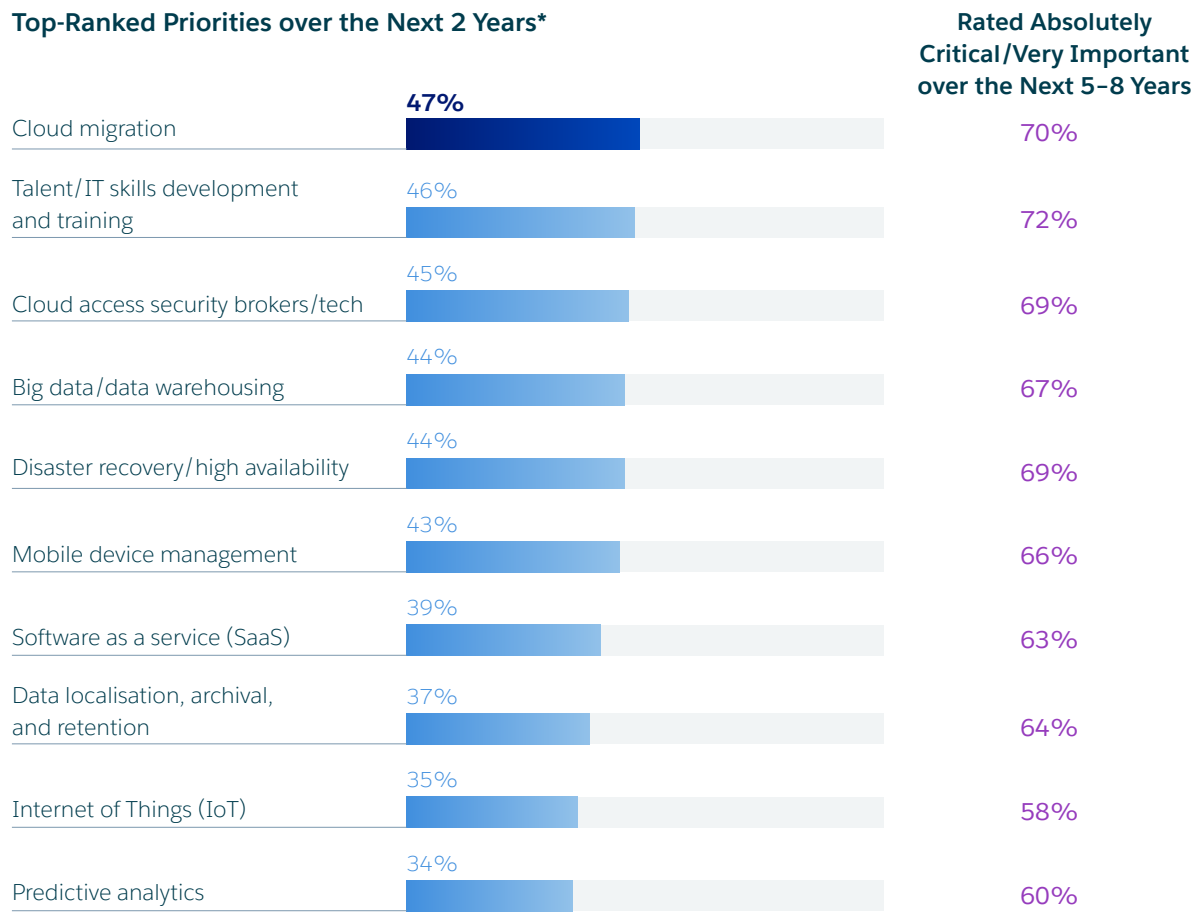
03 Technology Shifts: The Cloud and Emerging Tech Lead the Way

Since deploying in the cloud can relieve large staffing needs – allowing for faster innovation – companies are making cloud migration a priority. **Nearly two-thirds of companies that operate in the cloud rate their ability to digitally scale as above average.** Cloud services allow companies to off-load data management, operating system development, and even design, so they can produce higher-quality apps as fast as consumers expect them.

73% of cloud-enabled companies say their executive team is leading the business in a digital transformation.

Cloud Migration Is the Top Priority for IT Leaders

IT leaders list cloud migration as their top priority. Seventy percent rated cloud migration as absolutely critical or very important over the next five to eight years.



** This chart shows only the top 10. For the complete list, see page 35.*

03 Technology Shifts: The Cloud and Emerging Tech Lead the Way

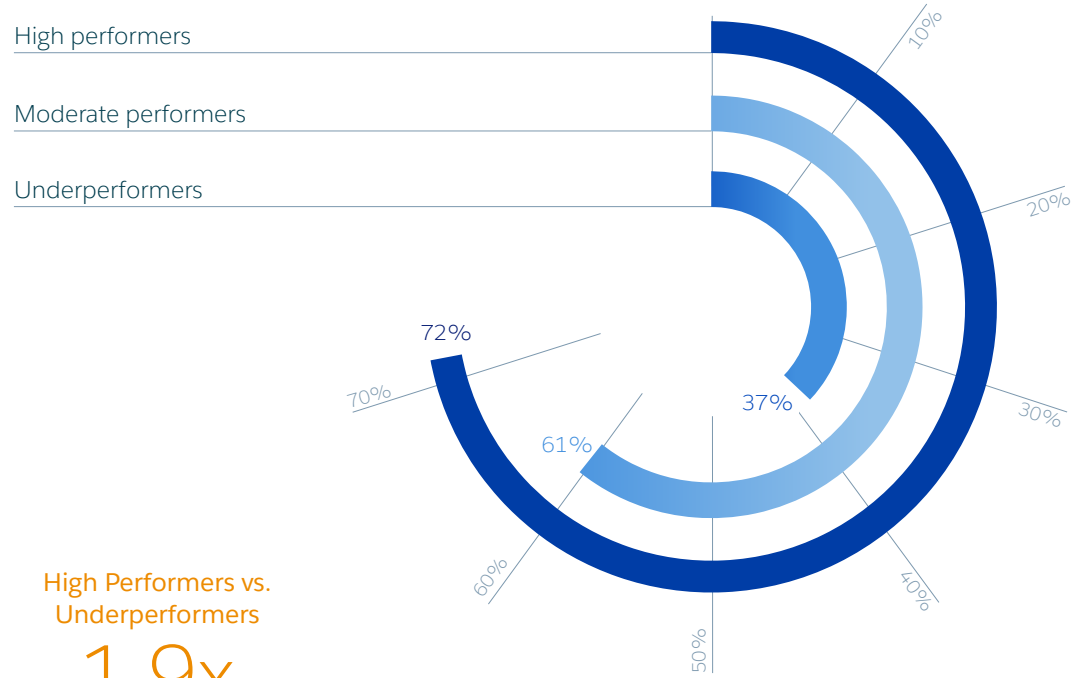
Security is a key part of infrastructure that IT teams once had to develop and manage in-house. It's difficult to evolve security with the ever-changing technology climate, especially as the number of systems that need to be integrated multiply.

As a result, IT leaders are looking for solutions to innovate as quickly and securely as possible. With the growth of cloud services, IT teams can now build on top of platforms or infrastructure with established, secure foundations, and plan for evolution as technology changes.

Top Teams Rely on the Cloud

Top-performing IT leaders trust cloud services to bolster security while their teams focus on innovating with engaging apps. Seventy-two percent of high performers trust storing core infrastructure data on a public cloud, which is 1.9x more than underperformers.

Percentage Who Trust Storing Core Infrastructure Data in the Cloud



High Performers vs. Underperformers

1.9x

more likely to trust storing core infrastructure data on a public cloud

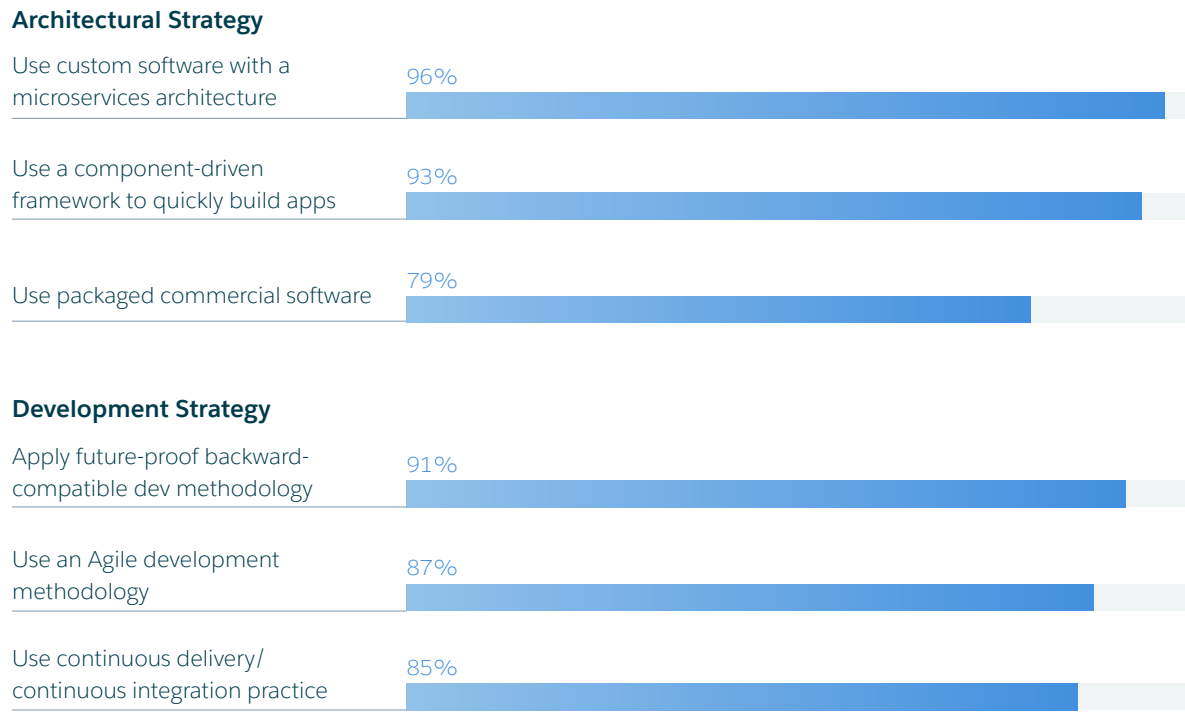
03 Technology Shifts: The Cloud and Emerging Tech Lead the Way

Beyond the cloud, microservice architecture and component-driven frameworks are two top areas where IT teams are investing to develop faster and more securely. These emerging technologies provide a foundation for IT developers to build upon, removing the burden of building from scratch and freeing up their development time.

Emerging Tech Fuels Digital Innovation Strategy

Microservices (96%), component-driven framework (93%), and future-proof backward-compatible dev methodology (91%) are the top three areas of IT growth across architectural and development strategy.

Percentage of Anticipated Growth in Strategy Areas



Last Look
Innovation without Boundaries

IT is evolving to meet the demands of the digital era by creating customer-facing and employee apps that are easy to use, efficient, and mobile. Growing responsibilities and needs have caused a widening skills gap. Successful companies are overcoming this gap with the cloud and emerging tech, allowing them to innovate faster and without boundaries. Here's how IT teams today can start shifting in order to succeed tomorrow.

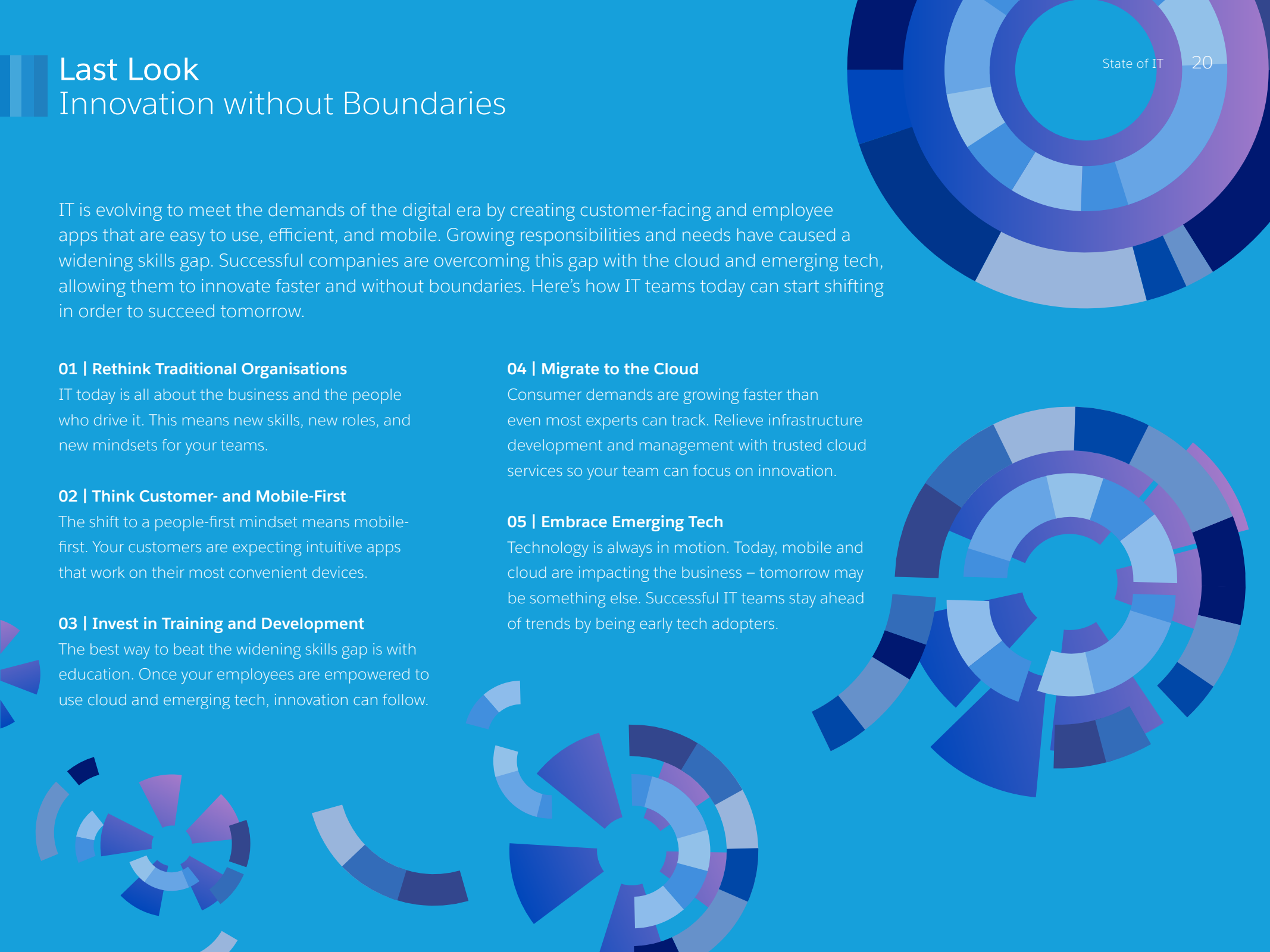
01 | Rethink Traditional Organisations
IT today is all about the business and the people who drive it. This means new skills, new roles, and new mindsets for your teams.

02 | Think Customer- and Mobile-First
The shift to a people-first mindset means mobile-first. Your customers are expecting intuitive apps that work on their most convenient devices.

03 | Invest in Training and Development
The best way to beat the widening skills gap is with education. Once your employees are empowered to use cloud and emerging tech, innovation can follow.

04 | Migrate to the Cloud
Consumer demands are growing faster than even most experts can track. Relieve infrastructure development and management with trusted cloud services so your team can focus on innovation.

05 | Embrace Emerging Tech
Technology is always in motion. Today, mobile and cloud are impacting the business – tomorrow may be something else. Successful IT teams stay ahead of trends by being early tech adopters.

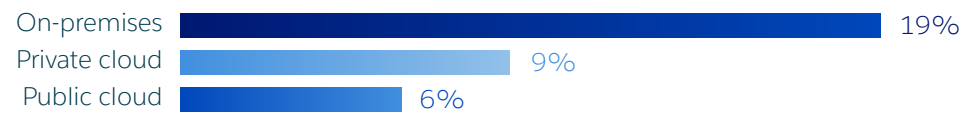


Appendix A: App Deployment

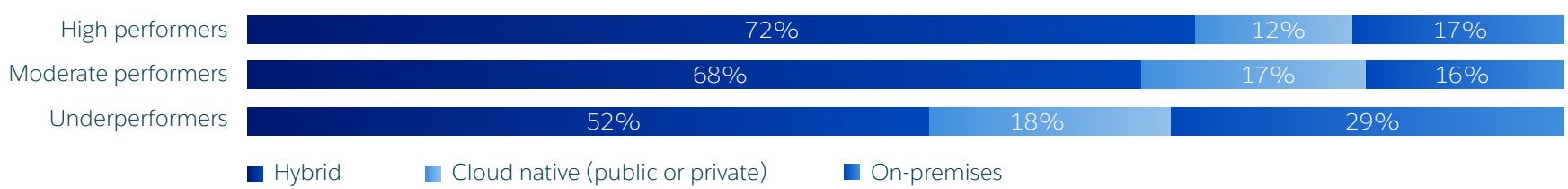
One-quarter of tech practices use more than two app deployment models. *Here we see the percentage of tech practices using various deployment models.*

35% of tech practices use one app deployment model.

65% of tech practices use a hybrid approach that includes any combination of on-premises, private cloud, and public cloud services.

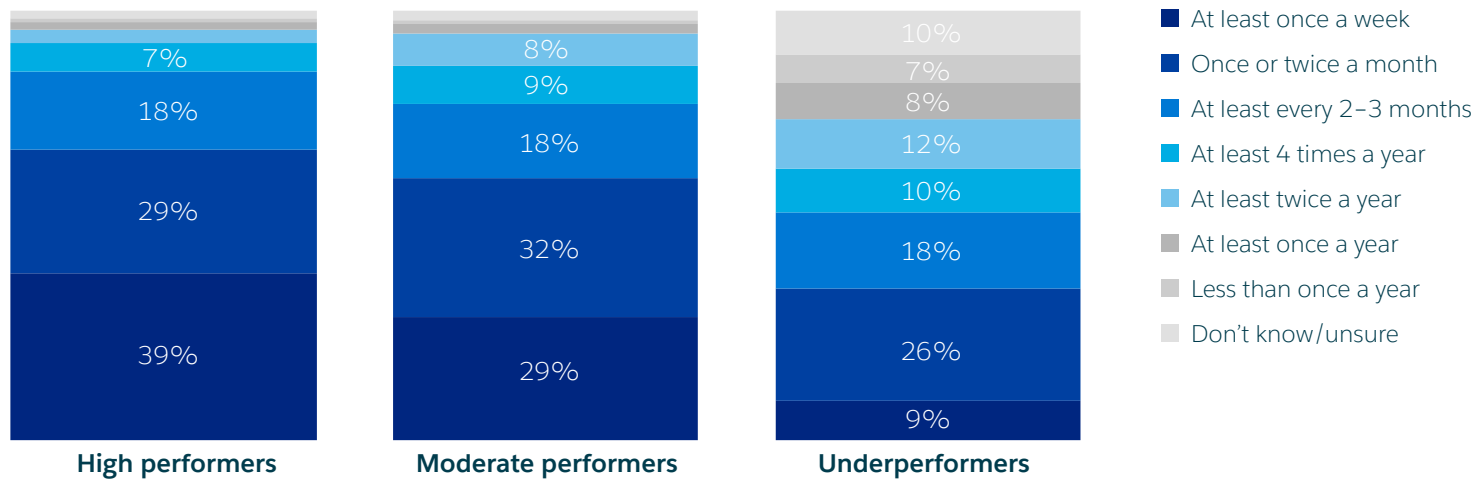


Nearly two-thirds of all respondents (65%) use a hybrid approach. *Here we see the percentage of companies using each app deployment model (hybrid includes any combination of on-premises, private cloud, or public cloud) by performance level.*

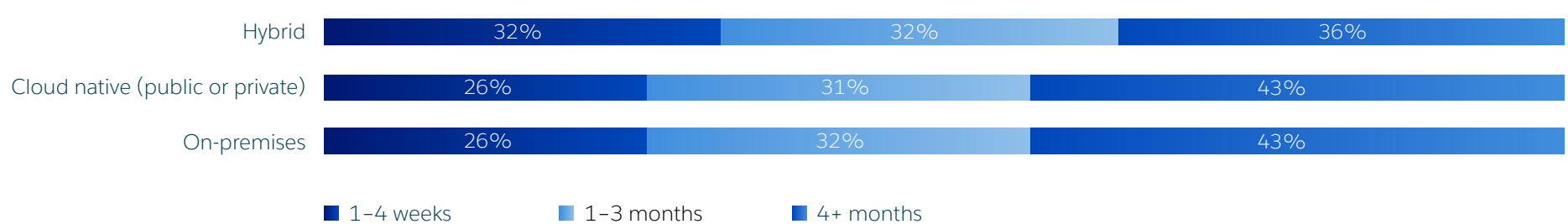


Appendix A: App Deployment

High performers are 1.9x more likely than underperformers to deploy major releases at least once a month. *Here we see the frequency at which tech practices deploy major releases by performance level.*

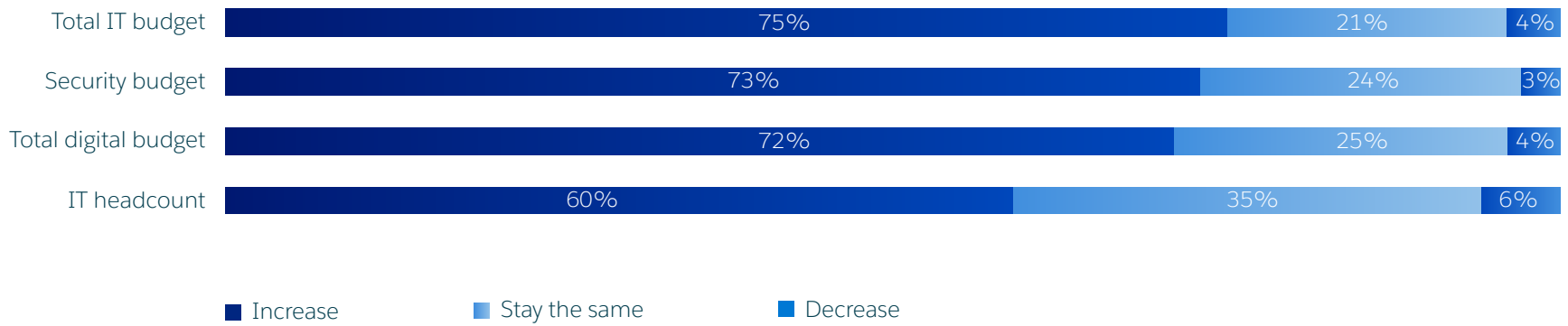


Companies using a hybrid approach to app deployment spend less time developing a new app than those who use on-premises-only. *Here we see the length of time it takes to develop an app by deployment model.*



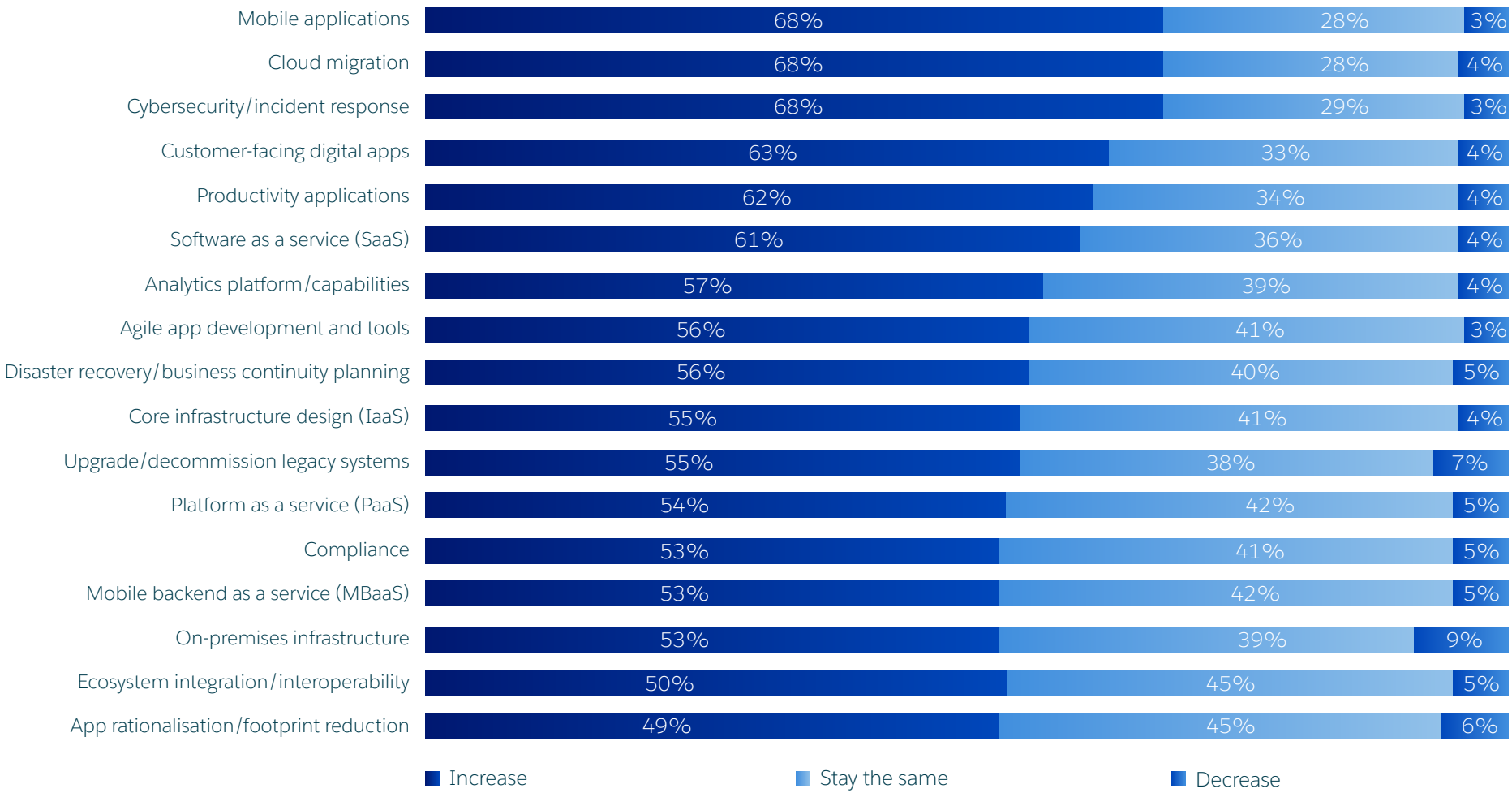
Appendix B: IT Spend

Three-quarters of IT leaders plan to increase overall IT spending. *Here we see how IT leaders plan to allocate budget over the next two years.*



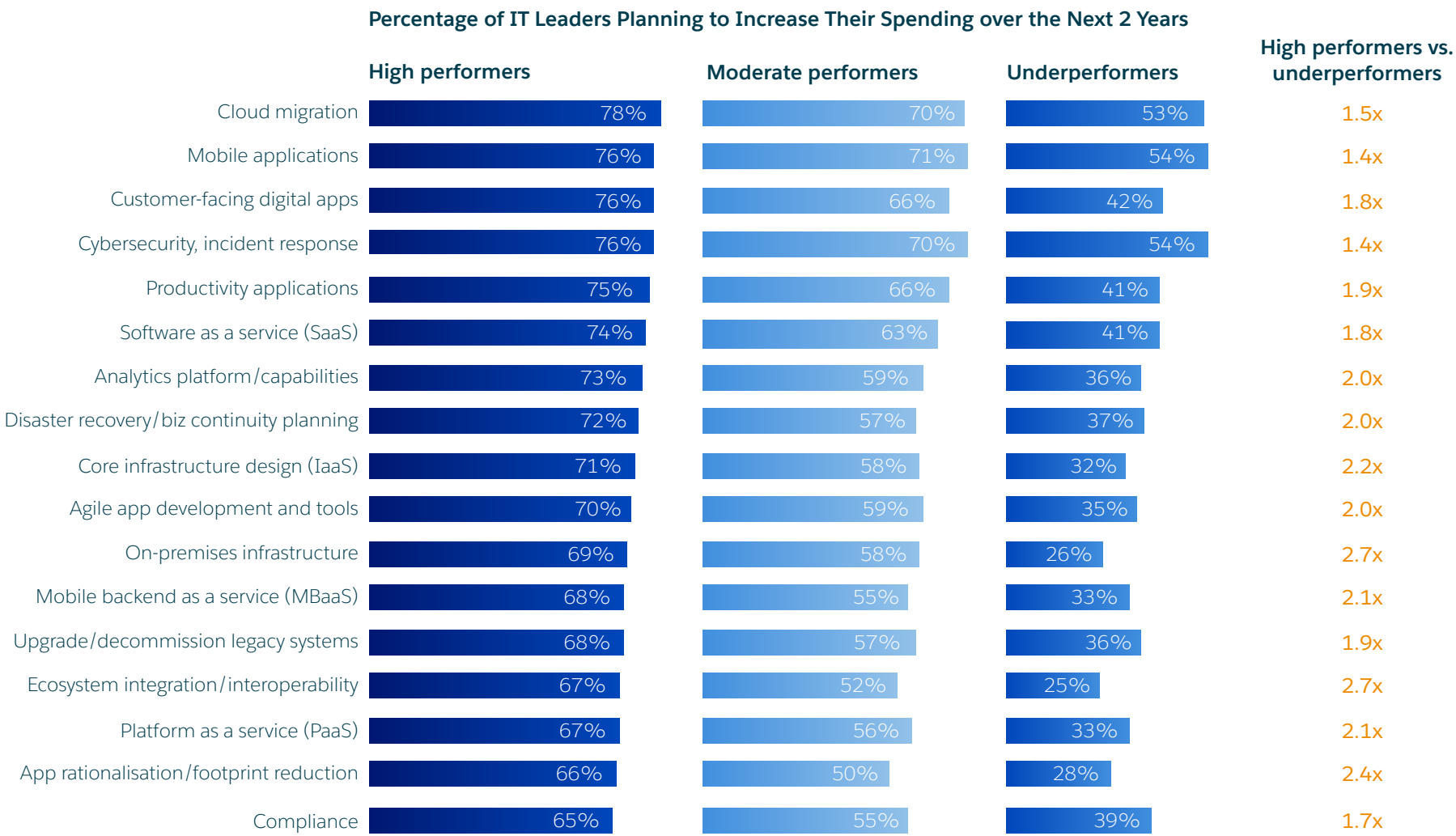
Appendix B: IT Spend

IT leaders plan to increase their spending the most for mobile applications, cloud migration, and cybersecurity/ incident response. *Here we see how IT leaders will allocate budget over the next two years across all technologies and practices.*



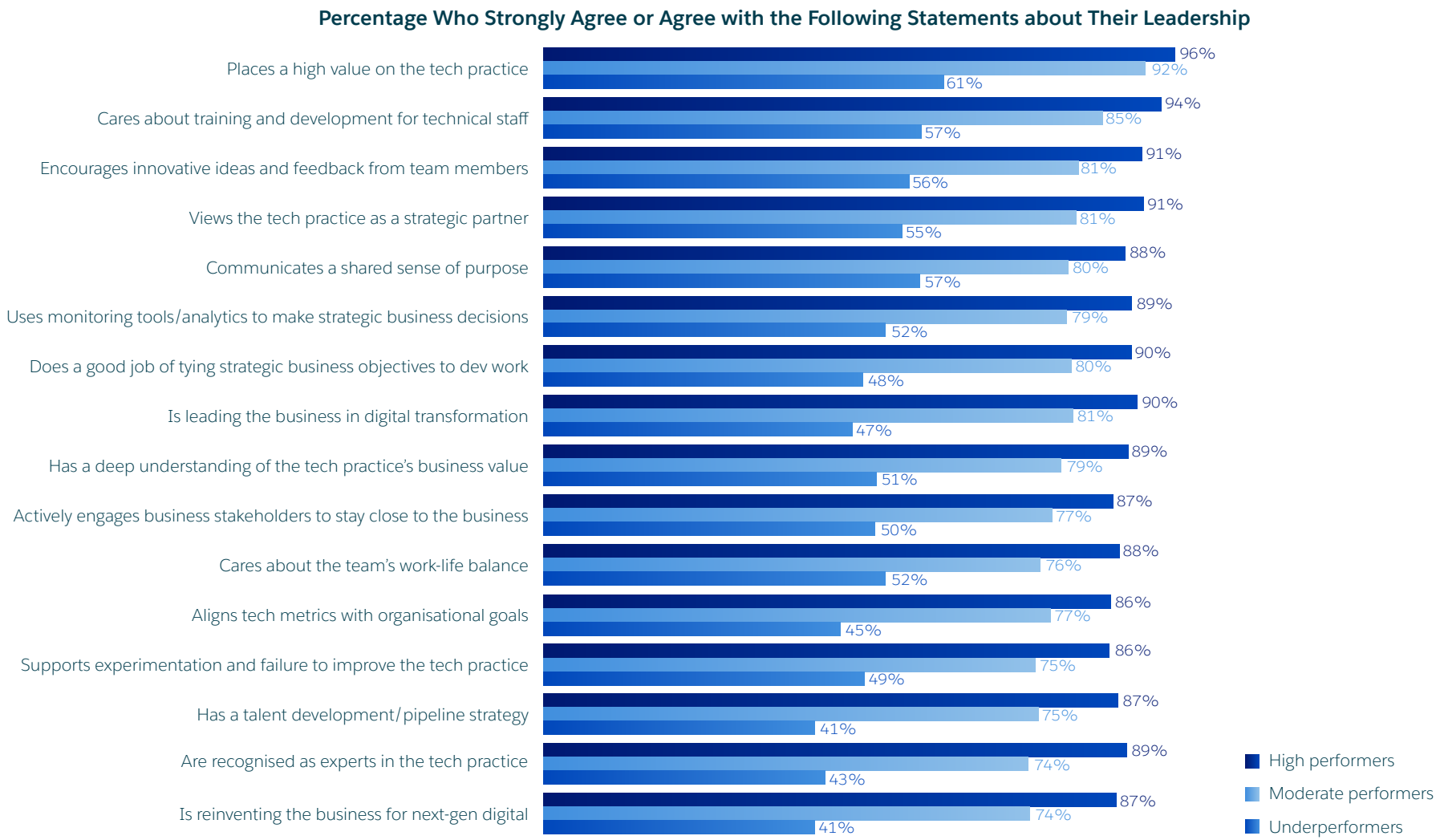
Appendix B: IT Spend

High performers are 2.1x more likely than underperformers to increase their spending on platform as a service (PaaS) and mobile backend as a service (MBaaS). *Here we see how IT leaders plan to increase their spending over the next two years across technologies and practices.*



Appendix C: Tech Leadership's View of IT

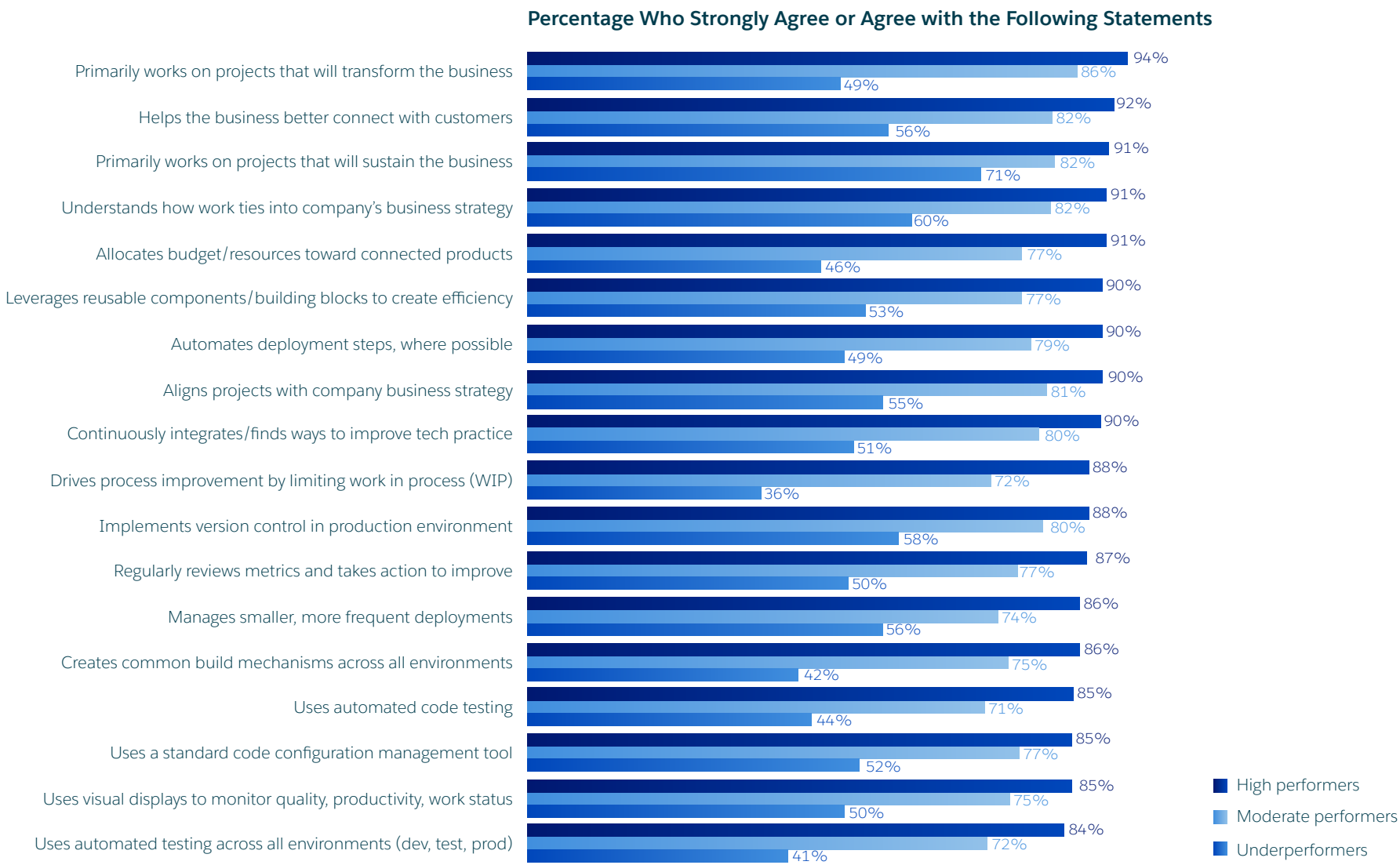
High performers say senior leadership is committed to the tech practice. *Here we see those who strongly agree or agree with various statements about the role of senior leadership.*



Appendix C: Tech Leadership's View of IT

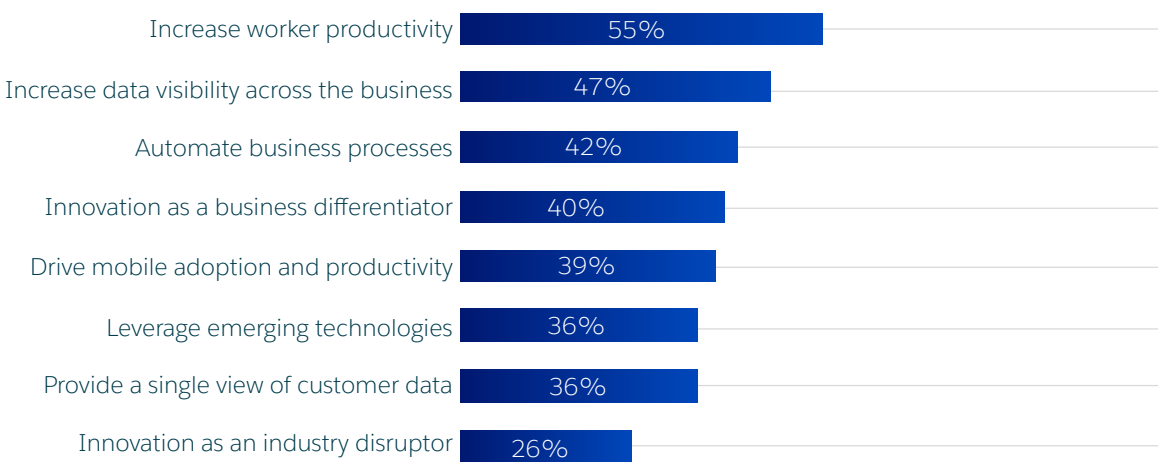
High performers are 2.4x more likely than underperformers to drive process improvements by limiting work in process.

Here we see the percentage who strongly agree or agree with the following statements about the tech practice by performance level.



Appendix D: Tech Practice's View of IT

Tech practices are looking to increase worker productivity and data visibility across the business. *Here we see which outcomes are top of mind for the tech practice.*



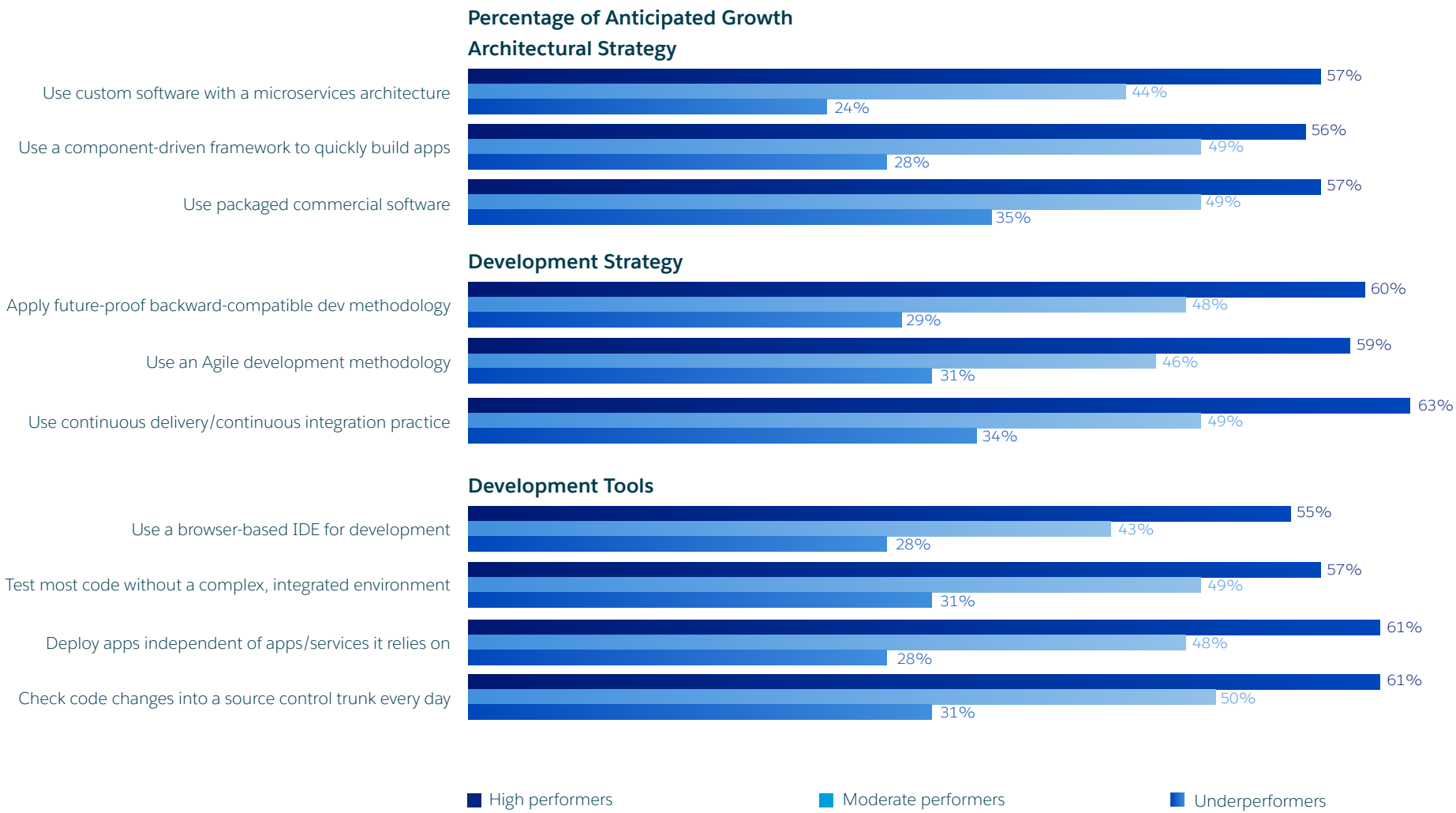
	High performers	Moderate performers	Underperformers
Increase worker productivity	52%	56%	58%
Increase data visibility across the business	50%	49%	40%
Automate business processes	42%	43%	42%
Innovation as a business differentiator	45%	42%	31%
Drive mobile adoption and productivity	44%	40%	32%
Leverage emerging technologies	41%	37%	28%
Provide a single view of customer data	38%	36%	32%
Innovation as an industry disruptor	36%	27%	15%

Increasing worker productivity is a top business outcome across all performance levels. *Here we see the top three outcomes by performance level.*

	1	2	3
High performers	Increase worker productivity	Increase data visibility across the business	Make innovation a business differentiator
Moderate performers	Increase worker productivity	Increase data visibility across the business	Automate business processes
Underperformers	Increase worker productivity	Automate business processes	Increase data visibility across the business

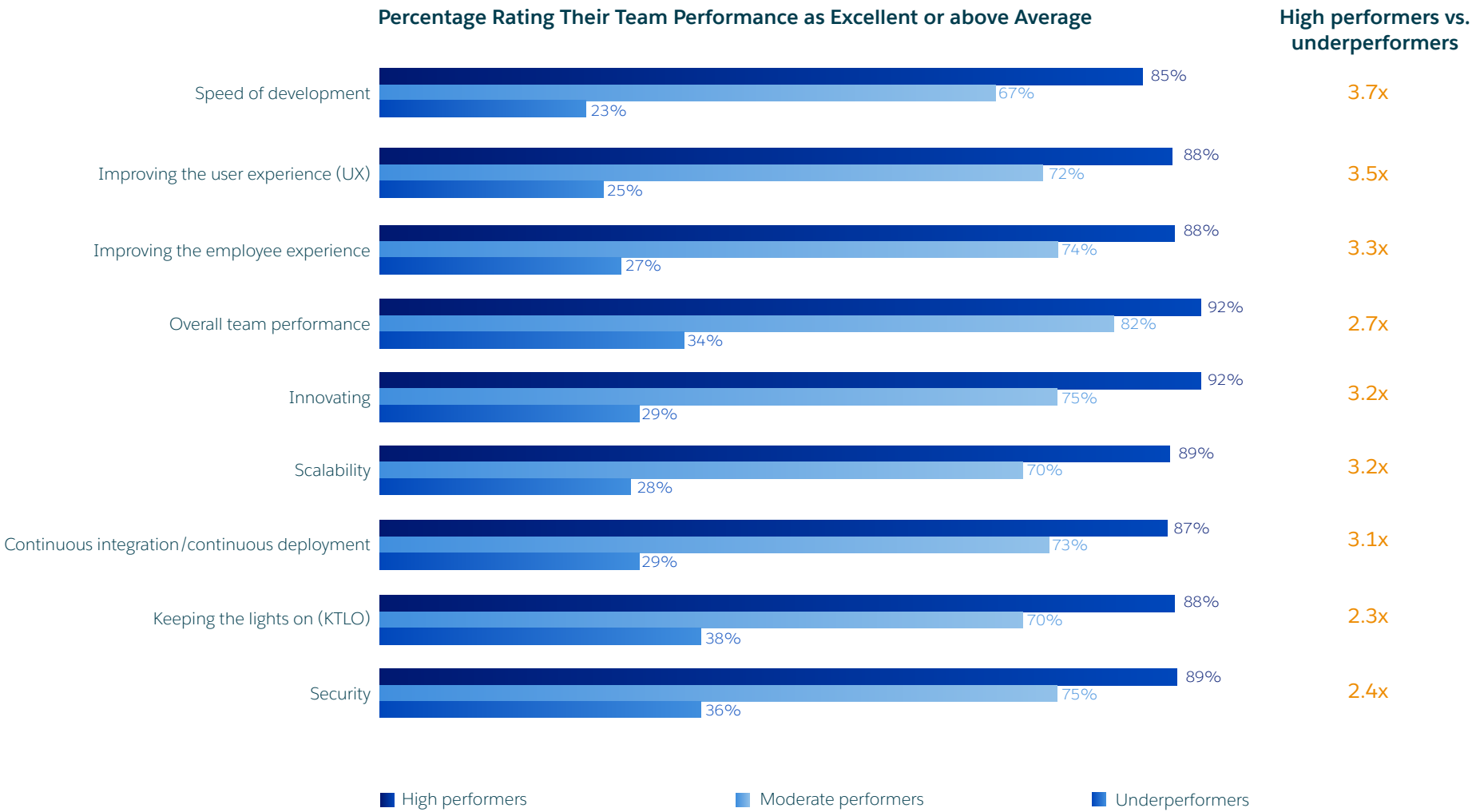
Appendix D: Tech Practice's View of IT

IT leaders are investing in emerging tech to support rapid app development and innovation. *Here are the top areas of IT growth across architectural strategy, development strategy, and development tools.*



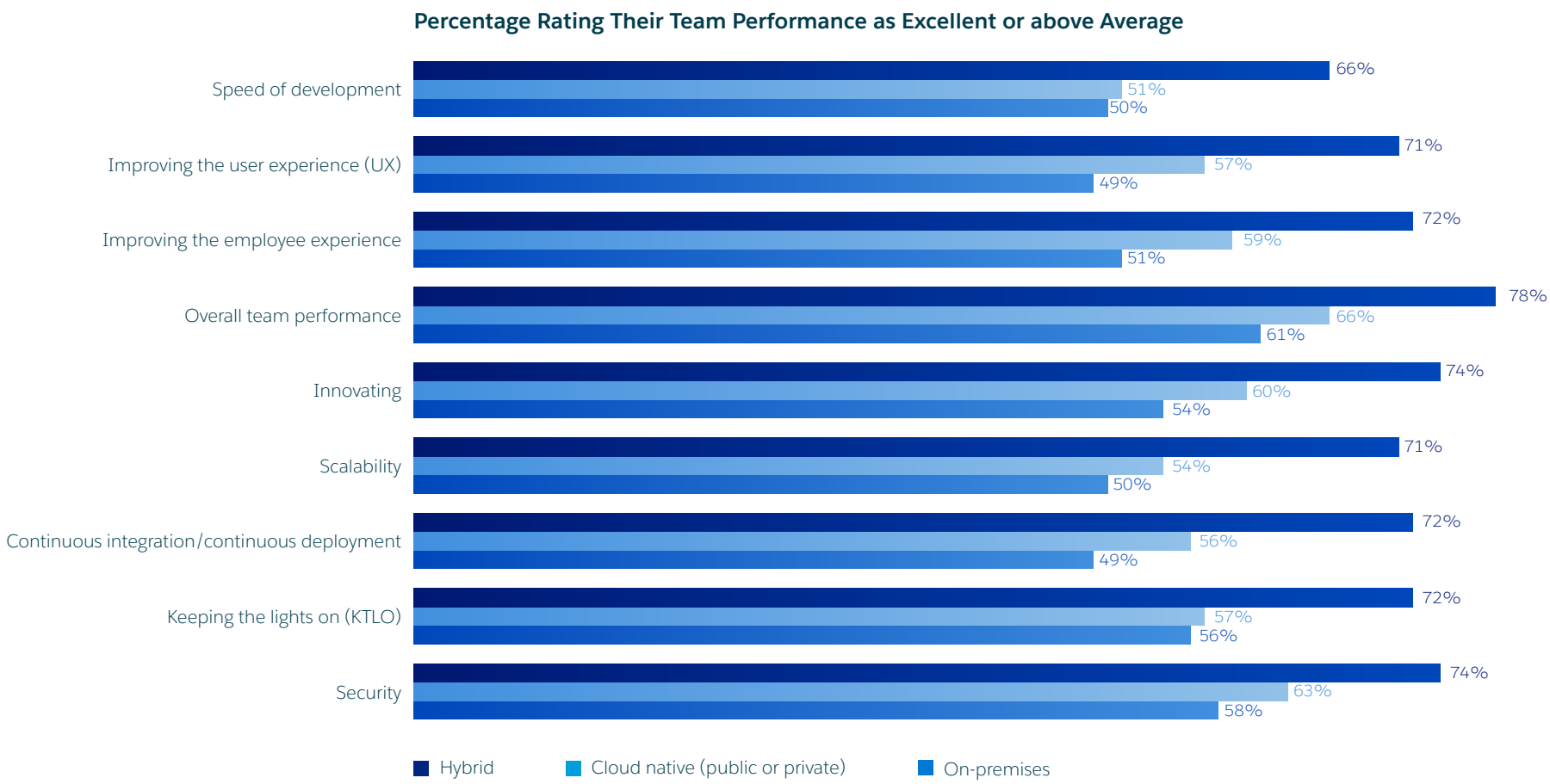
Appendix D: Tech Practice's View of IT

High performers are 3.7x more likely than underperformers to rate their speed of development as excellent or above average. *Here we see the percentage of IT leaders who view their team's performance as excellent or above average.*



Appendix D: Tech Practice's View of IT

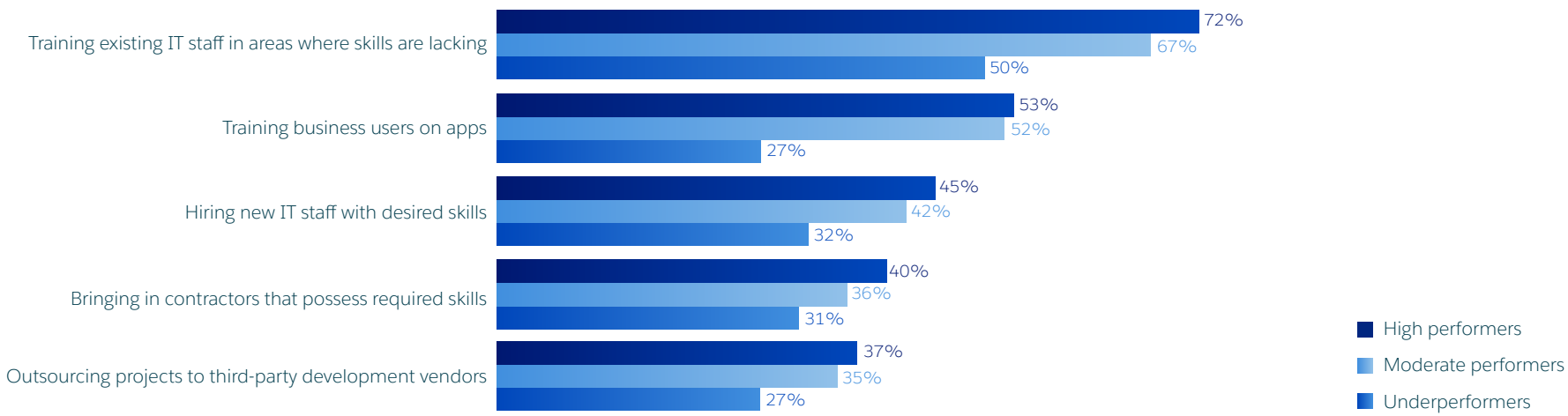
Tech practices using a cloud native or hybrid deployment model are more likely to rate team performance higher than those using on-premises-only solutions. *Here we see the percentage of IT leaders who view their team's performance as excellent or above average by app deployment model.*



Appendix E: IT Skills Gap and Training

Nineteen percent of underperformers are not currently addressing the IT skills gap. *Here we see ways IT leaders are addressing the IT skills gap by performance level.*

Percentage of IT Leaders Addressing the Skills Gap in Various Ways



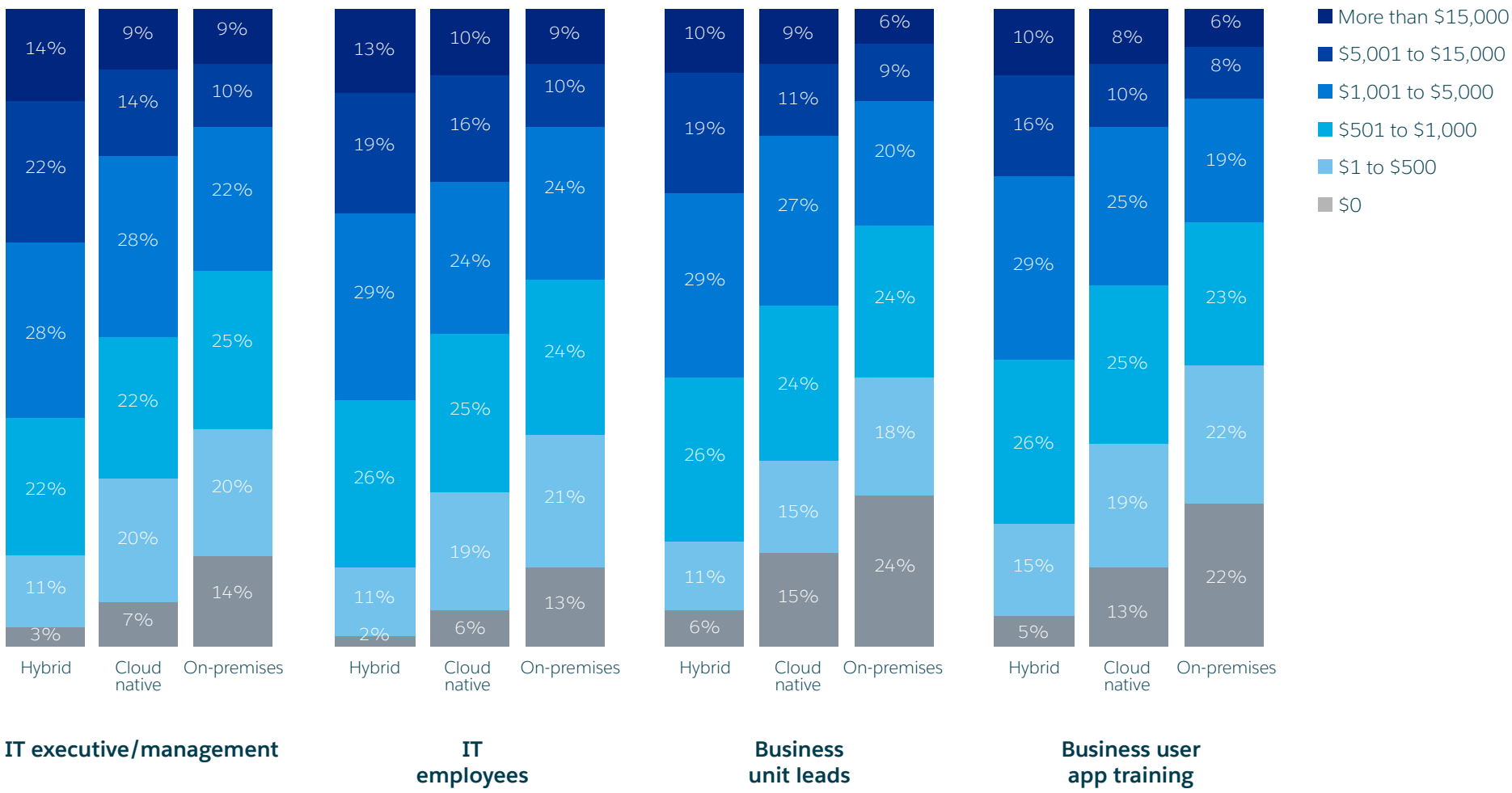
Forty-six percent of IT leaders rank closing the gap in skills development and training as a top priority. *Here we see the top three areas where companies are experiencing a critical IT skills gap.*

	1	2	3
High performers	IT security	Release engineering	Legacy support
Moderate performers	Data engineering	Application development	Dev/software engineering
Underperformers	IT security	Application development	System engineering

Appendix E: IT Skills Gap and Training

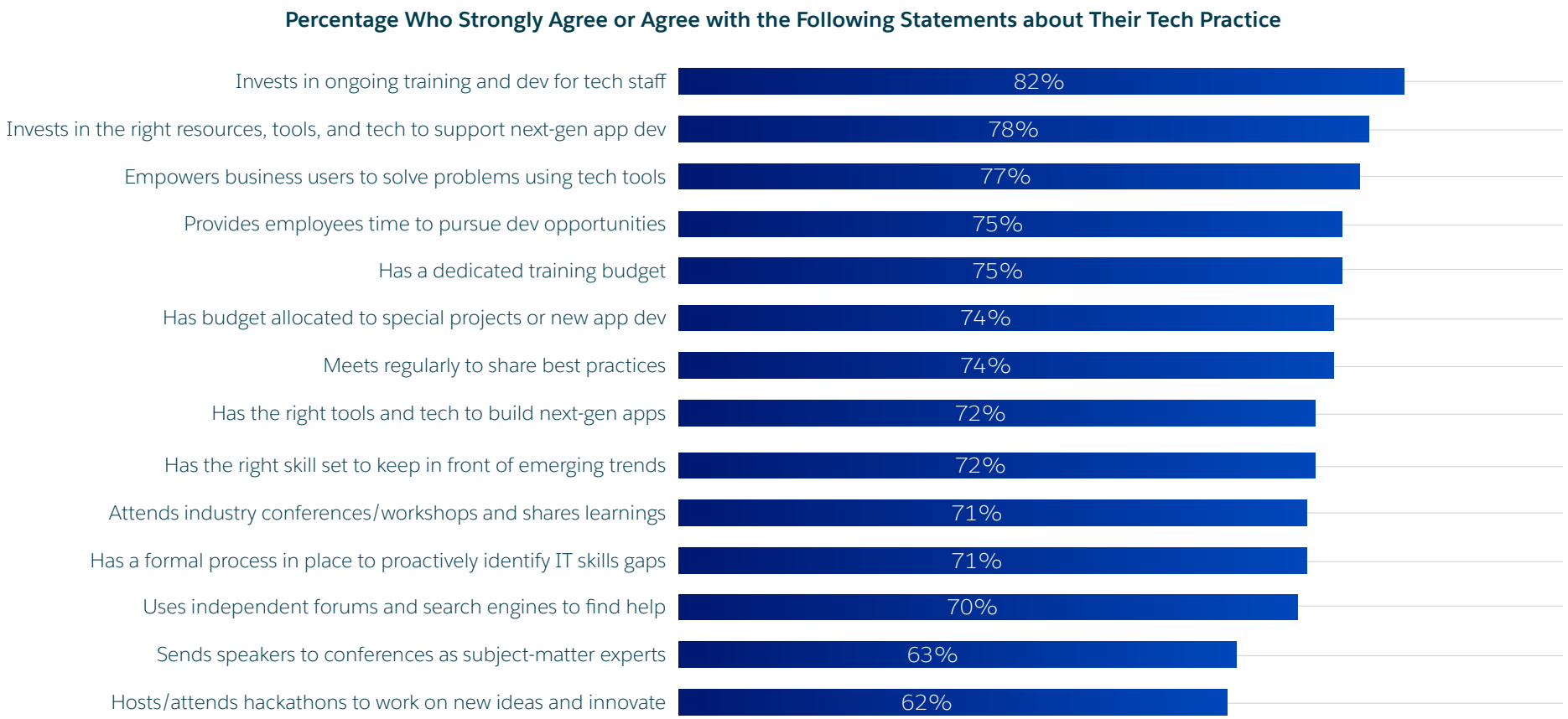
Companies using on-premises-only app deployment lag behind in their technology and personnel investments.

Here we see the amount of IT training dollars spent by app deployment model.



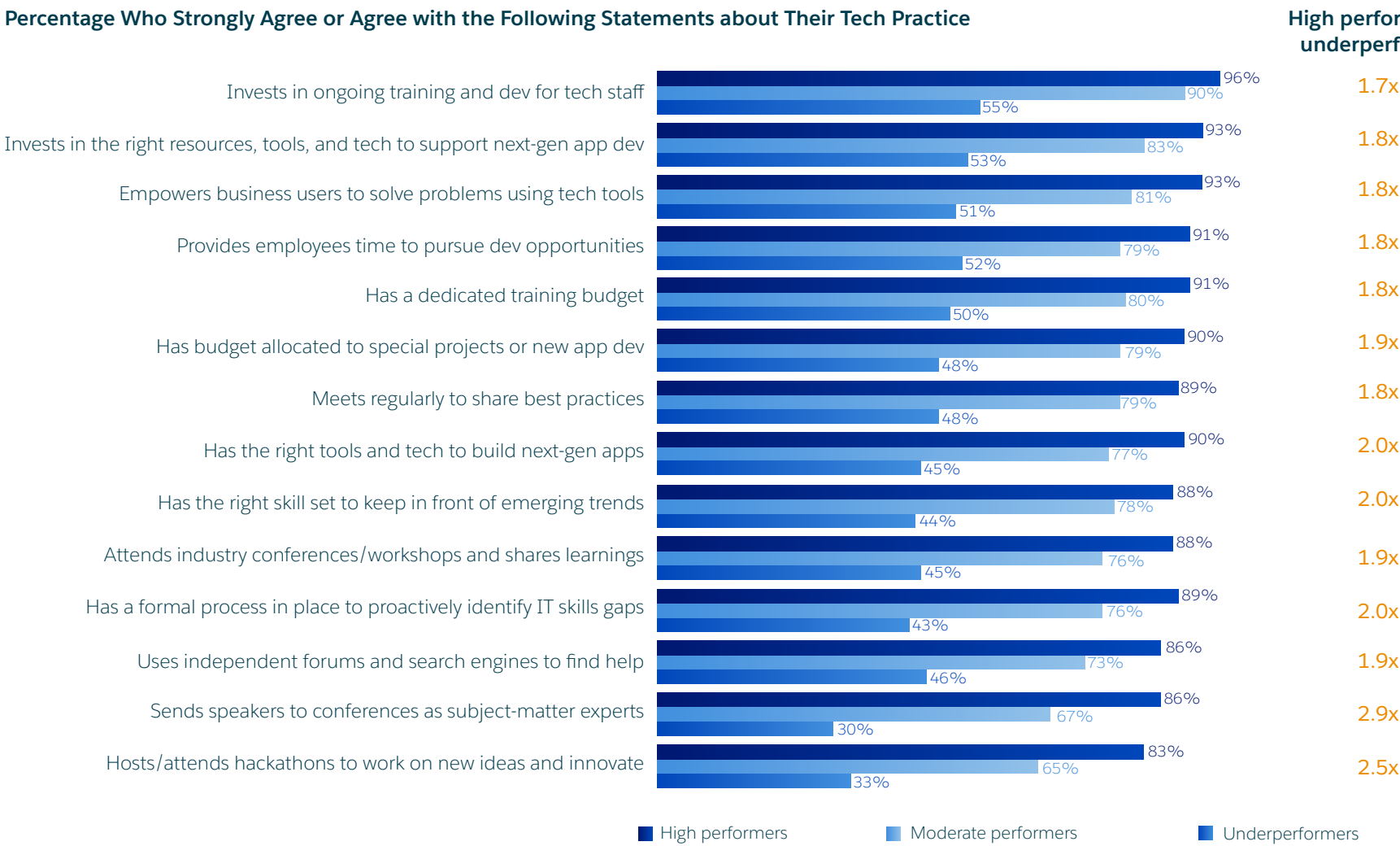
Appendix E: IT Skills Gap and Training

Eighty percent of IT leaders believe their company's leadership cares about training and development of their technical staff. *Here we see the percentage who strongly agree or agree that their tech practice receives training and opportunities.*



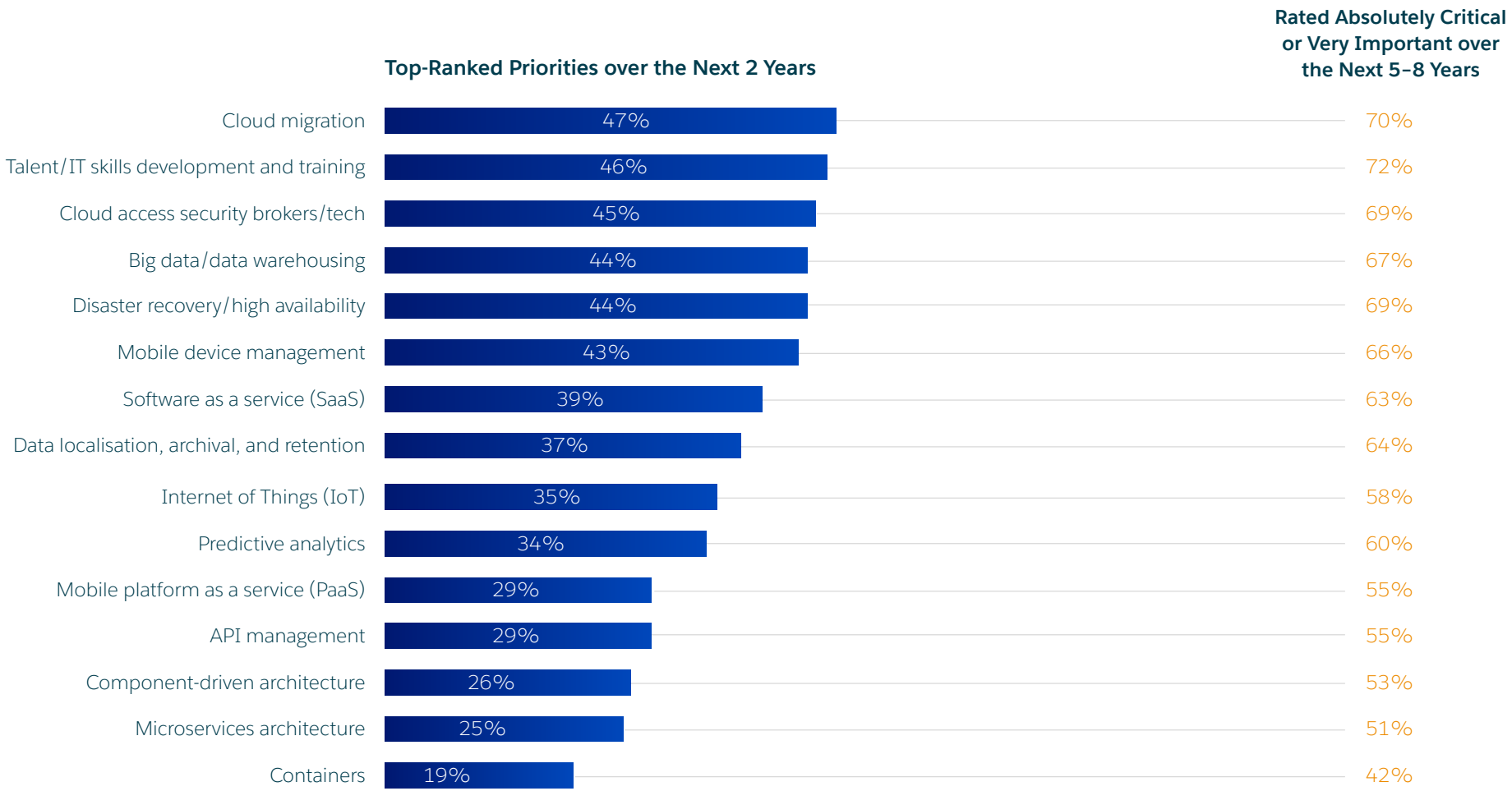
Appendix E: IT Skills Gap and Training

High performers are nearly 3x more likely than underperformers to send speakers to conferences as subject-matter experts. *Here we see the percentage who strongly agree or agree that their tech practice receives tech training and opportunities by performance level.*



Appendix F: Priorities/Importance

Talent and IT skills development and training is a top priority, critical to IT's future success. *Here we see top-ranked priorities over the next two years, as well as the percentage of IT leaders that view each priority as absolutely critical or very important over the next five to eight years.*

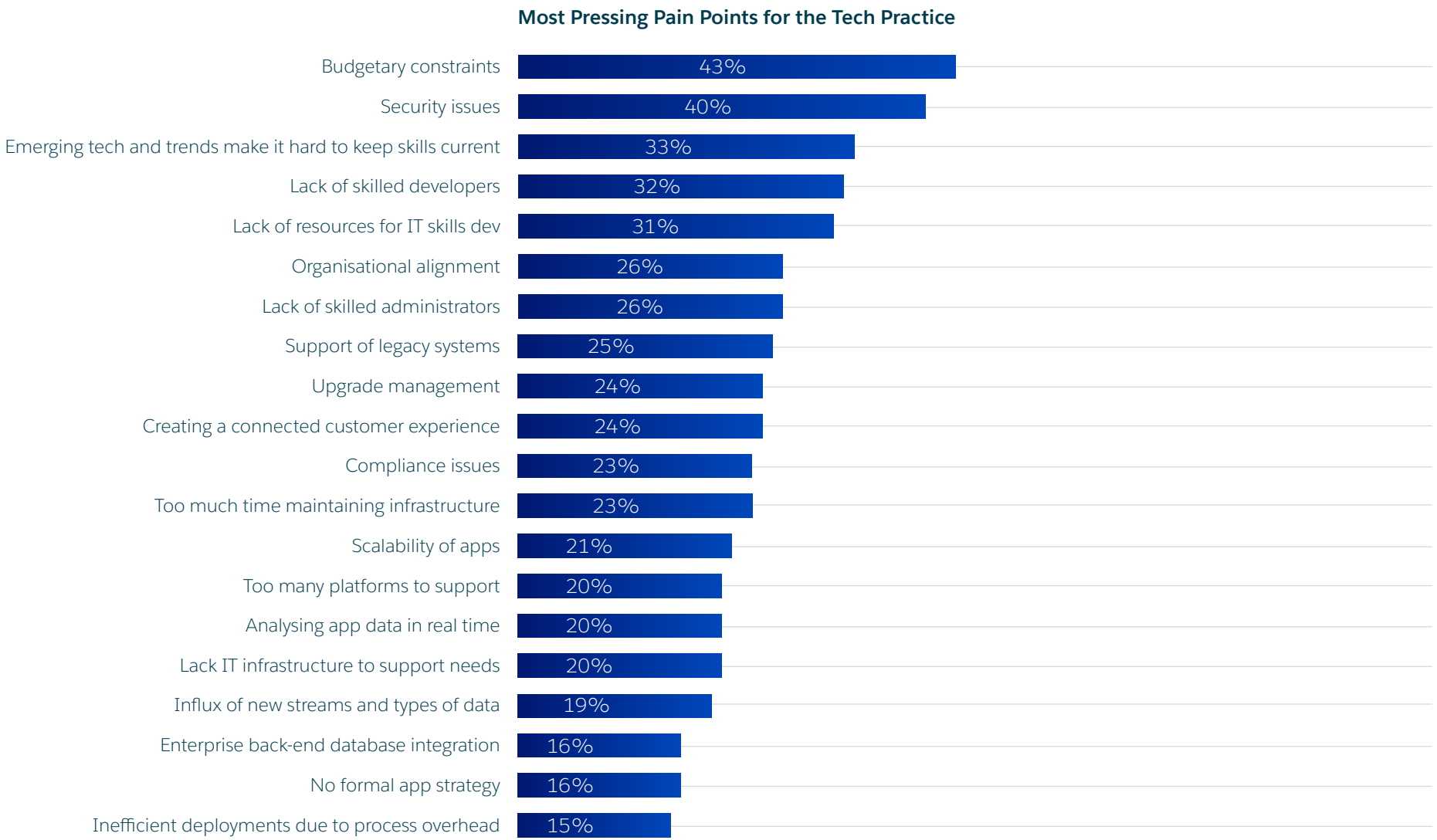


Appendix F: Priorities/Importance

Talent and IT skills development and training, as well as disaster recovery and high availability, are critical IT priorities in the near future. *Here we see the current priorities ranked against their overall importance in the next five to eight years.*

Appendix G: Pain Points

Budgetary constraints and security issues are obstacles across all tech practices regardless of performance level. *Here we see the most pressing pain points ranked for the tech practice.*



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