



CONNECTED FUTURE
Executive Insights by Cisco

Next-Generation IT Talent Strategies

How CIOs Can Close the Skills Gap and
Drive True Business Transformation

Eran Levy, Kevin Delaney, Jessica Hill, Lauren Buckalew

connectedfutures.cisco.com/report/next-generation-it-talent-strategies/



Executive Summary

A global Cisco study of 600 enterprise executives from IT and the lines-of-business reveals a high confidence in IT to lead transformation throughout the organization. However, the mandate for IT executives to lead initiatives beyond their traditional roles requires a major expansion of capabilities across multiple fronts.

Our study shows a very real talent gap, which 93% of executives say is preventing them from transforming fast enough. At the same time, efforts to close this gap are faltering. A reimagined talent strategy is therefore critical to IT's own ongoing transformation.

While all skills categories are essential for IT's success, the findings reveal that a lack of business acumen – that is, a deep knowledge of the business, industry, or functional area – is the number one skills gap in IT today.

CIOs are already changing their training and hiring strategies, with leading companies turning to interdepartmental rotations as their top initiative to overcome this shortcoming. Despite proof that increased training leads to greater transformation success, almost half of training budgets are expected to remain flat.

The survey also revealed an increasing reliance on reskilling IT staffs over hiring or outsourcing. The main exception? Emerging technologies, especially for expertise in artificial intelligence and machine learning.

As the war for talent intensifies, successful IT leaders will need to create a culture of continuous learning. Exceptional workers will be drawn to organizations that offer talented colleagues, modernized infrastructures, and opportunities to grow their skills in emerging technology areas.

Table of Contents

A nighttime photograph of a city street. The scene is dominated by light trails from moving vehicles, creating streaks of white, red, and blue. Tall buildings with lit windows and some glowing signs are visible in the background. A traffic light pole with a green light and a speed limit sign (60) is in the foreground. The overall atmosphere is urban and dynamic.

- 04 The IT/business divide is narrowing. But skills gaps persist.
- 05 From technology to the bottom line: new CIO expectations call for new skills
- 06 The talent gap is real
- 07 A new era of intelligent automation
- 08 Wanted: business savvy tech teams
- 09 It's time to learn a second language
- 10 Rotating talent: IT to business, business to IT
- 11 As IT expands its role, technology remains front and center
- 12 A closer look at the tech skills gap
- 13 Creating a culture of continuous learning
- 14 Tech skills: train or hire?
- 15 In an intelligent, automated world, soft skills matter like never before
- 16 Higher training budgets result in greater success
- 17 A change in hiring practices: who looks for what?
- 18 Incentives and pay must reflect IT's new standing
- 19 Enabled by technology, powered by culture
- 20 Top five musts for overcoming the talent gap
- 21 Research methodology & respondent profile



The IT/business divide is narrowing. But skills gaps persist.

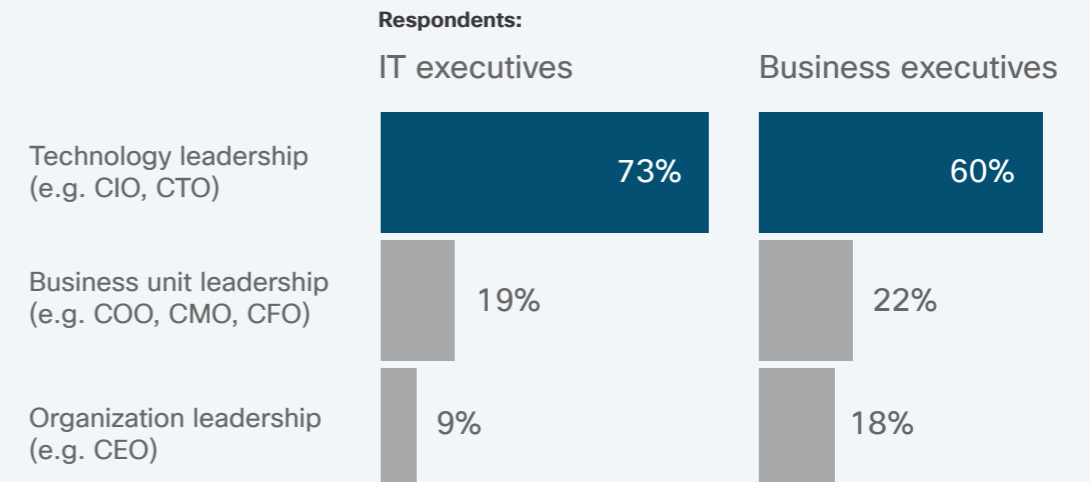
Respondents agreed across the board that technology leaders are the driving force behind business transformation brought on by a new wave of digital technologies – from cloud and machine learning to advanced analytics and robotics.

IT executives have a new mandate: to lead initiatives far beyond traditional roles. This shift requires a major expansion in IT’s capabilities, on multiple fronts: from distilling and using massive amounts of data, to creating new customer and workforce experiences – all while ensuring security throughout.

The business calls on IT to drive transformation

Question

Who is the primary force leading your organization’s business transformation?



Base: IT executives = 300; business executives = 300

From technology to the bottom line: new CIO expectations call for new skills

Cisco’s survey also reveals a high confidence in IT to execute. A majority of respondents (57%), both CIOs and their counterparts from the business, believe their IT department is very capable of supporting transformation.

In keeping with the positive perception demonstrated in our survey, CIOs and IT have already shifted from technology order takers to strategic business partners. This

means the day-to-day roles of IT workers are evolving from merely configuring devices and troubleshooting to solving real business problems through the use of technology.

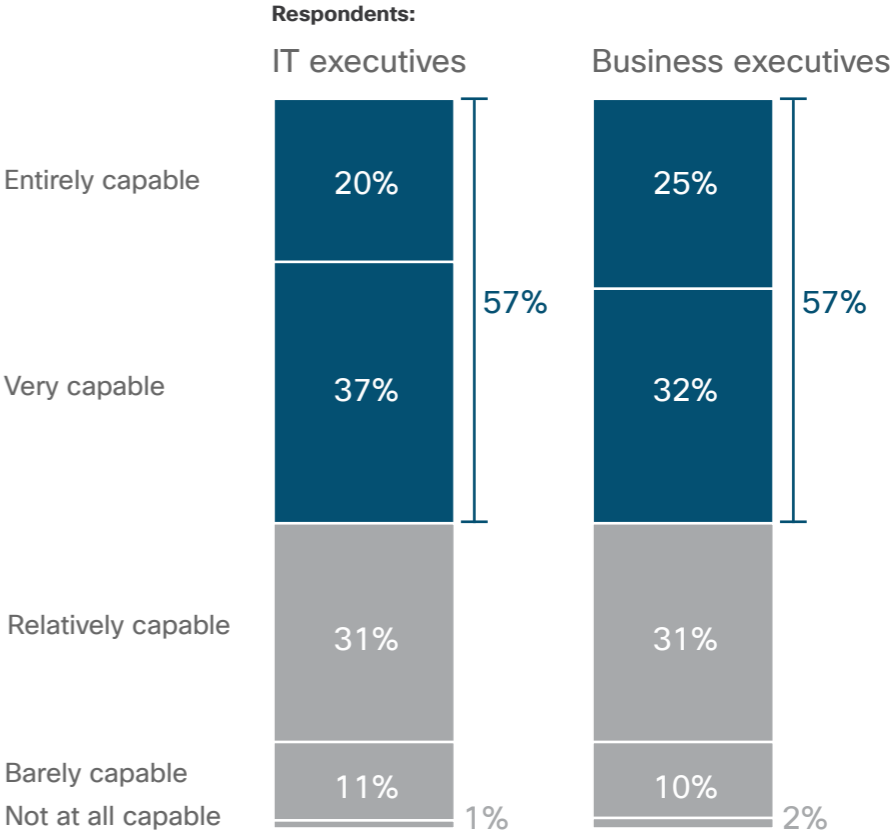
But as IT infrastructure becomes smarter, faster, and more automated, and traditional tasks are streamlined, something is missing. **Big changes in IT operations and processes call for new types of talent with vastly expanded skills.**



Most business leaders agree: IT effectively supports transformation

Question

How effective is your IT department at supporting business transformation needs?



Base: IT executives = 300; business executives = 300



The talent gap is real

Now that line-of-business executives see IT departments as the number one force in leading business transformation, the pressure on the CIO and technology teams is greater than ever. However, our survey shows a very real talent gap, which 93% of executives believe is slowing their transformation.

At the same time, efforts to close the gap is faltering. Almost half report they cannot find talent with the required skills or hire fast enough. Another half cannot afford to retrain their existing teams.

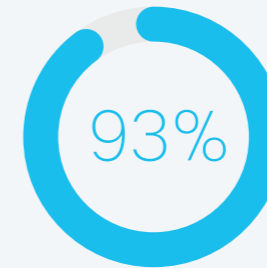
If IT is to successfully guide the overall process of business transformation throughout the organization, it must focus on its own ongoing transformation. That starts with a reimagined talent strategy.

Transformation stalls, as talent grows scarce

Question

What are your biggest challenges in terms of retaining, training or hiring to support your business transformation initiatives?

Base: total = 600; 93% represents the number of respondents who selected one or more skills/expertise gaps



Nearly all IT and business executives have a talent gap preventing business transformation

Question

What are your biggest challenges in terms of retraining, training or hiring to support your business transformation initiatives?

Base: total = 600



Talent is hard to find...

4 out of 10 organizations cannot find the talent or hire fast enough



...and tough to keep

5 out of 10 organizations cannot afford retraining them



A new era of intelligent automation

New technologies have always kept IT on its toes. And once again, many of these changes in skills sets are driven by a disruption in IT's technology foundation.

As Cisco's survey reveals, the top three business-transformation initiatives are all related to modernizing and automating IT infrastructure and processes. However, as infrastructures become intelligently automated, they require that IT develop new ways of working.

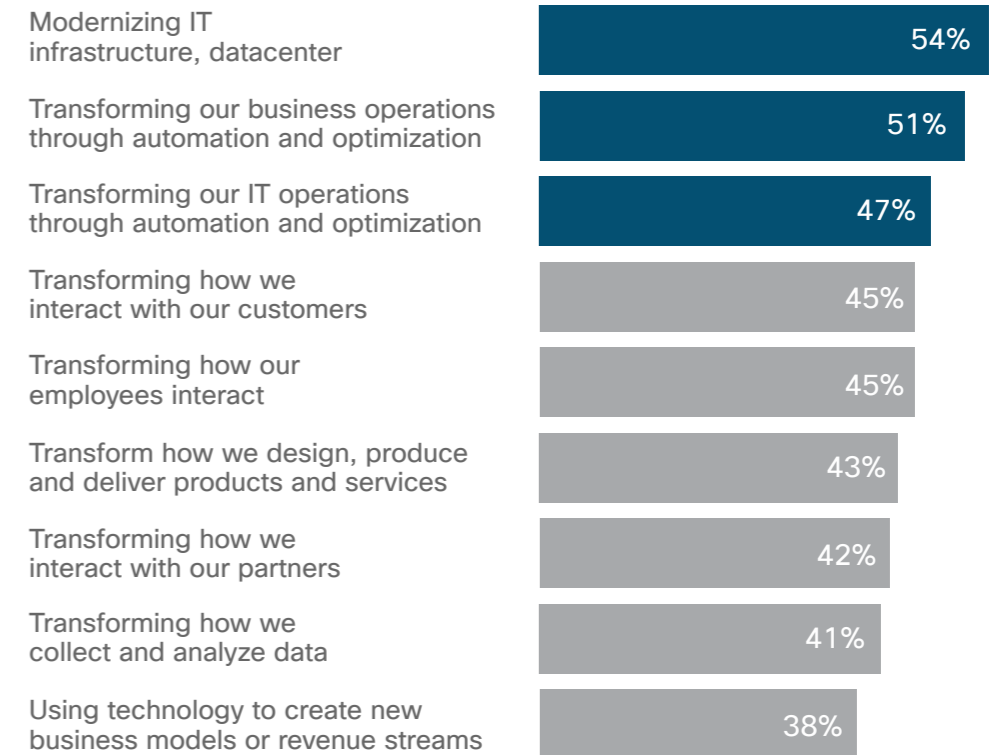
These technologies combine smart, self-learning algorithms with data analytics to accelerate informed decision-making. That means IT has to define business intent in the form of IT policies for the entire organization. Smart infrastructures will then convert policies to configurations, automate implementations, and perform continuous assurance.

This new way of working creates opportunities for IT. But it also exposes a widening talent gap.

IT's top areas of focus: modernizing infrastructure and automating processes

Question

Which business transformation initiatives has your organization or your business unit completed, launched, or is planning to launch in the next 12 months?



Base: total = 600

Wanted: business savvy tech teams

In this dynamic era, IT means more than just technology. CIOs must add a new dimension to their teams' talents and skill sets. Our findings, however, reveal that many CIOs have yet to shift their focus.

IT skills – that is, IT 'technical skills' plus 'technology expertise' – present the greatest challenge to transformation for survey respondents. 37 percent and 33 percent of respondents, respectively, named these their top skills gaps.

However, respondents were fairly evenly split across all four skills categories surveyed, and ultimately it was the lack of business acumen that outranked any technology-related shortfall.

While technology remains critically important, CIOs must look beyond it.

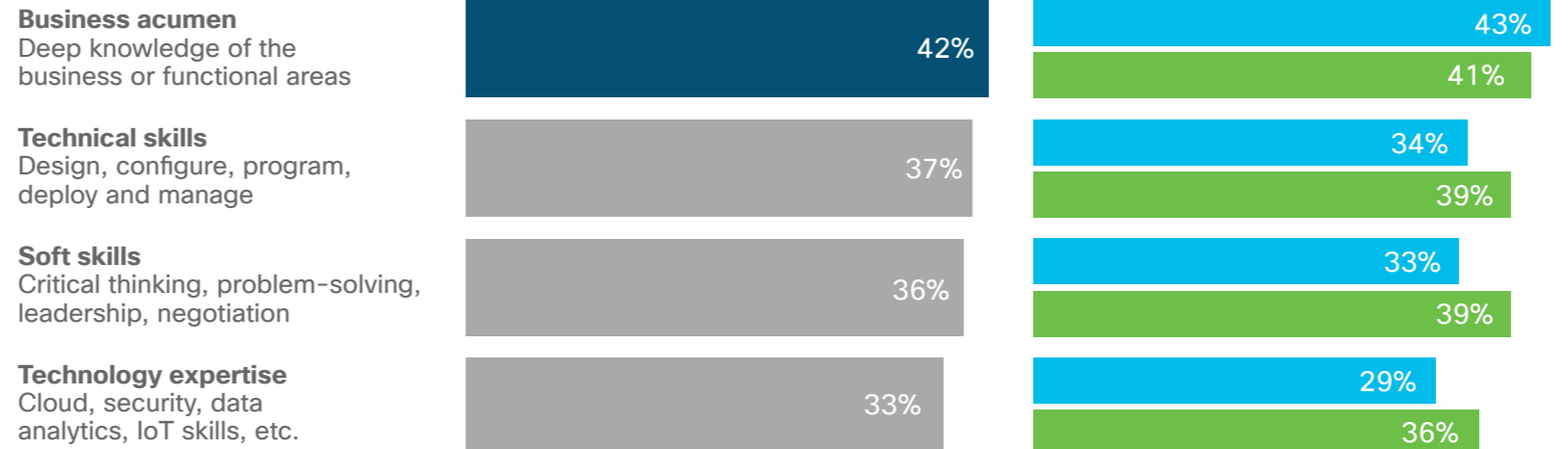
Technology leaders must look beyond technology

Question

What are the biggest gaps in IT skills and expertise that you need to support business transformation initiatives?

Base: total = 600; IT executives = 300; business executives = 300

IT Talent Study – basic crosstabs – 2019.01.18' tab 'ITDM vs. LOB', line B1286



It's time to learn a second language

In their expanded role driving business transformation, IT leaders are often called upon to define policies and drive innovation and growth across the entire organization. But translating technology into real-world business outcomes stretches IT beyond its traditional purview.

As our survey confirms, learning a second language – the language of the business – is especially critical for IT.

To succeed today, tech leaders must elevate their teams' understanding of the business, its workflows, and its needs. By speaking the language of the business, IT

will effectively translate all this into high-level IT policies, which in turn, will be used to determine infrastructure and device configuration.

At the same time, business leaders must expand their technical knowledge. But as our survey suggests, the business is looking to IT for leadership. A common language will translate into better IT-business alignment, and higher business value created by technology.

The end goal should be technology solutions that align perfectly with what the business – and customers – need most.



Rotating talent: IT to business, business to IT

Current training strategies must change if IT is to learn a second language. One way to foster cross-learning is through temporary rotations of IT and business workers. Many CIOs are already turning to this low-cost option, as respondents cited rotations as their No. 1 training strategy.

For example, Guy Brassard, the CIO of [Southwire](#), a cable manufacturer, created a diverse IT team that includes a former plant manager and a transfer from sales. Some of his IT employees have entered the business side.

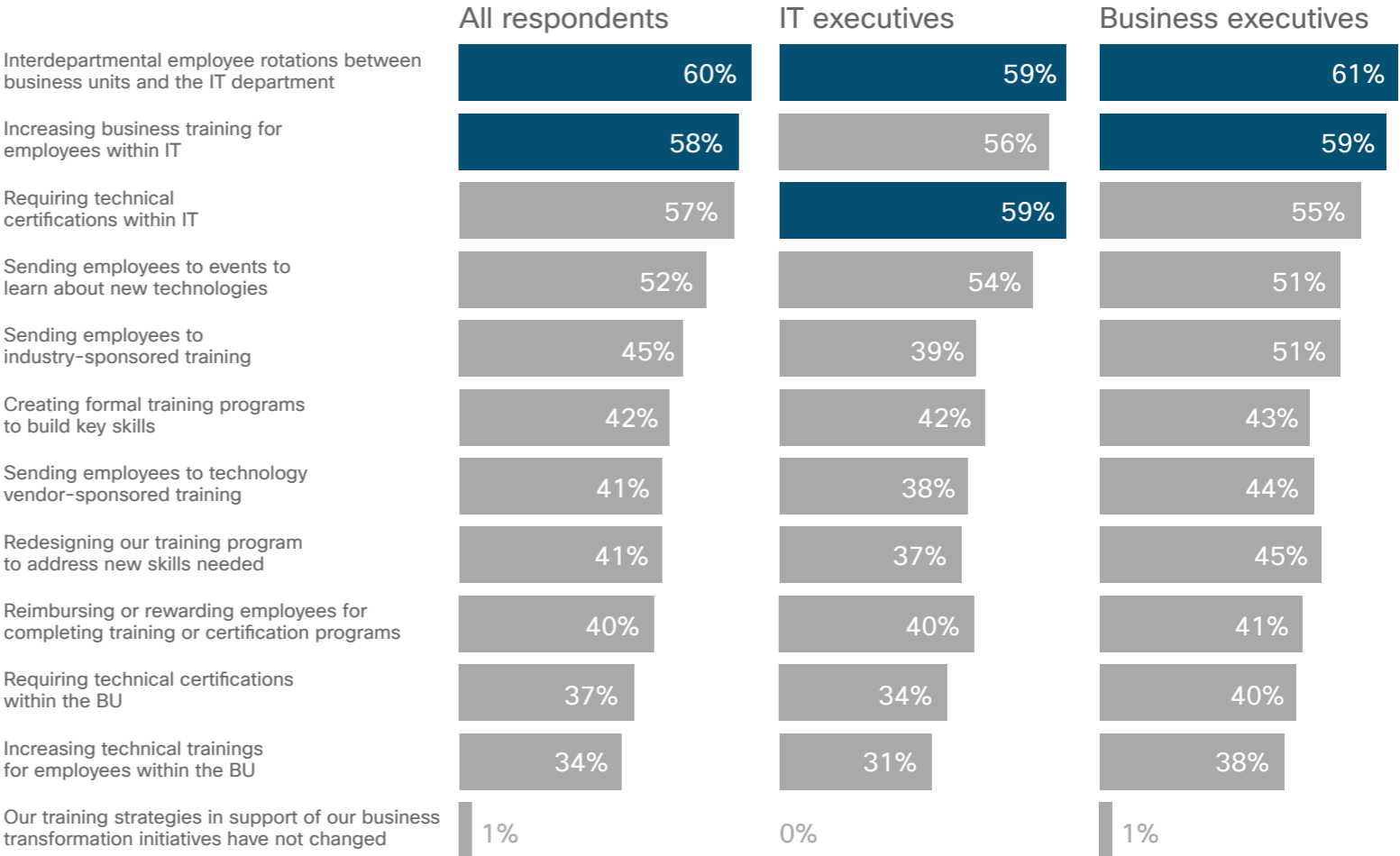
The result, he says, is a richer dialogue, with innovation and ideas stemming from cross-functional cooperation. Rotations like this help upskill and retrain existing staff and enable business executives to share what they know best.

The research also shows that organizations in the earlier stages of transformation are more likely to leverage rotations. This ensures that their staffs—IT and business—will be better positioned to support IT’s expanding role. And in the future, the opportunity for workers to grow their skills will help draw and retain talent.

Changes in training strategies

Question

How are your training strategies changing to support business transformation initiatives and future business strategies?



Base: total = 600; IT executives = 300; business executives = 300

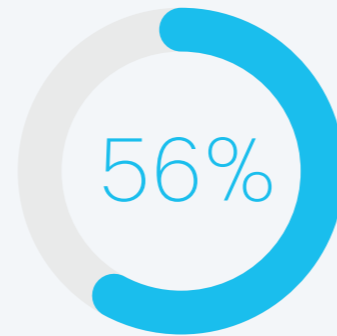
As IT expands its role, technology remains front and center

Emerging technologies like Internet of Things, AI, machine learning, and blockchain will only increase the need for new skills – while adding to the problem of finding talent. At the same time, ongoing challenges like cloud, security, data analytics, and business architecture will continue to pressure IT teams coping with modernizing their infrastructures in highly disruptive marketplaces.

However, smart technology leaders know that talent begets talent. The struggle to attract and keep top talent is expected to grow as the most-desired skills become scarcer. One more reason to invest in a cutting-edge IT environment is the fact that exceptional workers are drawn to creative organizations. Talented colleagues, modernized IT infrastructures, and opportunities to grow skills in emerging technology areas will always draw the best people.

In the world of IT, technology never takes a back seat

Top technology skills are needed more than ever before:



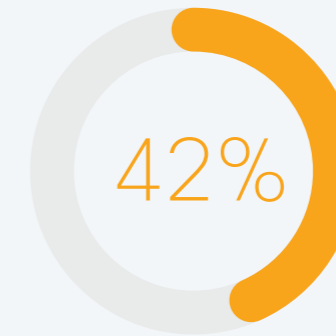
Agree that emerging technologies are essential to effectively supporting the future direction of their organization

Base: total = 600



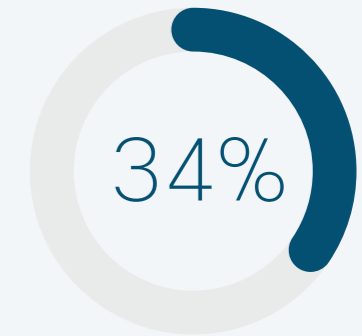
Are prioritizing the modernization of their IT infrastructure as their top initiative

Attracting top IT talent remains a challenge:



Are unable to find the talent with the skills they need

Base: total = 600



Cannot match salaries paid by industry leaders to attract top talent

A closer look at the tech skills gap

The three top technology skills gaps in our survey speak volumes about IT's changing role.

Cloud is critical to any company operating at today's speed of business. Yet orchestrating solutions across public, private, and hybrid clouds, while ensuring security, compliance, and interoperability, stretches IT beyond its traditional scope.

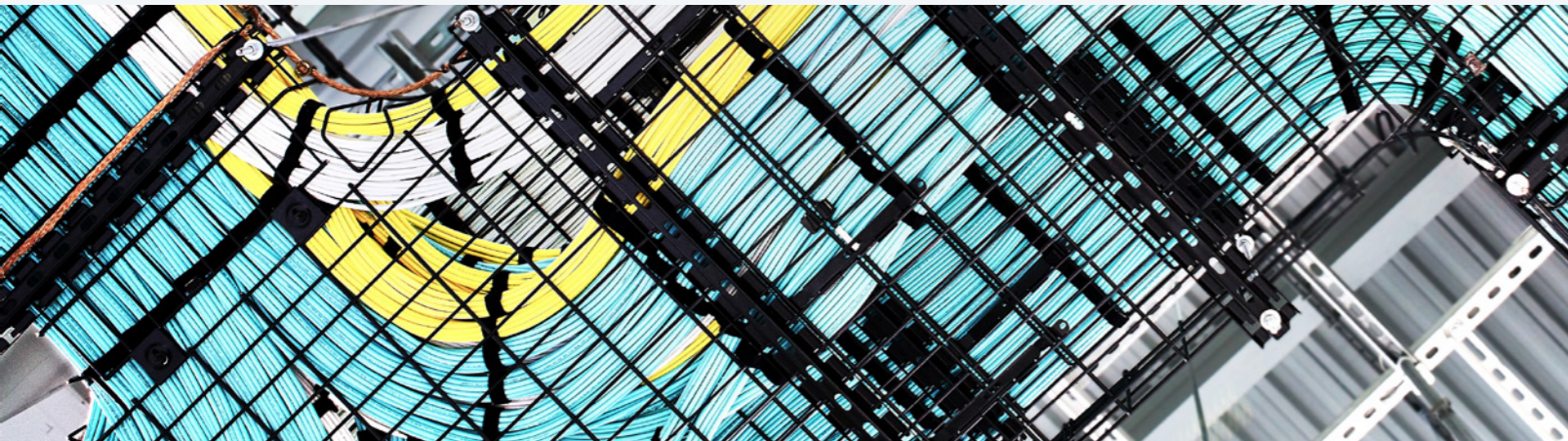
Unsurprisingly, cloud was cited as the number one technology skills gap. Cloud-native app development is also the third most likely area in which companies are

willing to hire new talent versus retrain the existing workforce, reinforcing its continued importance to remaining competitive.

As the second-largest gap, enterprise architecture highlights the need for a closer IT-business alignment; that is, creating IT infrastructure that truly integrates technology with business processes and needs.¹

Data, cited as the third-biggest gap, continues to transform the role of IT, as it drives everything from streamlined operations and deeper customer insights to productivity and network security.

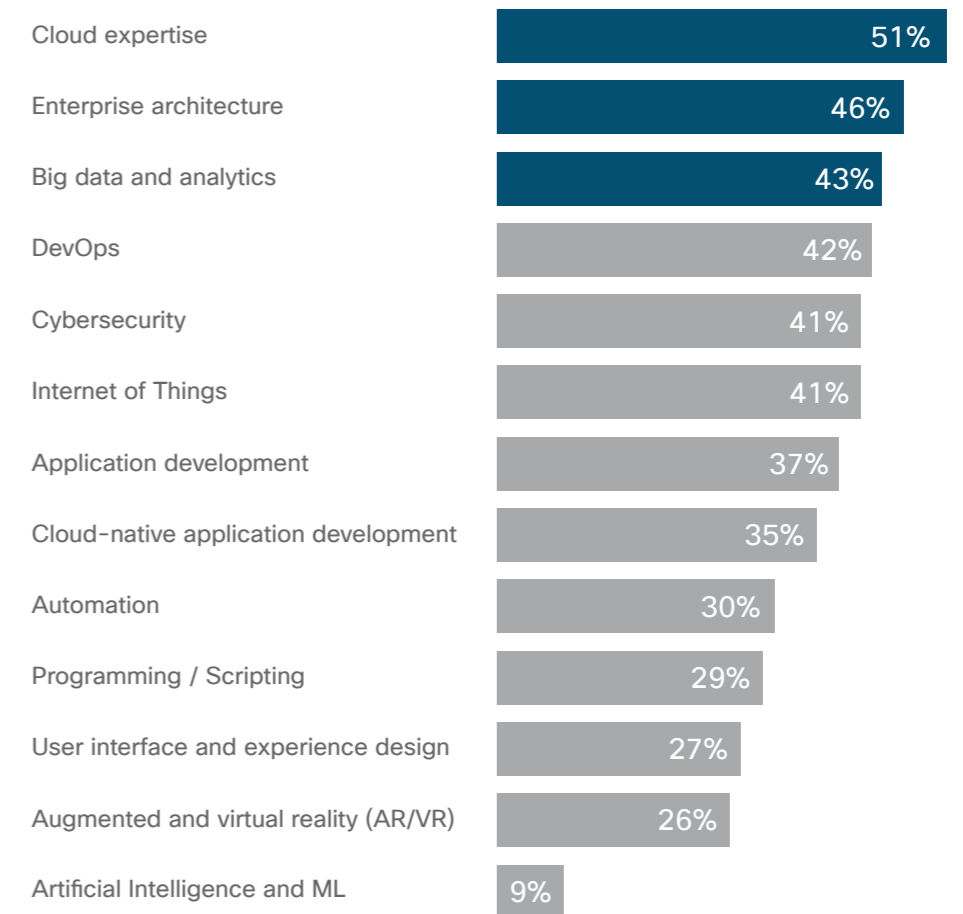
¹ Enterprise architecture is defined as the organizing logic for business processes and IT infrastructure reflecting the integration and standardization requirements of the company's operating model <https://cisr.mit.edu/research/research-overview/classic-topics/enterprise-architecture/>



Top technology skills gaps

Question

What are the most important technology skills or expertise that your IT department needs to support business transformation?



Base: total = 600



Creating a culture of continuous learning

Sixty-one percent of respondents favor reskilling their existing teams to help fill the talent gap. This approach outpaced adding to the existing workforce, recruiting to replace current staff, and outsourcing.

For skills that can be retrained, educational programs, certifications, and incentives should all be made available. CIOs must drive these strategies top down and compel organization-wide culture change, while opening up the necessary funding.

Richard Wong, head of engineering at Coursera, the online training platform, confirms the growing investment in reskilling. Many sign up for what Wong calls “high-demand specialization courses.” “Those are IT skills like machine learning, cybersecurity, data analytics, and data science,” he said.

External partners also help to shore up talent gaps. A separate Cisco study ([IT Services for Digital Business](#)), focusing on how IT organizations leverage IT services, revealed that eight out of ten companies use them to allow internal IT to focus on strategic imperatives rather than keeping systems running. And seven out of ten IT organizations outsource to increase the speed at which they implement new technologies.

Strategies to close skills gaps

Question

What do you believe is the most effective strategy for filling skills and expertise gaps in your IT department?



Base: total = 600

Tech skills: train or hire?

Though our survey revealed an increasing reliance on reskilling, emerging technologies were a high driver for recruiting new talent. Companies are especially willing to hire for AI/ML expertise.

While IT talent in cutting-edge areas is scarce, the most talented individuals are drawn to companies that are further along on their transformation journeys and willing to innovate in new ways.

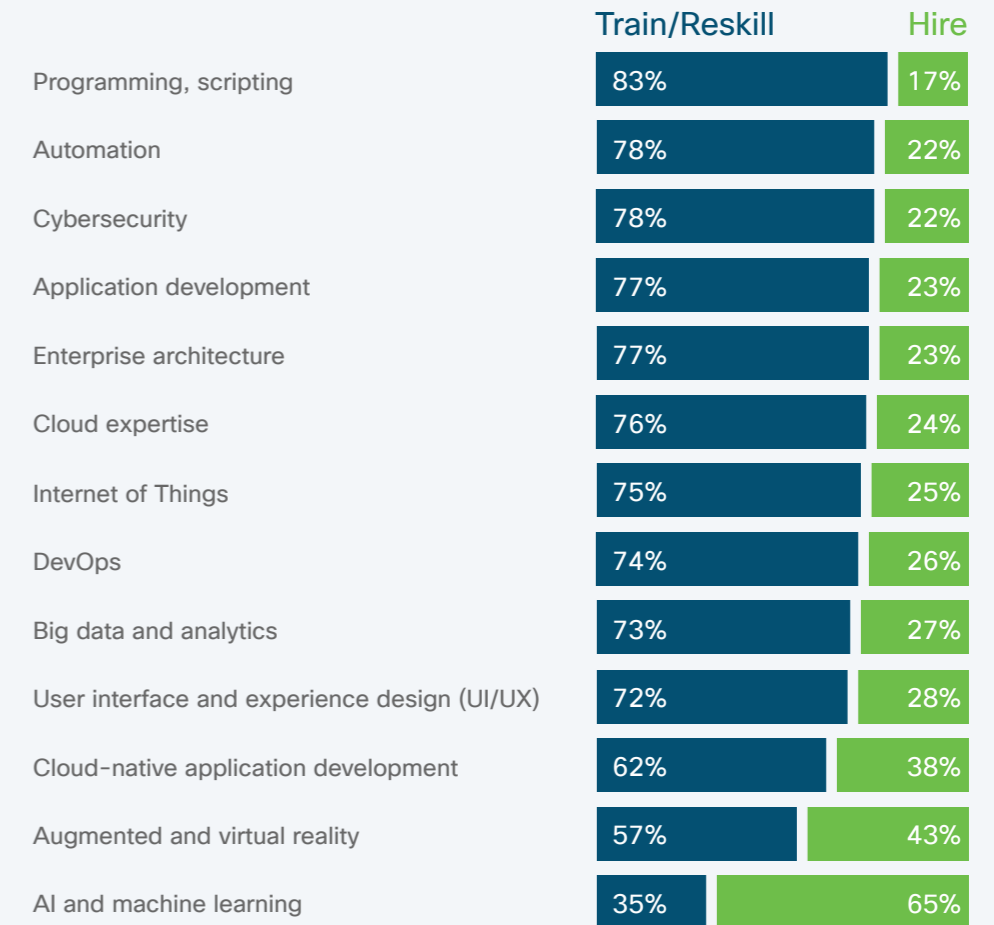
At the same time, emerging technologies demand a deep understanding of the business context in which they are applied. That's the kind of context that retrained in-house employees understand best.



Filling technology skills gaps

Question

For each of these technology skills or expertise gaps, would your organization focus more on training existing employees or on hiring new employees with the required skills?



Base: total = 600

In an intelligent, automated world, 'soft skills' matter like never before

Digital leadership is the ability to unify and enable the entire organization, not just specific business units. So, it's not enough for digital leaders to simply foster business acumen; they need to translate it into a clear and compelling vision of what technology can do for the company.

At the same time, tech leaders need to create an environment that allows employees to work and think differently. The end goal should be creative solutions to even the most unexpected obstacles.

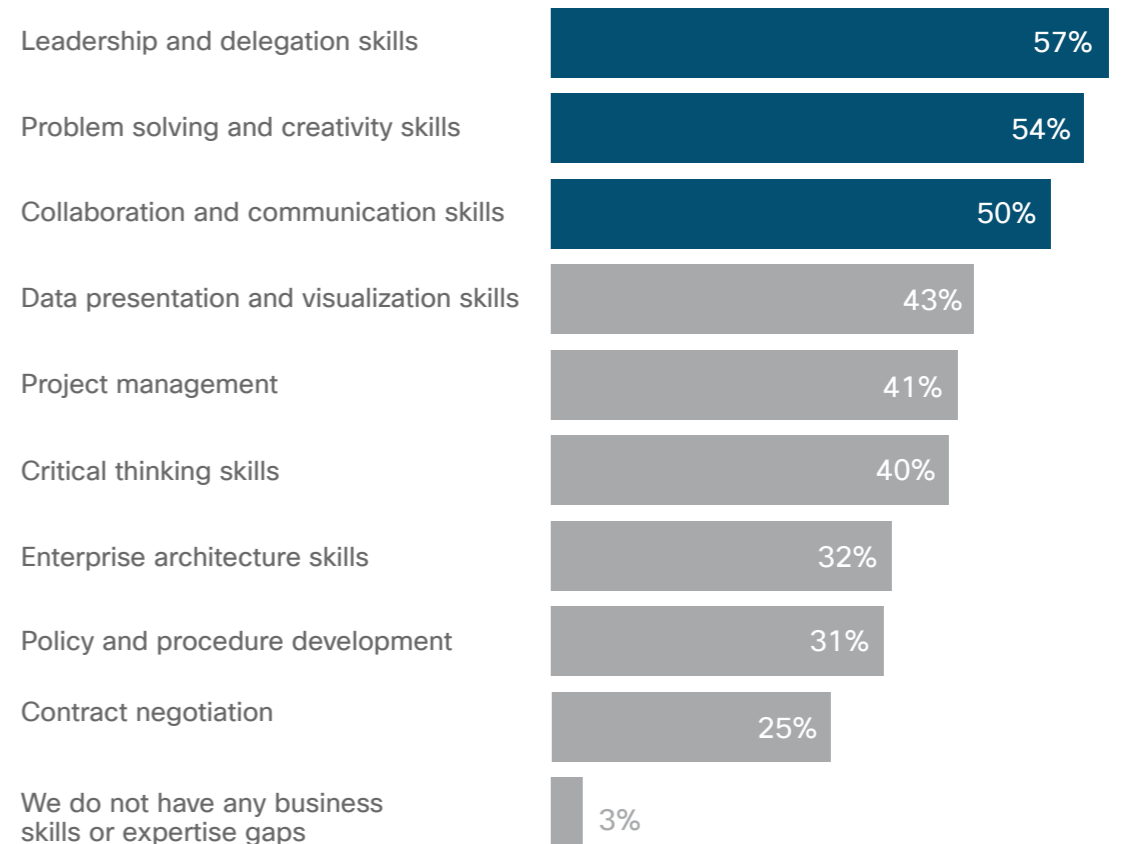
Respondents called leadership skills, creative problem solving, and collaboration the top "soft skills" lacking in IT. As intelligent automation takes over many of IT's traditional rote tasks – freeing up time for more creative and impactful challenges – these skills will continue to gain importance.

The rotation strategy to increase business acumen plays a role in teaching these skills as well. Employees become better collaborators while gaining valuable knowledge they can apply to develop new ideas in other areas and solve problems in innovative ways.

Gaps in business skills

Question

Which business skills or expertise gaps within IT are impacting your organization's business transformation initiatives?



Base: total = 600

Higher training budgets result in greater success

Our survey respondents perceived the pace of technology change to be 1.6 times faster than just five years ago, and believe it will only increase. Yet most training budgets are expected to stay flat.

Only about one-third of respondents project an increase. Notably, however, organizations that are more successful in their business-transformation initiatives recognize the competitive advantage of continuous learning and invest more for training.



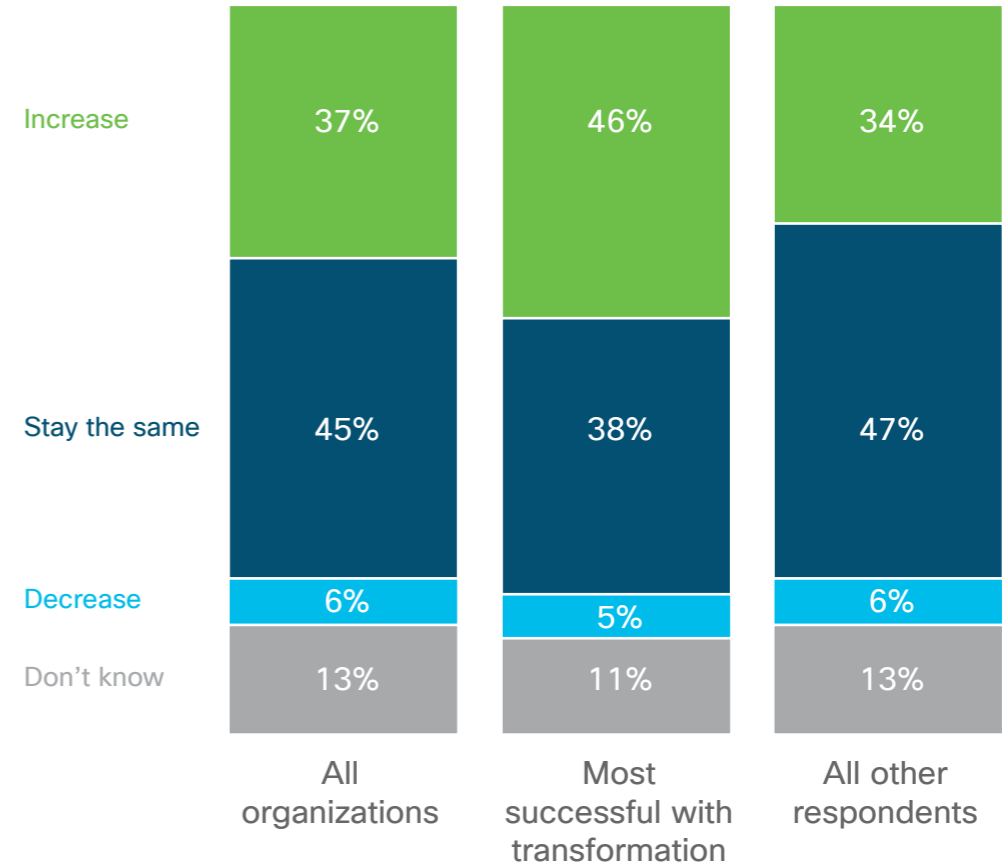
I can't always outspend my competition, so I need to leverage individuals who can think outside the box. And help this corporation make better decisions than my competition can. Faster, smarter, better. More data-driven decisions, more intelligent decisions."

CIO of a global manufacturer

How training budgets are changing (or not)

Question

Will your budget for training employees to support business transformation increase, decrease, or stay the same over the next fiscal year?



Base: Total = 600; most successful = 124, all others = 476

A change in hiring practices: who looks for what?

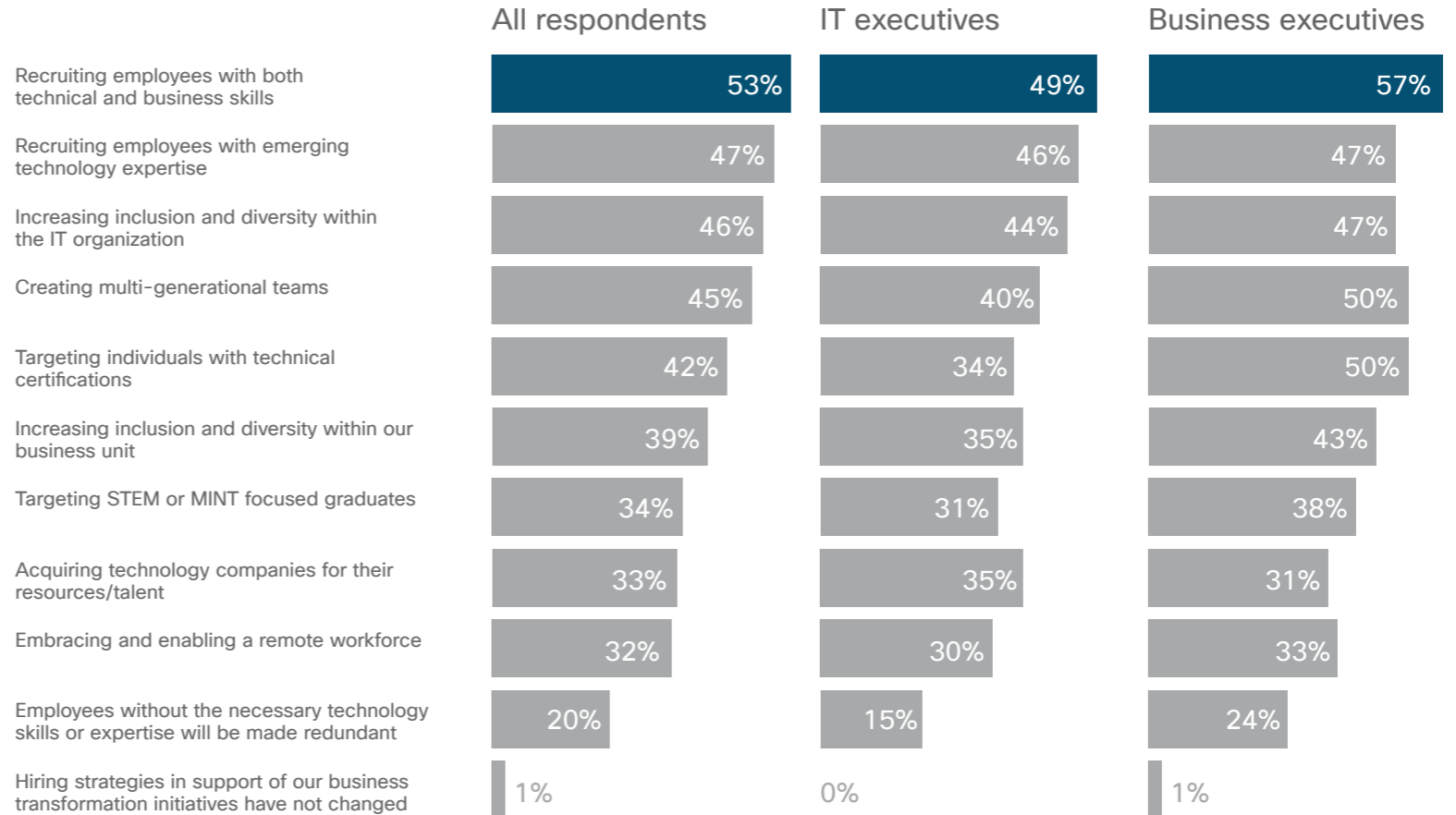
IT and business executives differ in their strategies for finding new talent with deep knowledge of technology and business.

Overall, a majority focus on recruiting employees with both technical and business skills, which tops the list for both groups. Remarkably, however, business executives are more likely to recruit for technical skills than IT executives. This finding is likely because many are now building a tech foundation into their lines of business. IT executives, on the other hand, focus more on emerging technologies, since they already have a foundation of tech skills within IT.

Between IT and business leaders, hiring strategies vary

Question

How are your hiring strategies changing to support your organization's business transformation initiatives and future business strategies?



Base: total = 600; IT executives = 300, business executives = 300

Incentives and pay must reflect IT's new standing

“The way CIOs compensate, assess, and measure the performance of IT has not involved business acumen,” says Martha Heller, CEO, Heller Search Associates, an executive search firm specializing in CIOs, CTOs and CISOs. “A compensation plan is a behavioral plan, and if you’re never compensated to get smart about the business, you won’t do it.”

Now charged with driving transformation, CIOs and their IT teams must be properly rewarded. Compensation needs to reflect the function’s expanded value to the company.

In many organizations, however, pay is still tied to a perception of IT as stewards of the data center and keepers of “the lights.” The CIO should lead a shift in awareness to overcome outdated views of IT.



A compensation plan is a behavioral plan, and if you’re never compensated to get smart about the business, you won’t do it.”

Martha Heller, CEO, Heller Search Associates, an executive search firm specializing in CIOs, CTOs and CISOs



Enabled by technology, powered by culture

The benefits of technology change can't be fully realized without cultural change. In part, that means expanding where talent is sourced and thinking more broadly about the talent pool. The more diverse, supportive of creative ideas, and nurturing of growth opportunities, the more successful the organization will be.

“The best team contains the people with the best skills, regardless of their geographic location or organization,” said Guillermo Diaz, Jr., CIO and senior vice president at Cisco. “We look for talented people everywhere, not just in Silicon Valley and other technology meccas.” By his definition, this wide-ranging scope demands a truly borderless organization.

Many companies, however, are having difficulty in this area. Our survey found that 62 percent of organizations still need a cultural change to help retain and attract the new talent necessary for business transformation. IT can help its own cause as it supports the organization with technology solutions that enable the flexible, anytime, anywhere work cultures that top talent demands.

“Collaborating across locations and organizations,” Diaz continues, “only works if you have the right capabilities—and even more important—the right culture. That’s why I constantly remind myself and my teams that future IT is enabled by technology, but it’s powered by culture.”



“The best team contains the people with the best skills, regardless of their geographic location or organization.”

– Guillermo Diaz Jr., SVP and CIO, Cisco

Top five musts for overcoming the talent gap

Digital disruption has changed IT operations and business processes. The next-generation IT organization is made up of CIOs with a seat at the table and people with vastly expanded abilities, including business acumen, soft skills, and, of course, cutting-edge technical expertise.

To fill IT departments with these types of employees, overcome the talent gap, and effectively support business progress, the new CIO must:

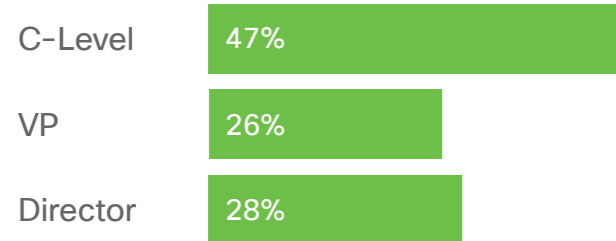
1. **Cultivate a higher level of business acumen:** Prioritize deep knowledge of the business as a significant element when training and hiring.
2. **Rethink training strategy:** Upskill using interdepartmental job rotations to foster a richer dialogue based on cross-functional collaboration.
3. **Invest in training and reskilling:** Transformation leaders are significantly more likely to increase their training budgets.
4. **Adopt a borderless, people-first culture:** Look for talent everywhere and invest in continuous learning to attract and retain top talent.
5. **Compensate accordingly:** Base pay and incentives on the new IT reality.

Research methodology & respondent profile

300 IT executives



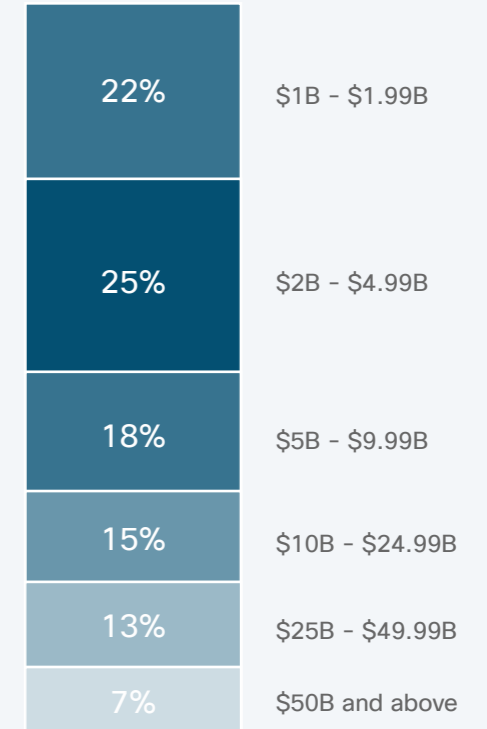
300 Business executives



Top industries



Revenue



Average offices worldwide:

126



Average number of countries of operation:

21

Acknowledgements

The authors would like to thank the following for their contributions:

Guillermo Diaz Jr., Dr. Trent Salvaggio, Riley Mills, Luisa Rebolini, Susie Wee



connectedfutures.cisco.com



CONNECTED FUTURE
Executive Insights by Cisco