Addressing the Tech Skills Gap

Pairing talent management and the future of work
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Introduction

The talent shortage, particularly in STEM fields, has been well recognized and written about for years. This has undoubtedly led to fatigue for business and technology leaders alike. Nevertheless, the problem remains — and by all accounts is getting worse for all modern enterprises.

But what if you could actively narrow your organization’s tech skills gap in a predictable and scalable way? By improving talent management and upskilling, you can gain a clear competitive advantage in a world where the right people are evermore difficult to come by.

This white paper isn’t your run-of-the-mill fear tactics without the solutions to back them up. Just as Cloud Academy is solely focused on the tech community, this resource is written for leaders of IT and specialized tech teams. Read on to reset regarding the tech skills gap, get a better understanding of its true impact, and improve your talent management in the months and years to come.

You Will Learn:

- The current state of the skills gap in enterprise technology
- The financial impact of hiring versus upskilling tech talent
- How to grow your business without growing your headcount
- And more!
The Tech Skills Gap & Where It Stands

Nobody could have anticipated the acceleration of enterprise technology spurred on by the COVID-19 pandemic. Coupled with a clear skills shortage, and a societal shift toward what it means to work in the modern world, tech leaders have been brought to the forefront of operational strategy. This prerequisite for tech skills has become an integral part of the future of work, where the lines between the digital and physical world have been increasingly blurred.

As a result of this work-from-anywhere environment, the burden on IT Ops has increased exponentially across individuals, teams, divisions, and departments. In the past, it was not for these stakeholders to determine the desired future state of business outcomes, but that paradigm is shifting as CIOs and tech leaders have been brought into the mix. This has further complicated the juggling act between business and IT leadership, and their ability to balance vision with talent management.

These trends have led to a shift in the minds of business executives, who may have otherwise pushed back on or postponed digital initiatives in the not-so-distant past. Now, for good reason, the drive to leverage emerging technologies as a piece of the strategic growth puzzle is running rampant and placing tech leaders at the center of business decisions. This added pressure is further exacerbating the tech skills gap.

Deloitte’s 2020 CSO Survey found that 70% of respondents think disruptive growth (via technology) is critical for their organization’s success. However, only 13% of Chief Strategy Officers feel confident in their company’s ability to execute.

Some statistics:

- The skills gap will cost the United States $1.2 trillion in GDP by 2029 (source)
- A KPMG survey of CIOs found that the technology skills shortage is greater than it’s been since 2008 (source)
- 50% of enterprise IT organizations say they will delay their cloud migrations by two years or more due to a lack of cloud infrastructure-as-a-service (IaaS) skills (source)
- There is a shortage of 1.4 million software developers this year, with only 400,000 students expected to graduate with appropriate degrees (source)
- In the next decade — from quantum computing to AI, machine learning, blockchain, robotics, and other rapidly advancing technologies — we will experience more progress than in the last 100 years combined (source)
Why is this happening?

Put simply, technology now moves faster than our minds can keep up with. We are no longer in control of when and where we upgrade our tech. It is predetermined for us based on the software and service providers we rely on in both our personal and professional lives.

Not only is the pace at which technology is advancing driving a wedge between employers' needs and the human capital to fulfill them — those who are open to new opportunities often flock to “employers of choice” who have all but monopolized their competitive positioning.

Just look at Kendall Square in Boston, MA. Blue chip technology companies like Microsoft, Facebook, Twitter, Amazon, Google, etc. have set up shop directly next to MIT. These organizations are able to pay a premium for real estate to capture the nation's budding tech leaders right out of school and shape their careers from internship onward. The story is the same across the country, from Palo Alto, CA to Austin, TX, and similar talent hubs globally.

Most enterprises aren't so fortunate. But it's not all doom and gloom.
The Cost to Hire vs. The Cost to Upskill Tech Talent

Simple economics lets us know that as the demand for qualified tech talent has risen, and the supply hasn’t kept pace, hiring on the open market is an expensive, time-consuming endeavor. Not only that, but top candidates now control their own destiny. They can pick and choose the companies they want to work for and the roles they want to pursue within them.

Again, this isn’t news to anyone. But taking a step back to truly understand the numbers is both impactful and scary — especially for companies competing against huge enterprises with the power to attract new and experienced talent with relative ease.

Hiring new tech talent

As with any new professional relationship, there are inherent risks to bringing on tech talent, especially at the early stages of their career. The Bureau of Labor Statistics has consistently found that about half (50%) of college grads leave their entry-level jobs within 2 years. For tech professionals that often demand a six-figure salary, this turnover can cost organizations as much as $30,000 to backfill. And these don’t include the costs of lost revenues due to understaffing and further turnover, or the cost of job advertising, recruiting, and onboarding.

These risks are higher for more experienced, specialized tech talent, where salaries climb and finding qualified individuals takes even longer. Let’s circle back to our software developer example from the previous section:

Based on research from DevSkiller, the costs to bring on one senior developer can easily exceed $50,000 including recruitment, interviewing and onboarding, and lost productivity.
According to Accenture, if skill-building doesn’t catch up with the rate of technological progress, G20 economies could lose up to $11.5 trillion over the next decade. The tech skills gap is truly a global problem that’s shown no signs of slowing down.

Still, there are significant measures that organizations can take to help mitigate the challenges, such as investing in upskilling with a proven, enterprise-specific solution for tech skills. Not only is this more cost effective than hiring, but it is also a more predictable and achievable method of reaching strategic objectives.

Say, for example, you need 2 cloud architects and a DevOps engineer in 6 months. With the right upskilling platform, you can identify those on your teams with the prerequisite skill set and help set them on the path to advancement at a fraction of the cost of hiring 3 new employees who are unfamiliar with your brand, your systems, and your processes.

Now multiply this at scale across IT, engineering, development, and product people. All of a sudden the hardest roles you have to fill become predictable and come from within your organization. You’re guiding your team — and their skills — to where you need them, when you need them to be there.

The 2020 Training Industry Report by Training Magazine found that the average U.S. company spent $1,111 per employee, per year on training costs. Of note, this includes non-tech employees and in-person training courses. Training for specialty tech talent often comes with a lower overhead due to its digital delivery. For instance, an enterprise plan of Cloud Academy costs just $660 per employee for a year.
How this comes to life

Cloud Architects come from a variety of different backgrounds, but we'll use the software developer foundation for consistency.

Starting off with a Junior Developer, you've already invested in new talent for an annual salary of approximately $65,000, depending on location, plus the cost of recruiting and onboarding. Let's round up and say the extraneous costs of hiring a junior developer, including lost productivity, add up to $13,646. **Your total (12-month adjusted cost-to-hire) comes out to $78,646.**

Now, let's give this individual a generous 3 years of ramp time to embed within your company. With an average 5% salary increase over these 3 years, your total investment in them will be:

<table>
<thead>
<tr>
<th>Year 1: $78,646</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2: $68,250</td>
</tr>
<tr>
<td>Year 3: $71,723</td>
</tr>
<tr>
<td><strong>Total: $218,619</strong></td>
</tr>
</tbody>
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The time has come to hire a cloud architect, who comes with an average annual price tag of $148,500. To outsource and recruit a new individual, including all associated costs, you're looking at an initial investment of $179,676 for the first year.

But what if, by knowing your future talent needs, you used year 3 to upskill your Junior Developer with customized training plans through Cloud Academy? If they averaged 3 hours of studying per week, they could meet the requirements of your cloud architect role in under a year. Beyond that, they are already familiar with your tech stack, processes, workflows, and have proven themselves to be a good culture fit. So, for year 3, you'd be looking at an investment of $71,723 salary plus $660 in an enterprise subscription to Cloud Academy.

**Hiring a Cloud Architect on the open market:**

$179,676

**Upskilling a Developer to become a Cloud Architect:**

$72,383

**Savings:** $107,293

Break this single source of truth for tech talent management out across your entire organization, and imagine what's possible.
Growing Your Business without Growing Your Headcount

It's obvious that a blended approach to both hiring and upskilling is necessary for modern, tech-driven organizations to succeed. However, if done properly, leaders can save significant costs that can then be repurposed for innovation by leaning on building their teams from within.

The first step toward doing so is by understanding where the tech skills of internal teams and individuals lie. Only then can leaders plan for what they need, and identify who can help take the company to the next level.

Cloud Academy’s 2021 Technology Leadership Survey found that less than half (45%) of enterprise technology leaders can report a concrete understanding of the talent they have versus the talent they need. The majority either listen to anecdotal feedback from team leads or simply have no idea where the individuals on their team stack up.

This is a problem for numerous reasons, and one that can only be solved with the proper tooling — an objective, technical skill assessment based on your organization's tech stack.

Taking a step back

Leaping into any full-scale tech training program without the proper buy-in and engagement from leadership can take the wind out of your sails before you even leave the dock. An investment in platforms like Cloud Academy can aid with employee retention, help companies reach the next level by way of innovation, and streamline the complexities of talent management versus strategic planning. However, that can only be done if it's communicated and rolled out in a thoughtful and meaningful way.

You can't simply put people in front of training and expect it to stick. The training needs to be practical to your organization, customizable for peoples’ job roles, and tangible in that it produces results that translate to real business outcomes. Doing so not only creates a shared environment of learning and growth, it shows people that you care about the future of their careers and their individualized impact on the business.

These reasons carry well beyond the tactical and into the culture of building a strong employer brand. In 2019, research from LinkedIn found that 94% of employees would stay at a company longer if it simply invested in helping them learn. This is an interest that's particularly strong among younger workers. The 2021 Workplace Learning Report further supported those results, as companies who offer high rates of internal mobility keep their employees 2-times longer than those who do not. Furthermore, 84% of managers agree that learning can help close the skill gaps on their teams.

By now it should be abundantly clear. The importance of upskilling and reskilling employees cannot be overlooked — particularly in the modern digital age.
The furious rate at which technology is advancing means that we as a workforce will never be able to catch up, let alone keep pace.

To mitigate the challenges and overcome skills gaps, enterprises must create a culture of continued learning, supported by comprehensive tech upskilling programs. This not only helps to retain and engage current employees who are able to see a path to career advancement, it streamlines tech talent management efforts, saving costs and truly identifying when making a new hire is necessary. Before long, this culture of learning you’ve created will boost your employer brand with prospective employees, making your company a peer-recommended place to work.

Cloud Academy has helped hundreds of companies and hundreds of thousands of end users bring this vision to life. See for yourself why we’re the leading enterprise tech skills development platform.
Cloud Academy is the leading enterprise tech skills development platform that accelerates innovation through guided learning paths, hands-on labs, and skill assessments.

Companies trust Cloud Academy to benchmark talent then deliver role-specific, fully customizable training on AWS, Azure, Google Cloud Platform, and Alibaba Cloud. Users can also learn DevOps and security methodologies in addition to capabilities that enhance operational performance — including big data, artificial intelligence, machine learning, and IoT.

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