

Closing the cloud skills gap: A perennial problem for business

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Introduction

With the labor and skill shortage remaining a major threat to business sales, it makes sense that the top three places where businesses plan to spend money in 2023 are in hiring and wages (29%); retention, upskilling and engagement (22%); and digital transformation including cloud, security and automation (20%). Despite these planned recruitment investments, hiring remains challenging overall, with more than 51% of respondents to our Macroeconomic Outlook survey saying it has been somewhat or very difficult to hire new employees or bring back furloughed employees over the past 12 months.

This challenge is reflected in the IT industry as the operating model shifts toward cloud infrastructure and applications — 44% of respondents to our Voice of the Enterprise: Cloud, Hosting & Managed Services, Cloud Skills 2022 list "difficulty finding qualified candidates to bring in as new hires" as the top challenge in addressing cloud skills gaps. For organizations transforming their IT environments to compete effectively in the digital economy, cloud expertise shortages impede progress on broader business and technology initiatives. If hiring is too difficult, it stands to reason that the next best thing would be to retrain and upskill existing cloud professionals. Unfortunately, a variety of hurdles exist in deploying and leveraging new skilling strategies for the cloud.

The Take

The cloud skills gap remains a problem, and organizations are struggling to solve for it via recruitment of new full-time employees, staffing and upskilling/reskilling initiatives. Organizations leveraging cloud technology struggle to find the right full-time employees or contractors to meet their needs and, even when they can find them, often fail to meet salary expectations. One answer is to upskill or retrain existing staff, but there are obstacles to making this happen at scale. 451 Research's survey data points to budgetary challenges, a lack of proper automation tools, and even some employee apathy or disinterest in retraining opportunities. When we fold in qualitative narrative responses, we get a fuller picture of the challenges involved, including lack of perceived

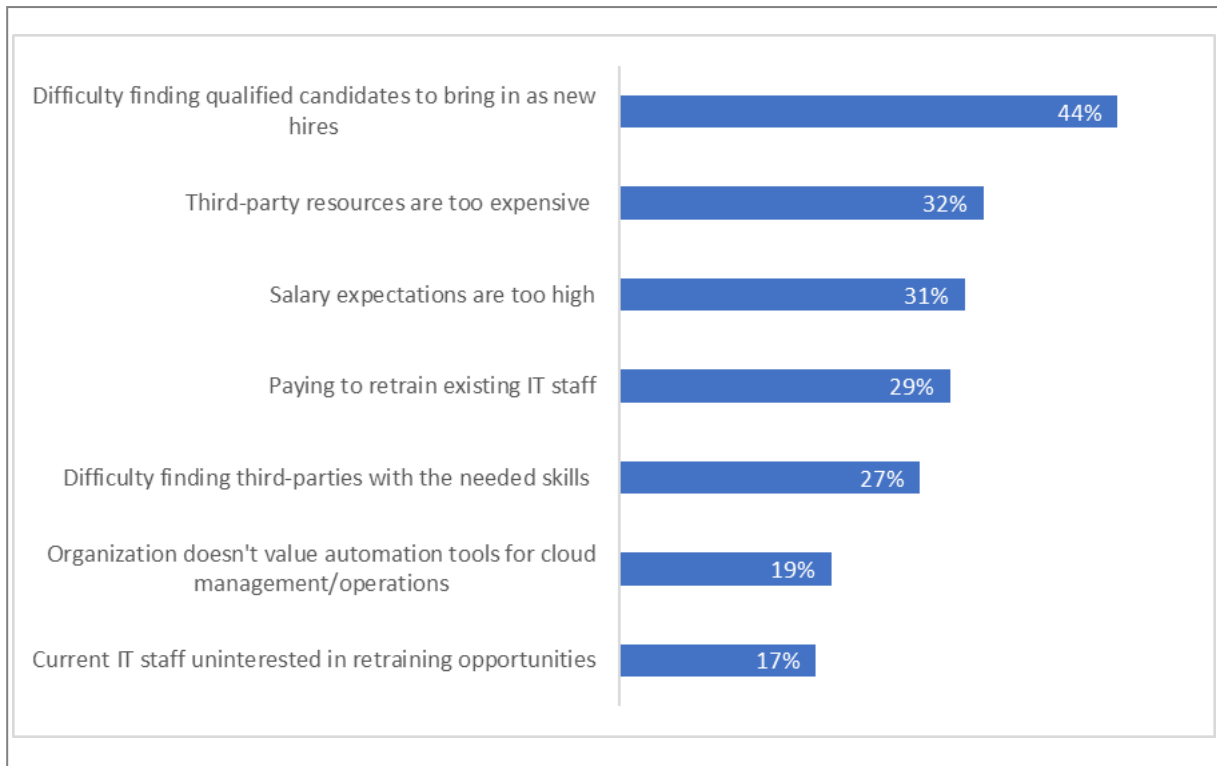
business value in skills, management friction, lack of time and seasonality. While these issues seem to form a mountain of a problem, they help illustrate some of the steps forward for developing a skills strategy through investments in apprenticeships, better college-to-work pipelines and training incentives tied to performance management. These are some initial moves companies can make to better position themselves as skills-focused employers and as organizations fighting to remain competitive in the years ahead.

Why cloud skills gaps are a persistent problem

Organizations are struggling to build the right level of cloud skills to maintain their operations and support digital projects. More than two-thirds of respondents who use IaaS/PaaS public cloud services expect to see an increase in the number of employees with cloud expertise over the next year, yet recruitment remains a challenge. As it stands, only 39% of respondents rated their organizations' IT staff as "very capable" for cloud implementation, management and operations, according to our VotE: Cloud, Hosting & Managed Services, Cloud Skills 2022 survey.

Organizations look to solve for the cloud skills gap through recruitment, staffing and upskilling. However, a plurality of respondents have had difficulty finding qualified candidates — the most commonly cited skills gap challenge (Figure 1).

Figure 1: Top Challenges in Addressing Cloud Skills Gaps



Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Cloud-related Skills and Outlook 2022.

Q. What are the most significant challenges your organization faces when attempting to address cloud skills gaps? Select all that apply.

Base: Respondents whose organization uses public cloud, or plans to use public cloud in the next year (n=304).

To better understand the dynamics of the cloud skills gap, we have grouped the above responses into three categories: challenges with full-time employee recruitment, challenges around leveraging

service providers/contractors, and challenges in upskilling and reskilling efforts. The in-depth interviews conducted for the Cloud Skills 2022 survey highlight organizations' perspectives on these issues.

Recruiting full-time employees

Finding qualified candidates to bring in as new hires is not only a problem in the cloud skills arena. This challenge is mirrored among the general population, as team managers surveyed in our [VotE: Workforce Productivity & Collaboration, Employee Lifecycle & HR 2022](#) cite "pool of qualified candidates is too small" as the top challenge experienced (35%) in the candidate evaluation process.

Some online trackers put the number of tech industry layoffs north of 150,000 through the end of 2022. People in cloud-related or adjacent roles are likely part of this population, providing an expanded IT recruitment pool for "regular" (i.e., non-Silicon Valley) companies to tap into to address cloud skills shortages. However, nearly one-third of organizations believe salary expectations are too high (this perception is especially predominant among very large organizations and in the government/education sector). This is paralleled in the general population, as 41% of team managers say salary expectation are too high (top response) when listing their recruitment challenges in our Workforce Productivity & Collaboration: Employee Lifecycle & HR 2022 survey.

Difficulty in recruiting and misalignment on proper compensation are tightly linked. Not surprisingly, nearly 60% of organizations expressing dismay about salary expectations also have had trouble finding qualified cloud-skilled candidates. At the same time, more than two-thirds of organizations grappling with cloud skills gaps report this expertise deficit as having a moderate or significant impact on implementing broad business and technology initiatives.

Third-party contractors and staff

Hiring full-time employees is not the only option for acquiring cloud skills. However, the third-party approach (e.g., contractors, consultants, managed service providers) brings with it some of the same challenges. Nearly one-third of respondents to our Cloud-related Skills and Outlook survey say third-party cloud resources are too expensive, and 27% cite difficulty in finding third parties with the right skills.

It is worth noting that budget for temporary staff/contractors typically comes out of procurement rather than payroll. As such, the lack of willingness to spend more to acquire cloud skills may not be solely an HR/payroll budget problem, but could reflect an organization-wide reluctance to spend.

Upskilling and reskilling efforts

If hiring new talent and outsourcing options are off the table, the next step in acquiring the requisite cloud expertise would be to retrain or upskill existing IT staff. However, finding the budget to retrain existing staff is challenging, as reported by nearly 30% of survey respondents. One IT/engineering manager in the financial services sector interviewed as part of the survey says that members of the C-suite come in "talking about digital transformation, but they don't want to spend the money."

That lack of money also extends to the tools available to cloud professionals, with 19% of survey respondents saying their organizations don't value automation tools for cloud management and operations. For both upskilled IT staff and cloud-skilled IT personnel, automated processes and tooling help improve operational efficiency, which helps to make the case that cloud contributes to both IT and overall business agility and flexibility. In the early days of cloud, "cloud skills" meant the ability to perform standard IT tasks, such as server/storage provisioning, networking and security in cloud environments. Increasingly, effectively ramping up cloud skill sets also requires automation-

enabled process expertise in areas such as visibility and observability, AI/machine learning and data/analytics.

Finally, a smaller proportion of survey respondents (17%) report a lack of interest from IT staff in retraining opportunities. A senior manager in a midsize financial services firm put it this way: *"A lot of [what keeps me from doing what I want to do to close skills gaps] is resistance from the legacy IT management ... That internal resistance and lack of understanding is the biggest challenge for me."*

When we consider general employee engagement, it is often tied to opportunities to grow at work, which typically include upskilling and retraining. According to our Workforce Productivity & Collaboration, Employee Engagement survey, 45% of respondents have learned new skills since they started work at their current organization. Additionally, 19% say they would be willing to leave their job for better personal development and career growth opportunities.

Color commentary on cloud skills gaps

The in-depth interviews conducted for the Cloud Skills survey offer additional insight into the cloud skills problem.

Skill gaps don't have a big enough business impact

When asked how gaps in cloud skills and expertise are impacting the progress of business or technology initiatives at their organizations, nearly one-third of respondents report, at most, a slight impact. A senior manager at a midsize financial services company highlighted the frequent misalignment between IT and business: *"[The IT team] are focused on driving to the cloud, and they have been delivering. But the IT team's mindset, they haven't quite made that transition to how they need to be different and work different now that more of the infrastructure and the applications are in the cloud ... business and IT, while they embrace the cloud strategy, some of the way in which they act and the skill sets, are probably more appropriate for the legacy in-house model."*

IT management friction

As we noted from the chart above, budget for cloud training is a challenge in closing skills gaps. That, inherently, creates some friction in upskilling and retraining, but additional resistance exists. A midlevel manager in the manufacturing sector said: *"[Aligning IT and lines of business and corporate functions] is always a struggle, because everybody has their own agendas, priorities ... and everybody is running at different speeds. But we're getting better. We're making efforts to make sure that we establish the spaces of communication."*

Not enough hours in the day

In some cases, IT staff with cloud skills may not have the time or bandwidth to keep up with continuous training. *"We set targets and goals every year for getting people to training, and we rarely meet those goals only because it seemed like there was always so much going on, and it was just hard to peel out time to let people go ... "* a senior manager in construction said. *"And if people could afford to pull away from their day-to-day responsibilities, they were more apt to want to take a week's vacation rather than go to training."*

Legacy IT staff can be resistant to change

There is also the changing of the guard. Some of the loudest dissenting voices generally come from legacy IT staff who refuse to change the way they do things. One of the IT professionals we interviewed mentioned challenges with the "seasoned workforce" resisting change because they have always done something one way and believe it to be the fastest. A midlevel manager in a

business services company told us: *"When you do a transformation like [ours], there are always a number of people, between 5% and 10%, that don't want to work that way. And we have multiple ways to either motivate them or give them alternatives ... Maybe IT in a different subsidiary where they do classic IT, or they get early retirement, or they just quit."*

Closing the skills gap

As organizations reexamine their skills strategies, there needs to be a formal communication of the business value of these skills and stronger incentives for training. The communication helps clarify the business impact of skills, and could alleviate some of the IT management friction in the process. Additionally, to overcome some of the internal obstacles around upskilling and training, organizations need regular channels of communication between business and IT roles — as well as the necessary time and budgets — to ensure that investment in cloud skills and processes yields both tactical and strategic business value.

Being that employees are already getting new skills on the job, an investment in new learning experience platform software — especially one with a focus on learning in the flow of work — could help streamline that process and capture data around the skills learned and implemented. Given that organizations are expecting more employees with cloud skills but struggle to recruit and hire them, IT leaders should consider cross-team apprenticeships that could spread cloud skills throughout IT more fully and beyond into other technical departments. This helps hedge against further potential labor and skills gaps in the future.