

White Paper

Navigating the IT Talent Shortage: Skilling Up for Success

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IDC OPINION

IT skills shortages have long dogged global organizations. The pace of technological change has for years made it difficult to get the right employees with the right skills into the right roles. But thanks to post-pandemic hybrid work realities and global economic issues, the current IT skills shortage dwarfs all those that came before.

More than a quarter of IT leaders tell IDC that the IT skills shortage is a top concern (source: IDC's *Future of Enterprise Spending Survey*, April 2022). It should be. By 2025, more than 90% of all organizations worldwide will feel the pain from the IT skills shortage, costing some \$6.5 trillion in missed revenue goals, product delays, impaired customer satisfaction, and harmed competitiveness (source: IDC's *Future of Work Survey*, 2022).

It is easy to see why a dearth of digital skills is so dangerous to a business. Regardless of what sector they compete in, almost all enterprises now rely on tech to deliver value to customers and partners. The ability to innovate high-quality, secure, and even evocative digital experiences is more critical than ever. To stay competitive, they have no choice but to lean into the technology. No wonder some 74% of organizations say they have digital innovation initiatives underway. Such in-demand skill areas as cybersecurity, AI/ML, cloud development, and data management enable digital transformation (DX) initiatives.

Enterprise leaders tell IDC that DX projects have been hit hard by the skills crunch. Most are seeing delays of 3-10 months. It took 3 months longer in 2022 to fill a vacant tech spot than it did a year before, and IT leaders reveal, with nearly half reporting skills-related product delays, quality problems and deployment issues (source: IDC's *Global IT Skills Survey*, 2022).

And it is not just the technologies that are rapidly changing. The IT job roles linked to them are morphing and changing too. Consider AI. According to a 2021 World Economic Forum (WEF, January 2021) analysis, some 130 new job roles relating specifically to AI/ML adoption appeared in 2022 alone. As IT transforms, so, too, do the challenges IT professionals face. In addition to broadened skills, they need the support, environment, and tools to continuously update what they know and to embrace new roles as they arrive.

To stay competitive amid the widening skills crunch, organizations must take immediate and proactive steps to attract, cultivate, and retain the best talent. They must assess the delta between the skills they have onboard now and also predict what technology roles and skills they will need one, two, and even three years down the road. They must be able to offer workers engaging learning experiences

regardless of where and when the employee works. The content might come in the form of self-paced videos or podcasts or via more traditional (virtual or physical) classrooms. But the material must be relevant, of the right depth and length, and it must be reinforced in the flow of work and/or through hands-on labs, sandboxes, quests, and even games.

In short, they need to invent – and continually reinvent – a corporate culture of continuous learning, one in which employees' career paths, goals, and skills are aligned with the business goals of the organization writ large. That, after all, is where the magic happens.

IN THIS WHITE PAPER

This white paper analyzes the current state of the IT skills shortage and what organizations should do to better attract, train, reskill, upskill, and retain their best and most talented tech employees moving forward. After all, an organization is only as agile and resilient as its people and their combined ability to learn, grow, and adapt at the speed of digital change.

SITUATION OVERVIEW

The IT industry is one of the fastest-growing sectors in the world, with constant developments in emerging technologies. Across all sectors, IT is critical to every organizations' ability to compete. After all, every company in every sector these days delivers value to customers and partners via digital means. Such rapid advancement means constant tech changes, which in turn require a continuous and substantial investment in training and development. Skills, roles, and the technologies that power them are moving targets.

To stay competitive, enterprise leaders must not only attract, hire, train, and retain skilled professionals but also keep staffers up to date as technologies and corresponding skills change. They must also constantly be on the alert for new roles and skills that can support new technologies in the future. Employees who have the skills they need to thrive in their careers are fired up and forward looking. They make organizations more fleet, flexible, and innovative because they know how to utilize the tech tools on which success relies.

Powerful, ongoing training initiatives look different from company to company. What matters, though, is that organizations approach skilling as a critical and strategic initiative that provide consistent education and ongoing training whenever and whenever staffers are. That will require significant C-level investment and buy-in in most cases. Such initiatives are about far more than a few online or in-person courses. They require deep, thoughtful assessments of current workforce skill levels, strengths, and weaknesses. They must develop thoughtful skills, road maps, and written plans that comprehend upcoming tech needs.

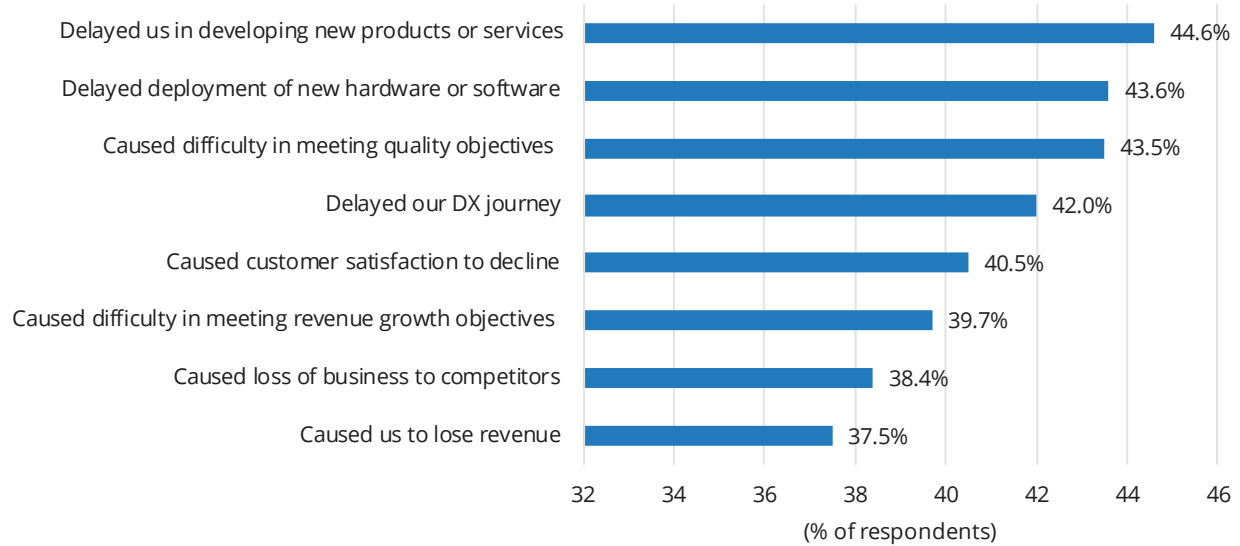
Most importantly, successful training initiatives demand the creation of an ongoing culture of learning. Via a mix of online and/or classroom training, interactive labs and events, and peer-to-peer learning and coaching, the best training programs keep employees engaged and up to date.

Organizations that delay taking such steps do so at their peril. In a 2022 survey of 1,820 global IT leaders, respondents told IDC that a lack of skills already has caused product development delays (45%), hardware and software deployment delays (44%), quality problems (44%), customer dissatisfaction (41%), and lost revenue (38%). As all indications suggest that the current IT skill shortage is widening, such risks will loom ever larger.

FIGURE 1

Impacts of the IT Skills Shortage

Q. Please rate your level of agreement with the following statements



n = 1,820

Source: IDC's *Global IT Skills Survey, 2022*

Future Outlook and Trends

The IT skills shortage poses an existential challenge to enterprises worldwide. Addressing it will require intentional planning and ongoing action. Investing in a robust training initiative requires C-level buy-in and investment, a thoughtful inventory of current skills and a plan for future roles and the skills they'll require, just for starters. It takes a mix of online and in-person courses, self-paced video lessons, labs, assessments, and more. Most importantly, it requires that enterprises put into place a culture of learning, one in which employees feel empowered to learn and innovate.

Robust training and development programs help boost employee morale and motivation, resulting in better employee retention and improved business outcomes. The steps organizations should take now to avoid the worst impacts of the widening IT skills shortage are discussed in the sections that follow.

Assess the Gaps

Organizations cannot possibly plan for the coming skills crisis without assessing where their current skills gaps lie. Essentially, a skills gap is the delta between what employees know how to do and what the organization actually needs them to do. Identifying the skills gap requires a thoughtful, formal inventory across all departments, levels, roles and geographies. The idea is to get a clear picture of the skills the business needs now and also what it will need moving forward.

Skills inventories and skill gap analysis help organizations identify areas of improvement they want to see in IT personnel, teams, or management. Whether through manager interviews, surveys, or online

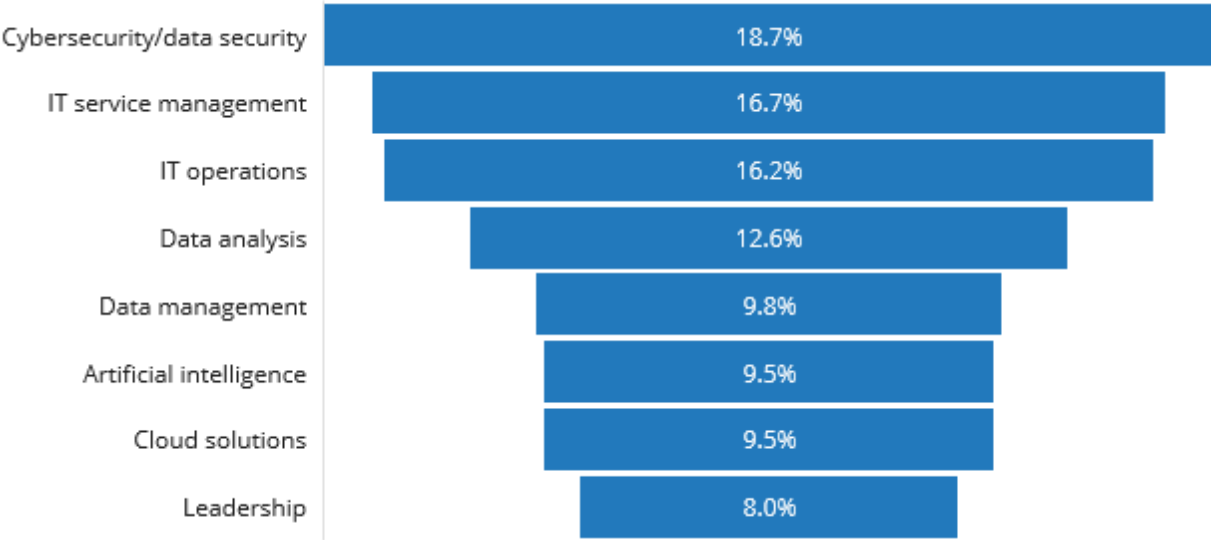
assessments, such efforts help leaders identify the skills workers need to improve. From there, they can evaluate what training and development tools are necessary to close the gaps.

Increasingly, it's important to consider tech skills together with leadership skills, digital business skills, and such human skills as collaboration and creativity (see Figures 2-4).

FIGURE 2

Important IT Skills

Q. Of those IT skills you said were most important, which skill do you consider to be most important?

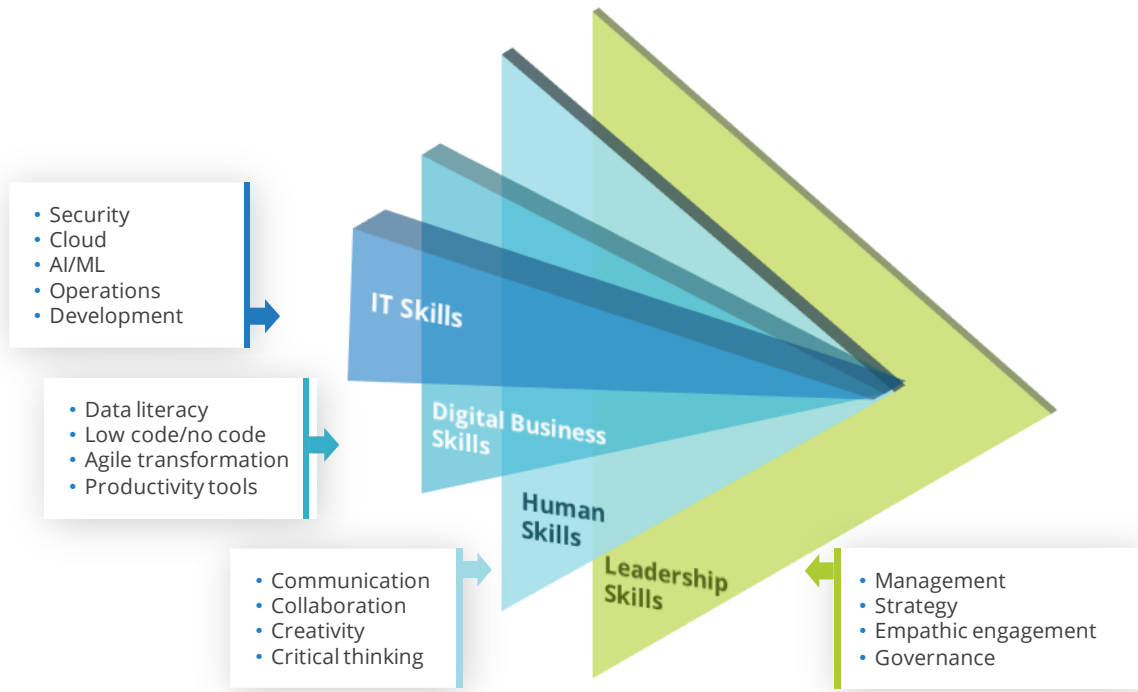


n = 1,820

Source: IDC's *Global IT Skills Survey*, 2022

FIGURE 3

Multiskill Framework, 2023



Source: IDC, 2023

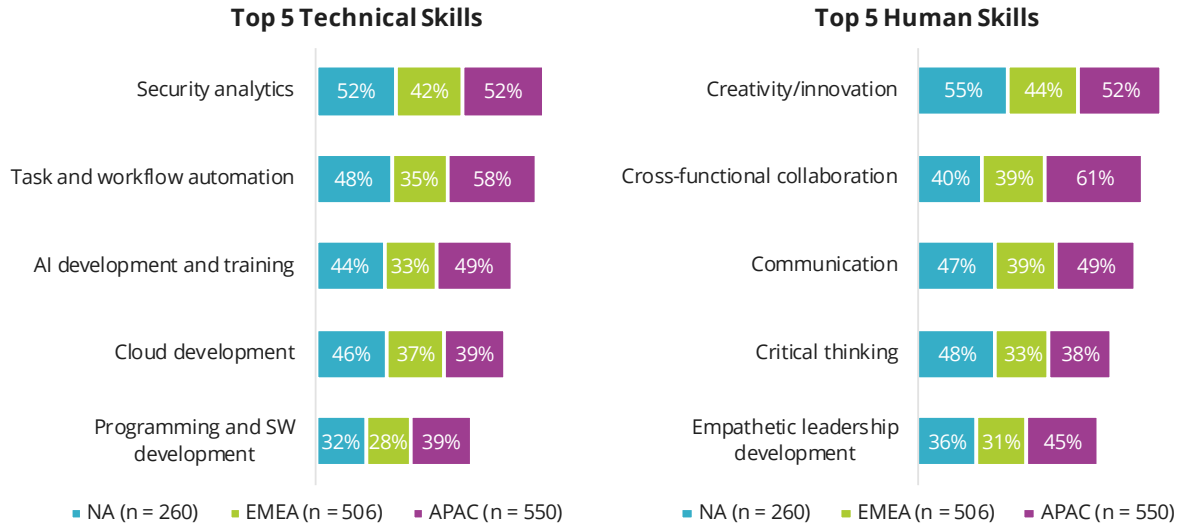
Ideally, a skills inventory will take into account every skill – technical, adjacent, or otherwise – that an employee might need to succeed in a role. For example, consider the role of DevOps engineer. Necessary technical skills might include knowledge of tools like Git, Jira, or Jenkins; experience with containerization tools like Kubernetes or Docker; and familiarity with cloud infrastructure platforms like Microsoft Azure, Amazon Web Services (AWS), and Google Cloud Platform (GCP). Knowledge of network architectures and an understanding of automation tools like Red Hat Ansible might be important, too.

As for business skills, the DevOps engineer would need an understanding of agile methodologies with respect to project management. Some experience utilizing low-code no-code integration tools might be helpful too. Important leadership and human skills might include managing a diverse, remote team; creating and delivering presentations; excellent communication skills; and collaborating in a cross-functional team.

FIGURE 4

Top Tech and Human Skills

Q. Which are the most critical technology and human skills for your organization to hire or develop in the next 18 months?



n = 1,316

Source: IDC's *Future of Work Global Survey*, April 2022

Invest in a Culture of Learning

Once an organization has identified areas on which IT workers need to improve or focus, it must invest in an employee training and development program. Such an initiative might include formal classroom training, self-paced video lessons, games and interactive labs, and traditional on-the-job training, mentoring, and coaching. In the foreseeable future, they might also include generative AI-based chat for learner questions and feedback.

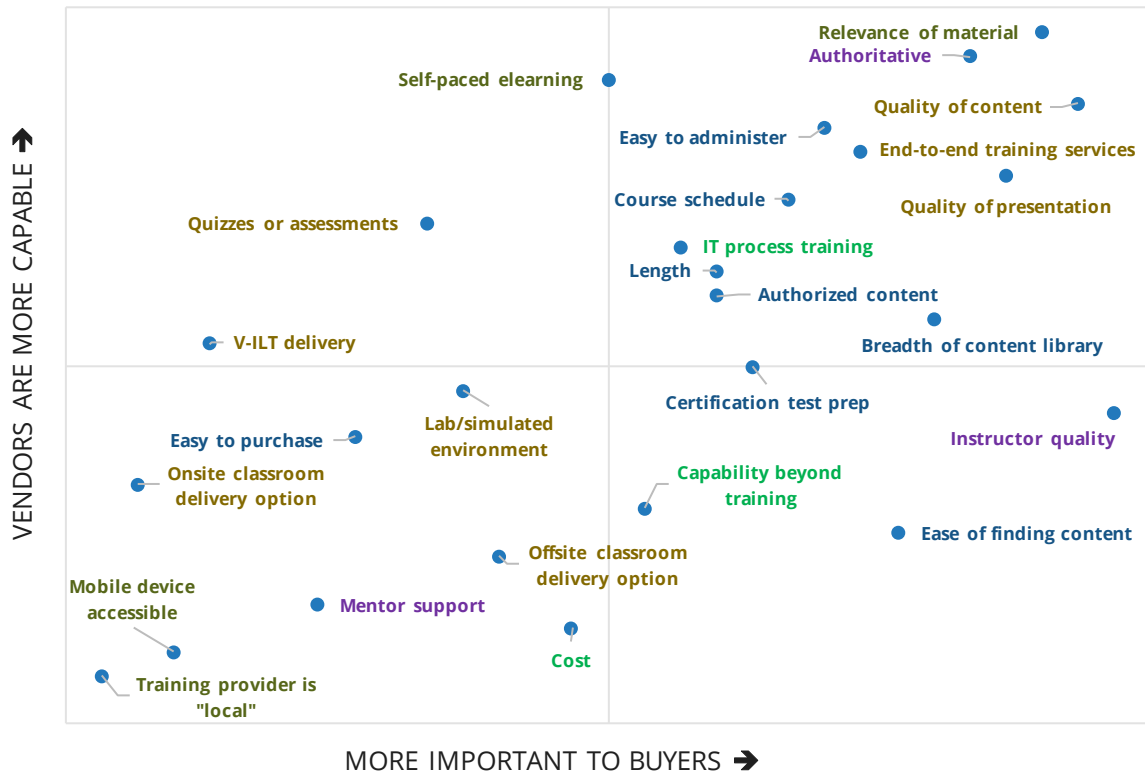
Thanks largely to the emergence of remote and hybrid work during the COVID-19 pandemic, IT training has of late experienced a renaissance. Dry, traditional coursework has given way to engaging learning experiences with high production values, with lessons available in a variety of modalities and for different learning styles. The best IT training programs vary widely in terms of the courses they provide, the length and the breadth of those courses, and the availability of labs, analytics, certification prep, and other features. In a recent survey, IT leaders told IDC what training features they find most important (see Figure 5). Examine those to see how those factors line up in importance at your organization. (For more guidance, see *IDC MarketScope: U.S. IT Training Services 2023 Vendor Assessment*, IDC #US49624923, March 2023.)

FIGURE 5

What Do Enterprises Want from IT Training Vendors?

Q. How important are each of the following characteristics of the training provider? (x-axis)

Q. How would you evaluate your training vendor on the following characteristics? (y-axis)



n = 1,820 for worldwide data, n = 720 for U.S. data

Source: IDC's *Global IT Skills Survey, 2022*

Culture is about something bigger than just delivering the best training courses you can to employees. It involves the careful creation of a workplace that celebrates and rewards learning and upskilling as aligned with company goals. An enterprise with a mature learning company aligns its business goals with the career goals of the employees that serve it. In this way, employees get a clear career path and the skills they need to make the most of it.

By encouraging employees to take new courses, learn new technologies, pursue new certifications, attend training seminars, compete in hackathons, and mentor others, enterprise leaders foster a workplace where employees feel empowered to learn, create, and innovate. Make a case to the C-suite. You cannot create a training plan without budget, time, and personnel. It must be a priority both in theory and in practice. Lock up that investment before you proceed.

Mix It Up

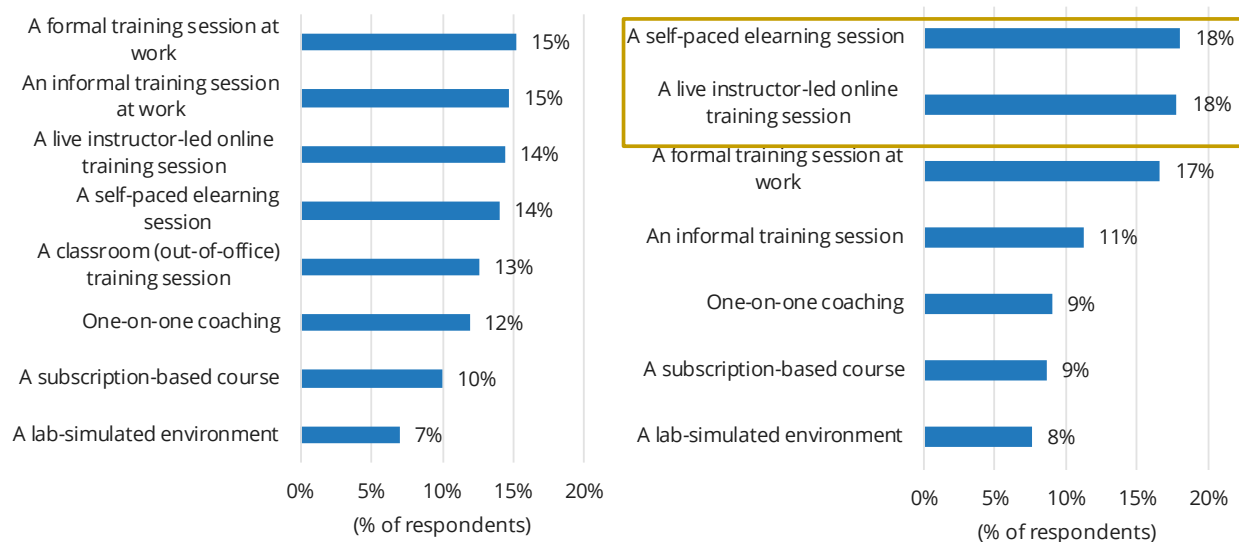
Everyone learns differently. Some grasp new material easier when they are able to watch and rewatch videos at their own pace; others thrive in small groups or classroom situations. For optimal results, put into place as wide a range of training types as you can. These might include both in-person and online training courses as well as labs, bootcamps, events, and games. It might also include job shadowing, one-on-one mentorship, on the job training or, increasingly, technologies (i.e., digital adoption platforms) that teach new skills to employees while they are in the flow of work.

Individuals and teams might have strong preferences about the best ways to learn new material. Preferences even seem to vary by seniority. For instance, IT managers and the professionals who work for them had very different answers when we asked what modalities they prefer (see Figure 6). Keep a ear to the ground. Track what works and what doesn't. Be ready to experiment, pivot, and experiment some more. IT training is a journey.

FIGURE 6

IT Managers Versus IT Professionals: Preferred Ways of Learning

Q. What do you think is the most effective approach to learning technical skills?



n = 959 for IT managers, n = 735 for IT professionals

Source: IDC's *Global IT Skills Survey, 2022*

Get Experiential

It really is this simple: Humans learn better and remember more when they learn experientially.

A century of learning theory supports the idea that humans grasp and retain material better when we get our hands dirty. Practicing what we have learned is far and away the best way to get to mastery faster. That is why so many leading IT education programs now incorporate hands-on labs to reinforce new learning. Combined with traditional classroom training, self-paced elearning sessions, virtual instruction, and on-the-job training, experiential learning can help employees beef up and practice

practical tech skills. Deployed at team level, the approach can also foster human skills such as collaboration, communication, and critical thinking.

CHALLENGES/OPPORTUNITIES

For organizations utilizing or considering implementing Microsoft technology, Microsoft Learn serves as an excellent resource for empowering your team to weather the skills shortage. Microsoft Learn's key differentiators include:

- **Expertise:** Microsoft Learn has accurate, complete, and continuously updated content. Microsoft regularly adds, updates, and retires content as technology changes.
- **Breadth and flexibility:** Microsoft Learn has an abundance of products, programs, and features. An expansive selection of content serve can meet diverse learning needs and learning styles.
- **Global network:** Microsoft works with a large network of organizations around the world to ensure that training can be customized to fit company needs and in the customer's local language.
- **Customizability:** Microsoft Learn curates the skills, tasks, or roles your team needs to master to meet your business goals.
- **Connection:** The Microsoft Learn community is expansive and includes trainers and experts that can offer advice on topics from implementing a new learning program to troubleshooting the complex technical problems.
- **Fun, gamified experiences:** Learners can create profiles and earn experience, badges, trophies, and even accredited Microsoft credentials, keeping them engaged and interested in learning the skills organizations need to thrive. Learners also can link both their personal and organizational email addresses to their profiles, incentivizing them to lean into learning while increasing their job satisfaction.

CONCLUSION

The IT skills shortage presents a daunting challenge to all organizations, but that challenge is not insurmountable. By investing in training programs, assessing skills gaps, and creating a culture of learning, enterprises can mitigate the worst impacts of the widening IT skills shortage. A robust learning culture will help ensure that organizations remain competitive, innovative, and ready to take advantage of new technological opportunities as they present themselves.

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