

Skilling at Scale Strategy for Employers: Apprenticeships

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An Underutilized Talent On-Ramp Is Well Placed to Solve the Organizational Problems Plaguing American Businesses

In the United States, some 8.1 million jobs are [unfilled](#). Shortfalls in the number of people qualified to occupy them are creating an exceptional strain on the workforce, impacting not only understaffed organizations themselves but also entire sectors. Take nursing, for example—a field projected to experience a [shortage](#) of 78,610 full-time registered nurses in 2025. A single unfilled skilled nursing role can have a ripple effect onward, creating burnout among staff and impacting patient care. Several unfilled roles, however, can quickly hinder performance. Multiplied across hundreds of hospital systems, this shortage leads to a healthcare system that struggles to stay afloat.

Unsettlingly, the staffing shortage phenomenon is increasing, impacting employers who are offering well-paid and often highly desirable jobs in transportation, logistics, IT and cybersecurity, manufacturing, and critical infrastructure including chemical plants, refineries, and transportation. For hiring managers, the crisis impacts their ability to deliver results. Finding the right person for a specific role in this employment landscape is often a challenging exercise.

Tony Bryan of apprenticeship intermediary Cyber Up [wrote](#) of hiring practices, “Traditionally, recruiters would sift through countless resumes, looking for specific qualifications and experience. While these criteria are important, they don’t always give a complete picture of a candidate’s potential.”

Unlocking Apprenticeship Potential

Discover how apprenticeships can bridge the skills gap and transform your workforce. Skills-based hiring can lead to a culture of excellence and growth; explore real-world examples and insights from industry experts on how to utilize apprenticeships to skill up at scale.



Bryan's words bely an even bigger issue than staffing shortages: a widespread dearth of relevant skills among existing employees, particularly in areas of the workforce that are impacted by the arrival of AI-related technologies. Businesses are struggling more than ever to maintain a "right-skilled" level of staff to meet their needs. The skills shortage often goes beyond lacking people with the technical and occupational skills needed to do the role. Countless employers complain of struggling to find workers with the adaptable skills needed to thrive in a professional setting: skills like communication, teamwork, critical thinking, and complex problem-solving.

"We see time and again instances in which employees lack fully developed skill sets, and yet employers—especially today—urgently need their employees to have those skills. This is a commonly flagged area for attention in many businesses," explains Wendy Brors, senior consultant with the American Institutes for Research.

In some areas of the workforce, the struggle to find and retain talent is noticeably more pronounced than in others.

"The industries with lower-than-average unemployment rates have fewer experienced candidates to choose from when filling their job openings," according to a [2024 report from the U.S. Chamber of Commerce](#).

"This situation leads to heightened competition among businesses in these industries as they vie for the limited pool of available talent."

Information Week [described](#) a widening skills gap in IT, for example.

"Skills in AI, machine learning, blockchain, and cybersecurity are notably scarce. Both large tech firms and startups face challenges in finding qualified candidates, leading to project delays and reduced innovation. The tech industry's evolution will further increase the demand for specific skills. Experts anticipate a significant rise in the need for professionals in emerging fields like quantum computing and advanced data analytics, with McKinsey [predicting](#) that less than 50% of the quantum computing jobs will be filled unless significant interventions occur."

Jim Snyder, cybersecurity manager for the Federal Reserve Bank of St. Louis, explained how challenging it is to fill the more technical roles. "We've been looking for more senior talent recently, and I'd have jobs posted for a year or more. It's really difficult to fill [those positions]."

A big challenge deserves a big solution.

Taken together, labor force shortages and pervasive skills gaps demonstrate a needless waste of aptitude and productivity, but also highlight an opportunity for widespread workforce transformation. There aren't too few people to occupy jobs, and there are more than enough jobs to go around. When properly motivated, workers can grow and learn new skills that will help them do their jobs better. The situation is rectifiable, but employers are being challenged en masse to rethink what it means to hire and employ people.

The status quo of recruiting and hiring employees is needlessly time intensive and costly, and it yields a shockingly low predictability for a reliable supply of qualified candidates. In fact, SmartRecruiters conducted research into the views and situations of more than 500 business leaders. The study found that more than 60% of respondents think they've hired the wrong person, "despite increased cost and time spent on talent acquisition."

Part of the problem? Today's employers need—but rarely have—organic alignment between their people strategies and their business strategies. To overhaul inefficient norms, they must think in new ways and turn to the "significant interventions" McKinsey references. This shift often goes beyond merely automating existing processes: a tempting move for time-pressed employers, but one that rarely offers a lasting fix.

To help employers transform human resources (HR) processes in a more sustainable and strategic way and paint a clear picture of organizational hiring priorities, a skills taxonomy can be created. This exercise can be used to assess and map real-time and long-term needs against existing gaps and shortfalls, and it can accordingly guide the employer in building a smarter hiring strategy. Such a taxonomy can be at the heart of any shift to skills-based hiring. As to how businesses source people for their most pressing roles? One pathway stands out.

(Re)Introducing the Apprenticeship

In any serious conversation about a shift to skills-based hiring, the success enjoyed by European businesses inevitably comes up, and with good reason. Half of all German working-age adults between 18 and 24 years old [are apprentices](#). In Switzerland, more than one third of employers [train](#) apprentices as part of their talent development strategy, and Swiss apprenticeships boast a 91% completion rate. This pathway is widely popular elsewhere in part because employers understand that apprenticeship connects opportunity with talent in a way that meets both a short- and a long-term need. Apprenticeship ensures that key jobs are occupied by people who possess both a hunger for learning and the staying power to become assets to their organizations.

In contrast, around 0.4% of the U.S. working population is employed in apprenticeships. Encouragingly, the numbers are trending upward. *The Washington Post* [reported](#) that the 643,000 apprentices who currently work in registered apprenticeship programs equates to more than double the number of registered apprentices there were in 2014. Yet, to [gain](#) level footing with other OECD countries, U.S.

employers would still need to hire millions more apprentices. Why has the apprenticeship pathway not seen the success in the United States that it has in Europe?

Apprenticeship asks employers to do something many have long seen as risky: to take a longer-term view of organizational health and think beyond the résumé. It asks them to consider a prospective hire's—or existing worker's—aptitude, even absent their formal credentials. For some, this feels too big a risk. However, for many employers, this new way of thinking and operating is a welcome change. About 81% of employers [cited](#) in a Jobs for the Future report, for example, said that they believe organizations *should* hire based on skills rather than degrees. With attitudes about the value of the college degree changing, many U.S. employers have dropped their degree requirements and are making the shift to skills-based hiring. Many employers wonder: “If someone has no degree, then how can I be really sure they have what it takes?” This concern is worth exploring.

“Businesses need skills-validation, and traditionally, they’ve relied on degrees to do this,” Brors shared. “There is not enough talent available through degree populations to fulfill the demand. What are the alternatives for skills validation outside of degrees, then? Apprenticeships can help a business develop this muscle regardless of whether the employers want to develop this competency in-house or enter trusted partnerships and process for doing skills validation.”

Cyber Up’s Bryan [explained](#), “Skills-based hiring is a thorough approach that emphasizes the actual skills an individual possesses, rather than just their credentials.”

Apprenticeship, unlike other hiring strategies, is about the creation of shared value—for businesses, employees, and communities alike. It requires a commitment to partnership.

“Change has to be co-created, not implemented on people,” said Brors. “That’s why we say that apprenticeship is a co-creation program.”

The returns of hiring apprentices, for employers who have taken the leap, tend to far transcend the roles that are filled. In what ways is apprenticeship such a promising opportunity for U.S. employers? The pages below explain.

Apprenticeships let employers work smarter, not harder.

In the status quo of hiring practices, today’s U.S. hiring managers are undeniably working harder and not smarter—through no fault of their own. The frameworks in which they operate are built upon traditional recruitment and hiring protocols: screen résumés against pre-defined benchmarks, interview, hire, and hope for the best. Yet, the same businesses that do this are also ‘working costlier’ to ensure a right-skilled workforce. Approximately \$340 billion per year is [spent](#) on employee training, with an average of \$1,500 allocated to training each employee up to the standard required for a given employer’s needs. Employers are, on average, [committing](#) between 42 and 53 hours per employee.

There is a technology spend in play, too. Since the pandemic, countless employers have built or launched learning and development programs. Others acquire licenses to costly learning management system solutions—[which can cost](#) of up to \$25,000 or more per year, depending on business size—in a short-term effort to upskill their people just-in-time for the next market trend or technology evolution. Excessive time and money spent hiring and training people do not need to be the norm.

Those who hire apprentices do not have to build their own learning solutions; they are packaged into the training component of the apprenticeship program. Quality is assured by the education provider or intermediary who, as noted in [“Apprenticeships Create Tech Career Pathways and Close Talent Gaps,”](#) undertake the work of managing and maintaining the program, which allows employers to benefit from the apprenticeship model while taking on a reduced burden. These employers do not have to hope that the people whom they are hiring have the exact knowledge and skills they want because apprenticeship affords employers the opportunity to customize the apprentice’s knowledge to the real-time needs of the job. Apprenticeship is unique in that it provides a framework through which apprentices build a highly desirable blend of technical and employability skills. The result is that successful or graduated apprentices may be more professionally developed than their non-apprentice counterparts. The front-end investment in their soft and hard skills ultimately reduces the need for costly performance management identification and improvement tactics in the long term. In this way, apprenticeship breeds a “work smarter, not harder” mentality that can yield exceptional business gains.

Five pools of talent: Apprenticeship lets employers optimize existing assets and find exceptional new ones.

As explored above, many employers are already effectively doing – albeit unsustainably – the work of apprenticeship by training their own people, time after time, despite the widespread reality of high turnover across sectors. Inevitably, many employers are not seeing much return on their investments. This “skills, but just in time” mindset leads to additional inefficiencies. Viewing each worker as only capable of doing the job that they currently occupy severely restricts the potential of any workplace, stifling innovation—and often motivation—in the process.

Apprenticeship challenges business leaders to think differently about the possibilities of each person whom they hire and of those already on their teams. After all, under the right circumstances, every person is capable of profound professional growth and change.

“Apprenticeship is really a framework,” shared Brors. “An employer’s assets can be organized and infused with any critical missing elements. The result? A truly high-performing program that will produce consistently high-quality results. In short, apprenticeship gives employers the skilled employees they need, when they need them.”

Contrary to common belief, apprenticeship does not always require employers to hire from outside their existing pool of workers. In many instances, tenured employees apply for apprentice roles in new areas of a business, eager for a new challenge and the unrivaled chance to learn and reskill on-the-job. Other employees may come to an apprenticeship in one sector from an entirely different one, ready to bring their cross-industry knowledge to the table and learn how to apply their skills in entirely new ways.

“Employers have historically seen their people sourcing choices as: internal—up- or re-skilling; or external—hiring, outsourcing, or acquiring. Apprenticeship can actually let employers tap into all five of these sourcing pools,” Brors explained.

What does this reskilling look like in practice? As one apprenticeship program manager shared with AIR, a medical tech employee transitioned into cybersecurity—an entirely different field—through an apprenticeship program between Comcast and Drexel University.

“This apprentice originally took a Network+ class through the university,” explained Jessica Randall, Apprenticeship Program Manager at Drexel University’s Goodwin College of Professional Studies.

“She then took an A+ course through Per Scholas, a national IT workforce development organization. She then called to see if we had any Security+ offerings and we happened to have an opening for a new apprentice. She upskilled through her current role in Comcast.”

Perhaps one of apprenticeship’s most attractive features from the employer’s perspective is its ability to rise to the top of the most motivated and intellectually inclined people in a talent pool. This is by virtue of the structure of the apprenticeship, half of which is built around learning milestones and the acquisition of skills. Instead of needing to find the people whose experience and credentials seem to be a fit based on their résumé, apprenticeship shifts the hiring manager’s focus to what people can and will do: a shift from passive to active and from experience to aptitude.

In this way, apprenticeship provides a welcome change to overworked hiring managers who are struggling with a rising phenomenon: burnout.

Apprenticeship fights rampant burnout with learning, upskilling, and growth.

Burnout is rampant among hiring managers and in high-performing teams across all sectors. In fact, 36% of managers in a [report](#) from meQuilibrium were more likely than non-managers to report feeling burned out, and nearly a quarter were likely to report wanting to quit their jobs in the next six months. With skills and talent shortages a sharp reality, skilled workers are being asked to do more with less as hiring managers hustle to find people who have both competency and staying power. The repetitive nature of the status quo recruiting and hiring practices ultimately creates more burnout, and this phenomenon can prove costly or even professionally disastrous for businesses.

“As with any position, but perhaps to an even greater extent in HR, burnout and turnover is costly,” Tim Taylor, cofounder and president of nonprofit America Succeeds, [told Business Insider](#).

“Hidden and direct costs include lost productivity of the HR team and the organization. Burnout can also slow the hiring cycle, disrupt the onboarding process, and impact an organization’s ability to acquire and develop new talent. Organizations need to recognize the cost of HR burnout and its compounding effect across the company to take the crucial steps to prevent and address it.”

While the article does not explore the shift to skills-based hiring, it is clear that among the steps needed to address the burnout epidemic is a hard rethink about what it means to recruit, hire, and skill workers. Apprenticeship offers that new perspective. It inherently eases the pain of burnout by opening the hiring horizon to include the “five pools” referenced by Brors. By removing or reducing the often impossible to find “skills and experience” from the list of job requisites, hiring managers can devote more time to finding people with staying power, long-haul competency, and cultural fit.

And for many apprenticeship-providing employers, that culture is one that is deeply centered on learning and growth.

Hiring apprentices can lead to a culture of excellence and learning at all levels.

While non-apprentice workers may be held accountable for the quality of their work by means of quarterly or annual performance reviews and incentive raises, apprentices have a more constant and intrinsic reward system that keeps them going. Namely, apprentices are not successful unless they put in both the study hours and the work needed to complete their program.

In short, having an apprentice on a team raises the collective bar in a workplace. Apprentices must simultaneously learn and put their skills into practice. Their ongoing learning and the achievement of milestones ensures that the work they are doing is aligned to industry best practices. Their teammates benefit from access to this standards-aligned knowledge, thanks to proximity and their work on shared projects.

“The ripple effect of the apprenticeship has been astounding,” explained Claire Ross, director of talent management at Miller Electric. “We’ve had lots of requests for people to join the program and engage in this kind of training, because the tech skills are something that weren’t always as relevant in the construction industry and in our project management team.”

Going further, apprenticeships include some level of mentorship between an existing employee and the trainee. Mentorship enhances the culture of excellence by ensuring that decades of institutional knowledge is not lost. With employers around the country struggling to find new workers who possess job-ready skill sets, this kind of intergenerational knowledge transfer can be priceless.

Apprenticeships create a welcome alignment between employers and communities.

Nearly all (94%) apprentices who [participate](#) in a Registered Apprenticeship program retain employment, with an average salary of \$84,000. The ability of any driven person to earn while they learn—regardless of their background and existing credentials—can be an incredible catalyst not only for the employer and individual but also for the economy of a wider community or region. Successfully run apprenticeship programs, at scale, breed gainful employment, longevity in jobs, and wage-driven purchasing power that can translate into a thriving local business and employment scene.

“Employers thrive in thriving communities,” Brors shared. “Initiatives that bring together critical partners to synthesize a community’s economy and workforce can have the effect of ‘rising all boats.’”

Beyond shared value, apprenticeships let employers benefit from something that business leaders are often too busy to do: strategic collaboration. Apprenticeship programs can offer businesses the opportunity to look beyond their four walls and build networks that serve their immediate and long-term needs. By design, alignment and collaboration are at the very core of apprenticeship.

“An apprenticeship program can be fully run internally within a business,” Brors explained. “But they are most often run in partnership with business and education providers. They commonly also attract the attention and support of others within the wider ecosystem. In this way, you can see how apprenticeship is really a strong opportunity to create business alignment within communities.”

The Path Forward

In summary, apprenticeship is an underutilized talent acquisition and upskilling pathway that holds great potential for the U.S. economy. It is replete with benefits and promises to help employers fill glaring gaps in their workforces while allowing the most talented and driven prospective workers to rise to the top of applicant pools. It benefits communities by ensuring consistent and reliable employment on-ramps exist into good jobs in promising sectors. And it helps employers of every size more quickly and effectively meet their most urgent business needs without losing sight of their long-term goals.

Will more U.S. employers realize the benefits of apprenticeship and make a lasting investment in their talent development strategy? That remains to be seen. But for employers who have already taken the leap, their return on investment—highlighted in this paper—speaks for itself.

CONCLUSION

Apprenticeship is an underutilized talent acquisition and upskilling pathway that holds great potential for the U.S. economy. It is replete with benefits and promises to help employers fill glaring gaps in their workforces while allowing the most talented and driven prospective workers to rise to the top of applicant pools. It benefits communities by ensuring consistent and reliable employment on-ramps exist into good jobs in promising sectors. And it helps employers of every size more quickly and effectively meet their most urgent business needs without losing sight of their long-term goals.

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To learn more about apprenticeship, visit <https://www.air.org/our-work/workforce/apprenticeship-and-work-based-learning> and <https://apprenticeshipsfortech.org>.



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