



Closing the talent gap

Five ways government and business can team up
to reskill workers

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For more than 30 years, Deloitte's Labor and Employment practice has served unemployment, workforce, disability, and workers' compensation agencies throughout the United States. In addition to successfully implementing large-scale information technology systems, Deloitte has substantial experience assisting agencies with strategic visioning, organizational restructuring, and improving business processes. Deloitte helps labor agencies provide services more effectively through state Unemployment Insurance (UI) programs, the Trade Adjustment Assistance (TAA) program, the Workforce Investment Act (WIA), and the Wagner-Peyser Act. It provides services to workers' compensation programs to improve their adjudication, case management, and payment and accounting processes. For more information, visit us at <https://www2.deloitte.com/us/en/pages/public-sector/solutions/labor-and-employment-services.html>.

Introduction

HISTORICALLY, MOST GOVERNMENT training programs have focused on the individual getting the training. However, in today's tight talent market, governments are placing increasing emphasis on helping companies find the right candidates for open jobs. This trend toward business and government cooperating on workforce development was highlighted in July 2018, when the White House released an executive order establishing the National Council for the American Worker, and announced that a group of 23 corporate leaders and trade association leaders had pledged to assist with apprenticeships and training for some 3.8 million students and workers over the next five years. This federal initiative is just the latest example of the growing focus of government at all levels on working with businesses to help connect them with new talent and ensure that the workforce has the skills that business needs.¹

The talent gap confronting American businesses is an ecosystem problem and will likely require an ecosystem solution. Government, industry, higher education institutions (including community colleges), nonprofits, and individual workers themselves all have a role to play.

There is no “magic bullet” to closing the skills gap, but a variety of collaborative efforts aimed at improving the challenging reality of economic dis-



ruption can help, including these five strategies to consider:

- Strategy #1: Flip the script—start with the jobs, not the job seekers
- Strategy #2: Focus on lower-skilled workers
- Strategy #3: Catalyze a new era of apprenticeships
- Strategy #4: Embrace the “50-year degree”
- Strategy #5: Government as matchmaker

Before looking at these strategies, it is important to set the context of the current workforce challenge.

The challenges businesses face

Companies have trouble finding talent with the right skills

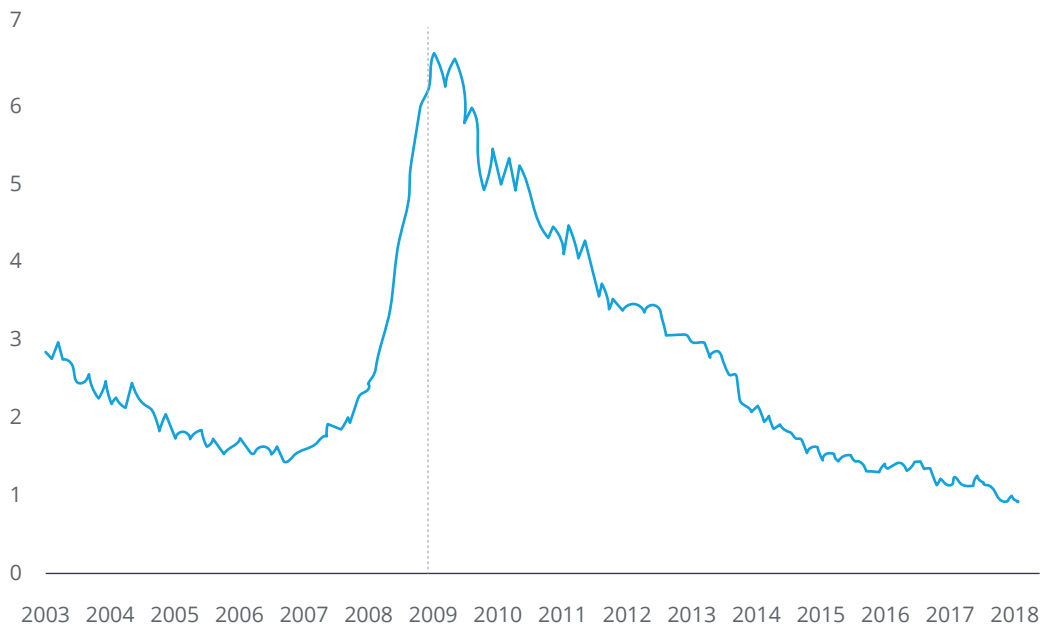
We know it can be hard for individuals to find the right job. However, it's also tough for companies to find skilled employees. In recent years, the number of job openings in the United States has risen faster than the number of new hires.² Throughout much of 2018, unemployment has hovered around just 4.0 percent,³ and the number of unemployed people available per job opening has declined sharply (figure 1). In July 2018, the number of unemployed

persons per job opening hit 0.9, meaning that there were more open jobs than there were people looking for work. This is a big turnaround from 2009, when there were 6.6 job seekers for every job opening.⁴

Moreover, many employers find that a majority of workers lack the skills needed for the jobs they offer. “Middle-skill” jobs—those requiring education or training beyond high school, but not necessarily a four-year degree—account for 53 percent of the US job market, but only 43 percent of the country’s workers are at that level.⁵ Nearly half of all job openings between 2014 and 2024, in fields such as transportation and logistics, health care,

FIGURE 1

The number of unemployed persons per job opening has been declining since 2009



Source: Bureau of Labor Statistics, “Number of unemployed persons per job opening, seasonally adjusted,” accessed September 27, 2018.

and manufacturing, are expected to require middle-skilled workers.⁶

The “talent gap” is growing as skills’ shelf life shortens

The growing use of digital technologies, robotics, and artificial intelligence are expected to require a company’s existing workforce to learn different skills as technology advances. According to a 2016 joint survey by Deloitte and MIT Sloan Management Review, about 90 percent of organizations anticipate their industries will be completely disrupted by digital trends. At the same time, 70 percent of organizations believe that their current employees will not be able to manage this disruption.⁷

A recent report by the World Economic Forum predicts that about 75 million jobs will be eliminated due to artificial intelligence (AI) by 2025—but about 133 million new jobs will also be created. The report further predicts that around 54 percent of employees will need to reskill in order to take advantage of these new opportunities.⁸

The impact of these technology changes won’t be limited to just white-collar or knowledge-intensive jobs. The skills needed for so-called “blue-collar” jobs—which may include everything from hairdressers to construction workers—may also be shifting. Some analysts believe these occupations will increasingly require computer and math skills, which was not typically the case in the past.⁹

Exacerbating the talent gap is the shrinking shelf life of learned skills. Given rapidly changing technology, many skills can be expected to become obsolete in five years.¹⁰ A shortened shelf life for skills means that as employers adopt new technologies, they would either need to hire new workers with the requisite new skills or upskill their current employees. This phenomenon could have implications for workers as well. People are living and, in many cases, working longer, prompting many workers to plan a “50-year career” to meet their financial needs.¹¹ Considering the likely technology changes over five decades, skills that are relevant at the beginning of a career could become obsolete by its end, which means that workers will need periodic reskilling in order to remain employable throughout their working lives.

Companies are rethinking the reskilling of their employees

SOME COMPANIES HAVE the resources to reskill on a large scale, and many corporations are tackling the challenge of reskilling their workforces. In July 2018, 23 companies committed to investing in employee reskilling as part of a White House workforce initiative.¹² Similarly, Amazon will pay 95 percent of the tuition fees for eligible workers who have been employed for more than a year to earn associate degrees and certificates in high-demand occupations.¹³ However, smaller businesses and those with smaller profit margins may be unable to sponsor widespread reskilling for their workers. Similarly, some companies cannot afford

extensive internal training.¹⁴ Yet such training can be important as the struggle of finding qualified job candidates was identified as an important problem for small businesses in a 2018 report by the National Federation of Independent Business.¹⁵

Forced to prioritize their limited resources for training, employers sometimes focus their reskilling efforts on higher-paid, better-educated workers, leaving lower-paid workers to fend mainly for themselves. Even companies that offer employee training as a blanket worker benefit may steer training opportunities more toward higher-paid workers.¹⁶

BUSINESSES ARE CHANGING THEIR APPROACHES TO LEARNING AND DEVELOPMENT

Major shifts in how American businesses approach workforce development could be a signal that traditional methods of instruction aren't well suited to today's rapid technological and demographic shifts. To combat pressing skill shortages, some companies are taking a fresh look at how they enhance skills among both new and existing employees. Many companies are increasing their learning and development budgets,¹⁷ and a 2017 HR survey found that the learning and development (L&D) function within human resources had the largest plans for increased hiring.¹⁸

Companies are using a variety of approaches to meet their skill needs. Common employer training models include apprenticeships, high school completion programs, pre-employment training, new employee training, certification, and college degree programs.¹⁹

The methods by which training is delivered are also evolving. Instructor-led training—which accounted for the majority of employee training as recently as 2009—has been declining,²⁰ while on-the-job learning and online self-study programs are on the rise (figure 2). Also notable is the growing use of on-demand learning. About 71 percent of employees today feel that their job requires them to “continuously learn new skills,”²¹ which may be prompting corporations to provide on-demand learning through virtual and/or mobile platforms to allow employees to find and take training as and when they require.²²

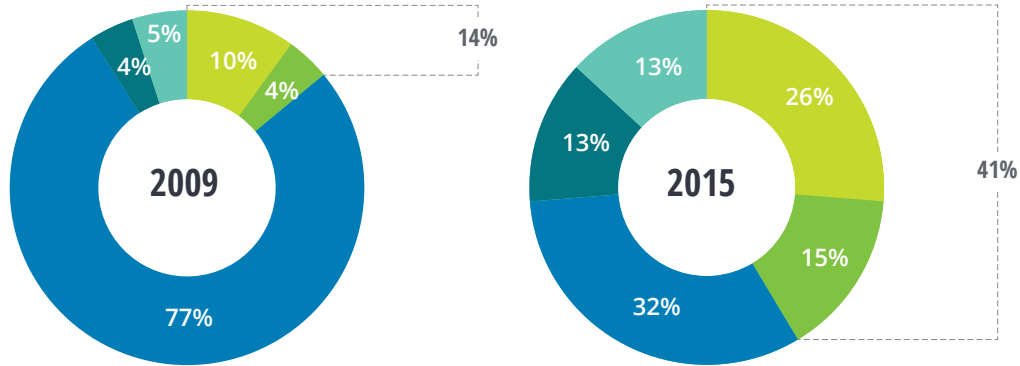
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BUSINESSES ARE CHANGING THEIR APPROACHES TO LEARNING AND DEVELOPMENT (CONT.)

FIGURE 2

The share of online self-study and on-the-job learning programs increased from 14 percent in 2009 to 41 percent in 2015

■ Online self-study ■ On-the-job learning ■ Instructor-led training
■ Virtual instructor-led training ■ Collaboration



Note: Percentages may not total 100% due to rounding.

Source: Josh Bersin, *Bersin by Deloitte 2017 predictions: Everything is digital*, Bersin, 2017.

Collaborative learning, in which employees access their professional network to obtain needed information, is also a rapidly emerging approach. To support this, many L&D teams are building internal knowledge-sharing programs, developing easy-to-use portals and video-sharing systems, and promoting collaborative experiences at work that can help people constantly learn and share knowledge.²³ Some organizations are also promoting micro-learning: short and focused content to meet an immediate need. Micro-learning experiences can include videos, articles, audio clips, or any other form of content that can be easily accessed and absorbed.²⁴

Five emerging strategies for reskilling

THERE ARE AT least five strategies that are emerging as government and business struggle with the skills gap and the challenge of ensuring an adaptive, skills-ready workforce.

Strategy #1: Flip the script—start with the jobs, not the job seekers

Governments have a large portfolio of workforce training programs to help job seekers, although these programs have a mixed record in terms of enhancing individuals' job prospects.²⁵ But in addition to such “job seeker-focused” training, government can flip the script and start with companies that have open positions. Instead of delivering generalized training, this kind of effort focuses on preparing workers for particular roles in particular companies. Working with the employer community to design and, in some cases, deliver these programs, the government can help prepare job-ready employees with skills that match immediate business needs.

Maryland adopted just such an approach with its EARN (Employment Advancement Right Now) program, an employer-led workforce development initiative. EARN begins by looking at Maryland businesses to understand which industries and what regions most need workers, and what skills those workers would require. Employers with similar talent needs partner with each other to submit a proposal to the state, identifying the skills they need and suggesting programs that can train people in those skills. These plans may include a mix of classroom training, online training, on-the-job training, internships, and certification programs, in whatever combination the employers think would be

most effective in successfully preparing candidates for their job openings. According to Kelly M. Schulz, secretary of the Maryland Department of Labor, “One of the best things about EARN is that it allows employers to come up with the training programs that work best for them.”²⁶

EARN supports “strategic industry partnerships” to focus intensively on specific industries' skill requirements. These partnerships may involve nonprofits, workforce development boards, higher education institutions, and local governments, which work together to provide training or other forms of skill development. Started in 2014, EARN currently funds 59 strategic industry partnerships. Because the companies' skill needs are known in advance, the program's success rate—measured as the percentage of individuals trained who then find jobs—is high. As of June 2018, 81 percent of those trained through EARN (2,775 of 3,414 unemployed or underemployed individuals) have found employment. In addition, EARN has helped more than 5,200 incumbent workers enhance their skills.²⁷

Rather than being designed by the state, EARN allows the employers to design the type of training needed. To strive for a high success rate, EARN has a rigorous grant review process, looking for industry engagement and successful placement in jobs. “If in a program with 40 people, only 25 get hired, the team goes back to the partnership to reassess their needs,” said Schulz.²⁸ Rather than setting up a permanent training program, EARN generally provides grants for a period of two years, and participants need to reapply in case they wish to continue.

Because the grants are targeted at companies and job seekers, a wide variety of small grants fill a wide variety of labor needs. For example, the Wor-Wic Welding initiative provides hands-on metal fabrica-

tion and tours of various employer facilities as part of a 16-week training. Some 46 of 55 trainees have obtained employment through this initiative.²⁹ In Baltimore, a program led by Vehicles for Change offers ex-offenders hands-on automobile repair, with nearly 60 interns placed into employment with just a 3 percent recidivism rate.³⁰

Funding for the EARN program comes entirely from state sources, with special emphasis on certain targeted fields, such as cybersecurity. The Advanced Cyber Training Consortium, comprising six employers, helps unemployed or underemployed workers prepare for the growing field of cybersecurity, which often requires recognized certifications and some level of work experience for entry-level positions. To meet this requirement, the consortium offers industry-recognized credentials along with internships and on-the-job training opportunities.³¹

For each dollar the state invests in EARN, an additional US\$18.97 in economic activity is created. This is much higher than the nationwide average return on investment for workforce development programs, which is US\$3.41.³²

The idea of “flipping the script” by putting jobs and companies at the center of workforce development efforts appears to be of growing interest to a number of companies, nonprofits, and public officials. Expect to see a growing number of these flexible, job-centered efforts in the near future.

Strategy #2: Focus on lower-skilled workers

There is a special challenge when considering lower-skilled workers or those with disabilities and other challenges. While low-wage workers are the most likely to see their jobs disrupted through technology, they are also less likely to receive corporate training. A 2013 study found that workers with the lowest wages had the highest likelihood of having their jobs automated, with those earning less than US\$20 an hour having an 83 percent chance of losing their job to automation.³³ Moreover, an OECD study found that low-skilled workers are half

as likely as higher-skilled workers to participate in job training.³⁴

Firms tend not to invest in training their low-skilled, low-wage workers for several reasons,³⁵ including the fact that lower-skilled workers often have higher turnover rates, giving businesses little incentive to invest in their training. In addition, the work performed by low-skilled workers often doesn't provide sufficient return for the time taken away from productive work. Thus, the opportunity cost of training such workers is high.³⁶ Moreover, low-wage workers might lack the resources needed to invest in their own training, including money and time; they may be working two jobs already or have additional family responsibilities.

Given the challenges many lower-skill workers face, community organizations and/or governments can assist in building a pathway to better jobs and higher wages. Many philanthropic efforts are targeted to single mothers, individuals with disability, unemployed youth, ex-offenders, and others who might struggle in the workforce. Government can partner with these organizations to provide resources or subsidies to help develop the skills of these individuals. Government can also play a convening role, bringing employers, community colleges, and other ecosystem participants together.

In some cases, governments can provide subsidies to companies so that the latter's entry-level workers can receive training to transition to higher-skill, higher-wage jobs. The New York Workforce Development Program supplements its incumbent worker training grants with the Workforce Fund for Basic Skills, which provides grants for basic training such as reading, math, and English for nonnative speakers. The cost of the training is covered by the state, while the employers pay wages of participants while they are in training.³⁷

Strategy #3: Catalyze a new era of apprenticeships

Apprenticeships in the United States have traditionally centered around trades such as plumbing,

welding, and machining. But they can also be valuable for middle-skill jobs like lab technicians and even newer, highly skilled roles such as computer programmers and cybercrime analysts.

By combining education and work experience, apprenticeships can make learning more real-time and relevant, ensuring that individuals are learning the skills employers need. A traditional four-year college degree may be necessary for some jobs but opening up middle-skill jobs to individuals who have a two-year degree plus some relevant work experience can help companies tap into a greater pool of workers.

Currently, middle-skill apprentice programs are somewhat rare—only 20 percent of adults report receiving work experience along with their education.³⁸ This could present an opportunity for companies, educational institutions, and governments. Writing off all nongraduates of four-year colleges means missing out on talented individuals. After all, there are many reasons why an individual may not be able to obtain a four-year degree, from a lack of funds, to the need to care for a child or other family member, to time spent in the military. Apprenticeships can open more middle-skills jobs to more workers and pave the way to higher-wage careers.³⁹

Cybersecurity, for example, might benefit from apprenticeships. In recent times, the demand for cybersecurity professionals has been growing significantly. According to Burning Glass, more than 300,000 cybersecurity jobs were posted in the United States between April 2017 and March 2018,⁴⁰ but not enough workers were available to fill these positions.⁴¹ With the help of apprenticeship programs focused on cybersecurity, employers can hire workers with diverse backgrounds, such as those without university degrees in computers/information sciences. One such program was designed by MC2, a nonprofit in St. Louis, Missouri, working with businesses, government, and military officials. The program is presently in its early stages, but many of its apprentices, including retirees, veterans, and former teachers, have already found jobs with local businesses.⁴²

Public investments can drive employer participation in apprenticeship programs. For example, the state of South Carolina offers a tax credit of US\$1,000 per apprentice to employers that sponsor apprentices; it also provides employers with free access to consultants who facilitate the process of registering apprenticeships, connect with high school technology centers, and evaluate apprentice performance.⁴³ Employers also receive access to the state’s technical colleges through Apprenticeship Carolina, an affiliate of the Division of Economic Development embedded within the technical college system. The program, created in 2007, has provided apprenticeship tax credits to a variety of industries such as health care, information technology, advanced manufacturing, and transportation. Since its launch, the program has served roughly 16,000 apprentices.⁴⁴

Strategy #4: Embrace the “50-year degree”

According to a 2016 survey by PayScale Inc., close to half of all employers in the United States said that college graduates are not ready for the workplace.⁴⁵ More importantly, even if their four-year degree prepares them for their first job, new graduates will likely need reskilling throughout their career due to technology shifts. What if instead we plan for life-long learning? Think of it as a “50-year degree?”

Education institutes recognize that today’s job market is almost unrecognizable compared with just a couple of decades back. A one-size-fits-all approach cannot serve the dynamic needs of today’s job market. In response, some public universities and community colleges have redesigned their programs to align better with business needs. However, it is sometimes difficult for higher education institutes to alter existing programs. A Deloitte study *The future(s) of public higher education: Five new models for state university success* identifies several possible models of higher education, including two designed to support the needs of a changing economy:

- **The “subscription university.”** The frequency with which Americans change jobs and careers, coupled with changes in technology and business models, will require individuals to continuously upskill themselves. The subscription university would reimagine college education by allowing students to dip in and out of the curriculum throughout their lives to gain knowledge and skills as and when needed. Such an arrangement might allow students to pay an annual subscription fee during their lifetime.
- **The “experiential university.”** An experiential university combines academic and work experience, allowing students to mix theory and practice as part of their undergraduate experience. This would not only prepare students for the needs of the workplace but also allow employers to evaluate students for potential fit before committing to hire them for a full-time position.

PATHFINDER: A MODIFIED APPRENTICE MODEL FOR UPSKILLING AN EXPANDED LABOR POOL⁴⁶

Salesforce recently embarked on a new collaboration, called the Pathfinder Training Program, to train workers from diverse backgrounds (e.g., community college students, veterans) with the technical and business skills needed to obtain technology jobs in the Salesforce ecosystem, which is expected to expand to 3.3 million jobs by 2022.⁴⁷ With an eye to both good corporate citizenship as well as filling an acute business need, Pathfinder launched in June of 2018 in Indiana, collaborating with Ivy Tech Community College as well as local veterans’ groups to identify individuals who could, when properly trained and supported, land good-paying jobs as Salesforce Administrators and Developers in the Salesforce ecosystem.

While the initial pilot of the program cannot yet point to results, it does capture the spirit of the emerging approach to workforce development, shifting away from a focus on education and experience requirements and moving toward an emphasis on building job-specific skills and competencies. It also merges training, coaching, and on-the-ground experience to prepare a potentially under-utilized talent pool for high-growth job categories.

Acceptance into Pathfinder is competitive, including a recommendation from an Ivy Tech Community College professor, an application, and an interview. The program includes veterans, recent immigrants, career switchers, people re-entering the workforce, and a high proportion of participants from under-represented backgrounds. Once accepted, Pathfinders complete two months of online training followed by seven days of in-person training focused on developing the type of soft skills needed in a professional technical environment, as well as the technical skills required to pass the Salesforce certification exam. Upon completion, Pathfinders take the Salesforce certification exam and receive support as they initiate the job search process with companies in the Salesforce ecosystem.

Several participating companies, including Deloitte, have also committed to provide internships or other employment to some qualified Pathfinder graduates.⁴⁸ This internship, similar to formal apprenticeship programs, is designed to include coaching and mentoring relationships and exposure to different parts of the company to help these individuals adjust to their roles and the professional work environment—hopefully with a path to full-time employment upon completion of the internship. While starting small, the goal is to graduate 500 students by the end of 2020 from the Pathfinder program in Indiana, with the intent to expand to new markets, organizations, and types of talent in the near future.

The higher education landscape is wildly diverse, ranging from elite academic institutions to community colleges, and includes nonprofit, for-profit, and online degree programs. The cost, student body, and purpose vary, too. Is the purpose of a college education only to get you a job? To broaden intellectual horizons? This is an infinitely debatable topic, with many shades of gray and approaches that involve a combination of educational philosophies. The future likely has room for increasing differentiation, with some schools focusing more on the demands of the workplace and others on the more traditional liberal arts. There will never be a one-size-fits-all approach to ensuring that higher education provides a continuous “school-to-work” pipeline that benefits both students and businesses. However, it’s also true that the rapidly shifting demands of the world of work are prompting introspection within the higher education community.

Strategy #5: Government as matchmaker

To work effectively, the workforce development ecosystem requires a great deal of information. Job seekers need to know what jobs are available, for what jobs they are best suited, and how to access the training that opens the door to a certain position. Employers need to know where to find the skilled workers they so badly need. The remaining system participants are trying to understand how they can most effectively connect job seekers to employers. Here, governments can play a matchmaker role and reduce the information gap between various participants. This can be done in two ways:

Engage in innovative public–private partnerships. Government can help to catalyze more demand-driven approaches by connecting

employers, philanthropies, and other stakeholders to build a workforce information ecosystem. For example, the Markle Foundation’s “Skillful Initiative” in Colorado, launched in 2016, is a collaboration among Microsoft, LinkedIn, the state of Colorado, and local partners. Under this initiative, a job search platform called Skillfull.com is designed to help align employers and educators to ensure that training programs provide skills needed by Colorado employers. The initiative also provides coaches and online services to help job seekers learn what skills are in demand and find relevant training.⁴⁹

Provide industry information directly.

Some governments are taking an active role in providing information on employer demands. Indiana, for example, uses forecasting tools to understand the state’s current and future labor needs. The state’s Common Employability Standards and Labor Market Information is used to highlight skills in high demand—what Indiana calls “hot jobs.” Insights from this analysis can help individuals find jobs and can be used to adjust education and training programs across the state.⁵⁰ The program is somewhat new, having begun in 2015, so the impact and accuracy of its forecasting have not yet been evaluated.⁵¹

A similar strategy has been adopted by the government of Singapore. There, employers from selected industries inform the government about the skills they expect to need in the next three to five years. The government uses this information to create “industry transformation maps” with lists of training courses corresponding to in-demand skills. Individuals can use these maps to make informed education and career choices and prepare themselves for their chosen occupations. The maps also help education and training providers respond to industries’ evolving needs.⁵²

NEW EMPLOYMENT POLICIES TO SUPPORT INNOVATION

When most state governments think about economic development, they naturally think about infrastructure, education, and regulation. However, some may be overlooking the importance of the worker–company relationship.

There appears to be a growing mismatch between today’s economy and government employment policy. Much of these employment structures are rooted in the post-World War II workplace—one characterized by stable, long-time employment, and a “people, place, activity” nature of work in which most workers went to a particular place to do a particular thing for a particular company.

From ridesharing apps to blogging, from the gig economy to “on-demand” work, emerging forms of work fail to fit within the traditional structures. Increasingly, the very notions of “worker,” “job,” and “employee” are being transformed by new technology. The Department of Labor itself notes the complexity of what defines an employee and even if someone is a legitimate independent contractor under one law, they may still be an employee under other laws.⁵³

In general, the nature of the employee/employer relationship tends to be a highly regulated affair, including regulations and laws around:

- Minimum wage
- Employees vs. independent contractor
- Exempt (management) vs. nonexempt (labor)
- Collective bargaining eligibility/rules
- Retirement funding, 401(k) eligibility, etc.
- Benefits eligibility and benefits portability
- Nondiscrimination, harassment prevention, and whistle-blower protection

The mismatch between traditional employment rules and the new economic reality, and the resulting uncertainty, can have several negative consequences: greater costs of hiring the right people (potentially discouraging job growth); and, sometimes, nonuniform treatment of different workers doing very similar activities.

Policymakers appear to have taken note, and some efforts are underway at both the federal and state levels to make changes. The Portable Benefits for Independent Workers Pilot Program Act proposed by Senator Mark Warner in May 2017 would provide contractors and temporary employees with benefits that have traditionally been restricted to full-time employees. The act proposes pilot programs that would allow contract workers to carry benefits such as retirement savings, medical coverage, and training benefits from one job to another for as long as they are in the workforce.⁵⁴ Some states are also exploring new models for portable benefits. For instance, a Washington state bill sponsored in January 2018 requires companies that provide services to consumers through workers taxed under 1099 status to make contributions to a “benefits provider.”⁵⁴ The Shift Commission is also looking at potential implications of the gig economy and the evolving nature of people and jobs. Recognizing that many employers provide limited job security to their workers, the commission concluded that there is a need to explore new ways of providing worker benefits.⁵⁵

Being part of an ecosystem is the way forward

ONE FUNDAMENTAL CHALLENGE of workforce development is that, too often, lower-skilled workers aren't keeping pace with the demands of an information-based economy. Not only can this leave individual workers struggling in low-paying jobs, it can also leave companies with a shortage of "middle-skill" workers.

There is no magic solution to this challenge. But we've shared five strategies that government can use by applying a "jobs first" approach, focusing on the needs of businesses to ultimately serve the needs of individuals and the economy. Working in concert with industry, education, social enterprises and nonprofits will likely be the most promising path forward in reinventing workforce development.

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