The Futures of Work and People with Disabilities

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People with disabilities are an important group to focus on when thinking about the future of work, because they are both a significant part of the current and projected world and U.S. populations, and they also represent a significantly underutilized segment of the global labor force. The World Health Organization estimates that people with disabilities make up approximately 15% of the world’s population, or one billion people.¹ In the U.S., over 10% of the American working age population report having a disability; when you consider all age groups, closer to 20% of Americans have a disability.²

Employment and Poverty Rates of People with Disabilities

Although they are a significant part of our population, people with disabilities are disproportionately absent from the labor force around the world. The World Health Organization has reviewed numerous studies that document significantly lower levels of employment for people with disabilities and much higher unemployment rates in both developed and developing countries.³ These lower rates of employment inevitably lead to higher poverty rates for this population as well.

William Erickson and colleagues annually analyze data from the American Community Survey to track the status of people with disabilities in the U.S. and produce the annual Disability Status Report.⁴ In 2015, 35.2% of working age people (ages 21 to 64) with disabilities were employed, compared to 78.3 percent of those without disabilities. This disparity in employment translates into lower annual median earnings, lower household income rates and

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therefore higher poverty rates for people with disabilities. The median income of working-age people with disabilities who worked full-time/full-year that year was $40,100, compared to $45,100 for people without disabilities, and the median household income was $41,600, $24,300 less than the $65,900 income of households without a person with a disability.

While employment disparities related to disability have been present for years, a growing number of people with disabilities are in the labor force, and this has increased the sense of urgency to address these issues. The American workforce is aging, and extended overseas conflicts are creating increasing numbers of veterans with disabilities. American workplaces must be prepared to accommodate these workers and create a disability-inclusive culture in response to these demographics.

The Aging Workforce

An increasing number of baby boomers are forgoing retirement and working longer, both out of financial need and because they enjoy their work and desire to stay involved. Their increasing attachment to the labor force is significantly changing the age profile of the workplace. Bureau of Labor Statistics economists project that by 2020 nearly one in four Americans in the civilian labor force will be over the age of fifty-five, in 2010, that number was nearly one in five. Studies in the UK and around the world show similar demographic changes. The Disability Status Report consistently shows that the incidence of disability rises with age; this means that the incidence, severity, and duration of disability among workers is likely to increase. To deal with these demographic changes, employers are being encouraged to align their benefits plans, physical facilities, administrative procedures, and workplace culture to support and retain older workers.
Although many employers are thinking about such changes, far fewer have actually begun to put such needed changes in place. A 2013 study conducted by Cornell University researchers with the Disability Management Employers Coalition revealed that although 86 percent of employers polled were concerned about the impacts of an aging workforce, only 36 percent had addressed aging in the design of their disability and absence management programs.¹¹

**Veterans with Disabilities Returning From Conflict**

The U.S. Bureau of Labor Statistics regularly analyzes data from the Current Population Survey to report on the employment situation of veterans. In 2016, there were 20.9 million veterans age eighteen or over. Over 40 percent served in World War II, the Korean War, or the Vietnam War and are at least 55 years old. Among the 3.9 million veterans who served during the Iraq War (2003 onward, including action in Afghanistan), the unemployment rate of about 5 percent was similar to that of nonveterans, but veterans were twice as likely to work in the public sector as nonveterans, and 8 times as likely to work for the federal government. In 2013, about 22 percent of all veterans, and 36 percent of Iraq War veterans, had a service-connected disability.¹²

Two specific disabilities have become “signature disabilities” for veterans of Iraq and Afghanistan—traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD). In 2008 the RAND Center for Military Health Policy Research studied post-deployment health needs of veterans, and reported that in the studies it analyzed, up to 15 percent of service members were affected by PTSD. Research on the prevalence of TBI is lacking, but the numbers may be
roughly similar. A 2009 study used modeling to predict that up to 40 percent of active military and up to 32 percent of reservists may ultimately exhibit PTSD symptoms.

Hannah Rudstam, Wendy Strobel Gower, and LaWanda Cook of Cornell University’s Northeast ADA Center conducted a study in 2012, asking employers whether they were prepared to hire, accommodate, and retain returning veterans with disabilities. Many of the employers they surveyed believed employing veterans with disabilities would benefit their organizations, yet most were not aware of, and therefore were not using, the available resources that would enable them to find, recruit, hire, and accommodate veterans. Employers also demonstrated other significant gaps in knowledge related to hiring and accommodating employees with PTSD and TBI.

The Changing Nature of Work and the Need for Talent

How work tasks are conducted and the location of the actual “workplace” are rapidly changing, requiring ever more flexibility in how work gets done. Businesses are exploring different ways of structuring work, both to reduce the cost of bricks and mortar, but also to be able to access the skills and talent needed wherever it can be found. Companies are developing agility to respond to increasing energy costs and the costs of forming work teams by physically relocating employees. Companies and individuals seeking employment will increasingly be exploring how technology can transform the way that people work over the next 5-10 years.

Flexible working arrangements and digital platforms enable organizations to meet current and anticipated challenges by giving employees choices in how and where they work; this often also accommodates older workers, enables access to a wider labor pool, and creates
needed business agility. Technology enables improved matching between available labor and labor markets around the world. Digital talent platforms can further improve matchmaking between workers and jobs, ultimately raising labor participation rates by previously marginalized groups such as individuals with disabilities.

Not everyone is convinced that these positive results will be realized without creating new, equally significant issues. An overarching concern about the increased use of digital technologies to take advantage of differentiated labor markets is that these “Gig Economy” opportunities are often structured in ways that lead to a growing number of short-term employment arrangements with no job security, legal protections, or health and retirement benefits. Vulnerable workers such as women, older workers, young workers, and migrants are disproportionately represented in these jobs. While remote work offers employment opportunities that may not otherwise be available, there are inherent risks involved as well.

Although in theory the flexibility offered by flex-place and flex-time may be a boon, perhaps increasing employment opportunities for people with disabilities, the potential resulting inequities will need to be monitored vigilantly. Some authors point out that the computer revolution’s impact on the workplace has led to “job polarization, with rising employment shares for skilled and unskilled jobs at the expense of medium-skilled employment.” In addition, more than half of the world’s population is still offline, limiting the potential to afford those most needing improved access to employment needed opportunities. For people with disabilities, the digital divide has historically been significant. According to a report produced by the Department of Commerce in 2002, persons with multiple disabilities aged 25-60 are almost half as likely to have access to the internet as
individuals without disabilities, illuminating the disparity that exists between the two groups’ general access to the internet.\textsuperscript{24}

In addition, it is often presumed that stamina, travel issues, and physical access concerns mean that individuals with disabilities will be better served by working at home, perhaps as independent contractors or entrepreneurs.\textsuperscript{25} While it is certain that some individuals may be advantaged by the opportunity for remote work and fewer or flexible work hours, routinely relegating these types of arrangements to people with disabilities can lead to longer term inequities in pay and advancement opportunities, as well as limiting their opportunities for community participation and social inclusion.\textsuperscript{26} Proactive HR policies can use new technologies to create opportunities for training and work, while being mindful of unintended inequities. Fortunately, there are many excellent examples of initiatives directed at preparing individuals with disabilities for available jobs in technology industries.\textsuperscript{27}

Across the world, labor markets are under strain, and talent is underutilized.\textsuperscript{28} America has millions of job openings, and yet many of these jobs go unfilled. Vacant jobs can cost companies lost profits and ultimately have a broader impact on the economy.\textsuperscript{29} Companies claim that they can’t find available talent with the right combinations of skills, while workers, schools, and workforce development boards say that employers are demanding more qualifications than actually necessary and leaving available talent on the table.\textsuperscript{30} These dilemmas are directly pertinent to people with disabilities. This group is often not given access to training opportunities that would prepare them for higher paying high skill level jobs, but even individuals with disabilities who do have credentials are often overlooked because of biases and stereotypes about their capabilities.\textsuperscript{31}
Workforce Development Challenges and Opportunities

Workforce development and workplace policies must evolve to address employment inequities for people with disabilities. Such policies can help identify ways that employers can fill their need for skilled workers by tapping the available talents of job seekers with disabilities.

One approach to remediating these significant employment and economic disparities for working-age adults with disabilities is to better prepare young people with disabilities for the economic independence and workforce entry. The Disability Status Report for 2015 indicates that the overall percentage of young people (ages 16 to 20) with a disability in the U.S. was 5.9% in 2015 or almost 1.3 million. The American Community Survey asks questions that identify six types of disabilities; of those, the highest prevalence rate among youth was for “Cognitive Disability,” at 4.1%. These young people with disabilities are leaving school earlier than their peers. Over one-third (34%) do not achieve a high school diploma, compared to 25% of youth without disabilities, a disparity which grows at the postsecondary level. Youth with disabilities are less than half as likely to have achieved a bachelor’s degree as their peers without disabilities (14% of youth with disabilities had achieved a bachelor’s degree in 2015, compared to 33% of youth in the same age cohort without disabilities).32

The Needed Focus on Employment in the Technology Industry

As evidenced in the stark statistics presented above, individuals with disabilities need expanded opportunities to be able to close the employment gap and achieve equitable wage and career advancement opportunities. One way to approach this challenge is to target high growth industries where opportunities for entry and career growth are more robust. The technology sector is one such area. Total employment in “high-tech” industries in the U.S. is
currently 28 million workers; approximately one fifth (19%) of all U.S. workers are employed in these jobs.\textsuperscript{33} In addition, there are currently 545,000 open jobs in the Information Technology sector (approximately 12% of all unfilled jobs).\textsuperscript{34} Yet, only 4.9% of all of employees in high-tech industries are persons with disabilities, a significantly lower proportion than found in the non-high-tech industries (5.8%).\textsuperscript{35}

**Initiatives to Improve Tech Industry Skill Preparation and Hiring**

In recognition of the skills needed and labor shortage gap in the U.S. technology industry, President Obama funded a significant “TechHire” initiative in March, 2015.\textsuperscript{36} Communities in 20 regions committed to take action, with over 300 employer partners offering over 120,000 open technology jobs. This program dedicated $100 million in grants to train and place Americans in well-paying technology jobs, and award recipients were asked to: use data and innovative hiring practices to expand non-traditional hiring; expand models for training to be completed by students in shorter turn-around time; and engage active local leadership to connect people to jobs. Grants were designed to ensure the TechHire opportunity included youth and young adults, individuals with disabilities, individuals with limited English proficiency, and individuals with criminal records.\textsuperscript{37} Recipients (which included 39 public-private partnerships) were to create innovative partnerships between employers, workforce boards, training providers, nonprofits, and local governments and support the implementation of job-driven training strategies to help workers acquire basic and technical skills via evidence-based strategies such as accelerated learning, work-based learning and apprenticeships.\textsuperscript{38} Since 2015, the TechHire network has grown to 72 Tech Hire Communities (local and state governments), 237 training providers, 1,300 employer partners, and has made 4,000+ job placements.\textsuperscript{39}
The TechHire program was intended to address barriers to employment for previously marginalized populations, by funding assessments, job placement, training, and mentoring, as well as funding supportive services such as transportation, financial counselling, and childcare. The program recognized the need for new sources of talent to fill available jobs, and also the importance for employers to partner with workforce development systems and training organizations to prepare these workers for the skilled technical positions available.

Technology Sector Presents Opportunities, But Challenges Remain

Digital innovation is touching every aspect of our lives and every sector of the economy, providing previously unavailable access to knowledge, products, services, talent, and organizational relationships. But the digital divide is still very real and must be addressed. The cost and the accessibility of digital products and services have been longstanding issues for people with disabilities. However, decreases in the cost of technology and increasing awareness of the need for inclusive design may be cause for optimism that the benefits of the Information and Communication Technology (ICT) revolution may be becoming accessible to people with disabilities. This can be seen playing out in the growing Gig Economy, as well as the rapidly expanding employment sector of entrepreneurship and start-ups.

The Gig Economy and People with Disabilities

The “Gig Economy” is an environment in which temporary positions are common, and organizations contract with independent workers for short-term engagements. Forms of work in the gig economy include “crowdwork” and “work-on-demand” via technology applications which match the supply and demand of products and services via web sites or mobile applications. Many of these jobs are based on technology platforms that allow more flexible
matching of products and services with customers.\textsuperscript{45} The sector is growing fast, as evidenced by the number of new companies.\textsuperscript{46} However, its scale and growth have been difficult to understand, due in large part to measurement challenges, though some researchers have created estimates that can give us some rough ideas. Former United States Secretary of Labor, Seth D. Harris and former United States Assistant Secretary of the Treasury for Economic Policy, Alan B. Kruger estimate that about 0.4 percent of the U.S. economy works in the gig environment.\textsuperscript{47} Using original survey data, Anat Bracha and Mary A. Burke of the Federal Reserve Bank of Boston, “estimate that as of 2015 roughly 37 percent of non-retired U.S. adults participated in some kind of informal income-generating work, and roughly 20 percent participated in informal income-generating activities that did not exclusively involve renting out their own property or selling their own goods.”\textsuperscript{48} However, government data gathering has not been able to measure the gig economy with any precision, in part because it is conceptually complex and in part because the government doesn’t currently count “contingent workplace” arrangements.\textsuperscript{49} It is therefore not possible to see if people with disabilities are being denied access to a growing and flexible type of employment, or on the other hand, if they might be disproportionately represented in this labor market.

This is of concern because, as previously discussed, marginalized groups such as women, migrants, youth, and individuals with disabilities have historically been more likely to be attached to contingent work, which has little job security or access to health and retirement benefits. Thoughtful commentary on the Gig Economy’s drawbacks highlights that these types of companies and jobs require workers to serve as independent contractors, as such, not qualifying for a range of legally mandated benefits and protections available to other
employees. For example, the employment nondiscrimination provisions of the Americans with Disabilities Act of 1990 do not apply to applicants or these independent contractors. Therefore, individuals seeking this type of employment as a way to get the flexible employment have no legal recourse in the face of discrimination on the basis of disability.

Further research has already begun that hopes to identify and analyze the potential benefits and liabilities of the gig economy and contingent work for individuals with disabilities and longer-term chronic illnesses. Health and safety considerations, for example, need to be more closely scrutinized. But we also need efforts to shape future employment policies and workplace practices in a way that opens new avenues of employment for people with disabilities, while accurately weighing vulnerabilities and pitfalls.

Access to Entrepreneurship and Start-Ups

Another expanding part of the U.S. economy is the business start-up world, which is growing significantly in the tech sector. Start-up incubators and opportunities for entrepreneurship skills development abound in many major metropolitan areas, and are supported by worldwide virtual entrepreneurial networks.

Significant number of individuals with disabilities have long pursued small business start-up and ownership. Having a personal business may more effectively accommodate specific needs posed by the nature of the owner’s disability. For this reason, around 40 percent of all home-based businesses are owned and operated by people with disabilities. Many people around the world are dependent on informal economies for their livelihoods, and so policymakers and economic development analysts have explored and often promoted
entrepreneurial and self-employment options as a desirable viable employment alternative for individuals with disabilities.54

Yet small business ownership or technology-focused entrepreneurial start-ups are inherently risky, and have particular challenges. Outdated stereotypes and biases mean that people with disabilities may face disproportionate barriers in accessing venture capital, partners, and entrepreneurial networks they need to succeed. Given that it is well-established that individuals with disabilities have lower average household incomes and therefore fewer assets available to them, there is a higher likelihood that they will need to find external sources of funding for start-up expenses. However, results show that entrepreneurs with disabilities are marginally less likely to receive external funding during the five-year gestation- and start-up period.55

A wide variety of services and networks are emerging to address these barriers to individual entrepreneurship. The U.S. Business Leadership Network (http://www.usbIn.org) has created several categories of certification processes for individuals with disabilities who own their own business, for veterans with disabilities, and for veterans who have service-connected disabilities.56 In direct response to the technology start-up movement, organizations like the Global Network for Entrepreneurs with Disabilities (http://entrepreneurswithdisabilities.org), the network of Entrepreneurship Bootcamps for Veterans with Disabilities (http://ebv.vets.syr.edu/), the Abilities Fund (http://abilitiesfund.org), and the Chicagoland Entrepreneurship Education for People with Disabilities Project (http://www.ceedproject.org) illustrate the growing recognition that the entrepreneurship and tech start-up sectors are here for the foreseeable future and that youth and adults with disabilities deserve to have an
opportunity to participate in these growing employment segments. Although these targeted resources are a most useful way to give young people and adults with disabilities a leg up in accessing this economy, equitable access to mainstream services should be the ultimate longer-term goal.

**Emerging Innovations to Address Continuing Barriers**

As described above, the future of work presents perils but also enormous opportunities for individuals with disabilities seeking to gain employment, advance in their jobs, feel fully included, and achieve economic independence. Emerging hiring initiatives in the technology sector for people with disabilities, post-secondary inclusion of youth with intellectual and developmental disabilities, and the growing number of disability targeted mentoring and internship programs all demonstrate that progress is being made to pave the way for a brighter future.

**Targeted Technology Sector Initiatives to Hire People on the Autism Spectrum**

Within the past five years, technology focused industries have shown increasing interest in broadening the labor pool of available talent to fill the significant number of open positions. Among the new labor pools being explored are individuals on the autism spectrum. Examples are the “Autism at Work” initiative of SAP (https://www.sap.com/corporate/en/company/diversity/differently-abled.html), the Dandelion Program at Hewlett-Packard Enterprise (now DXC Technologies), and the “Inclusive Hiring Program” at Microsoft. These initiatives are designed to identify and implement more effective approaches in recruiting, selecting, training, and including neurodiverse individuals into the technology sector workplace.
**Higher Education Efforts to Benefit Youth with Intellectual Disabilities**

Young adults with intellectual and developmental disabilities (IDD) often struggle with transitioning to adulthood, particularly with employment. Individuals with disabilities who are employed typically hold jobs with lower earnings than their colleagues with no disability. Young adults with IDD often have inadequate skills related to employability, independent living, self-advocacy, and interpersonal interaction. And as stated above, individuals with cognitive disabilities tend to be in higher proportion in relation to individuals with other disabilities, and have lower employment rates.

The passage of the Workforce Innovation and Opportunity Act (WIOA) placed a new emphasis on creating opportunities for improving economic and career success for youth and adults with IDD, with a specific focus on transitioning from school to employment. Some universities are attempting to address these disparities by offering skills development programs to local youth with disabilities, who may or may not be able to formally pursue a college degree. Inclusive Post-Secondary Education (IPSE) programs are also growing in popularity to address the need to create a more inclusive world for individuals with disabilities. The U.S. Department of Education has begun funding programs that support universities in efforts to design and implement on-campus programs that invite young people with intellectual disabilities in their communities to get higher education experience and improve their educational and employment opportunities for the future. The Model Comprehensive Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID) provides grants to institutions of higher education to enable them to create or expand high
quality, inclusive model comprehensive transition and postsecondary programs for students with intellectual disabilities.61

Mentoring and Internship Programs for Youth with Disabilities

Mentoring practices have been shown to promote the advancement of historically disadvantaged populations such as women and minorities.62 Yet few employers provide structured mentoring programs for employees with disabilities.63 Mentoring has multiple advantages. It creates professional role models, fosters social support, and assists with career development. Furthermore, well-managed disability-related mentoring programs benefit not just the mentees, but their mentors as well. For both mentees and mentors, benefits include increased self-esteem, a sense of accomplishment, increased patience, new skill acquisition, and career transition.64 Similarly, internships for youth with disabilities benefit both the youth themselves and the workplace at large. Youth interns receive exposure to the world of work and build their resumes. Meanwhile, Cornell researchers have found that employers with internship programs were six times more likely to have hired a person with a disability in the past year.65

In recognition of the value of these approaches, a variety of mentoring and internship programs for youth with disabilities have evolved over the past 10-20 years. The National Business and Disability Council at The Viscardi Center facilitates an Emerging Leaders Internship Program for College Students with Disabilities in public and private sector employers.66 Internships present an opportunity for employers to get first hand exposure to how a young intern with a disability can do a given job, brings new ideas to the workplace, and contributions toward a company culture that is more diverse.67
The U.S. Department of Labor’s Office of Disability and Employment Policy sponsors the Workforce Recruitment Program (WRP), a recruitment and referral program that connects private and public sector employers nationwide with motivated college students and graduates seeking jobs.\textsuperscript{68} The American Association of Citizens with Disabilities (AAPD) organizes summer internship experiences in the Washington, DC area for college students with disabilities.\textsuperscript{69} The U.S. Business Leadership Network has six-month career mentoring opportunity for college students and recent graduates with disabilities as well. Their “Rising Leaders Mentoring Program” gives mentees an opportunity to meet and interact with business professionals in their field of study or area of interest to whom they would not otherwise have access.\textsuperscript{70} In Illinois, the Chicagoland Entrepreneurship Education for People with Disabilities Program (CEED) bridges entrepreneurship and disability by developing and implementing comprehensive entrepreneurship education and training program for people with disabilities and service providers working in Disability Community Agencies and Small Business Development Centers (SBDC).\textsuperscript{71}

These examples of innovative programs in technology sector training, post-inclusive post-secondary education, and mentoring and internships have come into being in recognition that youth with disabilities have been historically disadvantaged in getting equitable access to needed skills training, educational and work experience, and the mentoring necessary for them to succeed in the growth industries and promising careers of the future. They are hopeful exemplars of the kinds of community and systems responsiveness that will be needed to give individuals with disabilities the place they deserve in the exciting and evolving futures of work.
Endnotes

4 Erickson, Lee, and von Schrader, 2016.
10 Erickson, Lee, and von Schrader, 2016.


See http://www.aapd.com/summer-internship-program/.

See http://www.usbln.org/what-we-do/rising-leaders-mentoring-program/.

See http://www.ceedproject.org/about.html.