

WHERE'S THE SAFETY NET FOR DIGITAL REFUGEES?

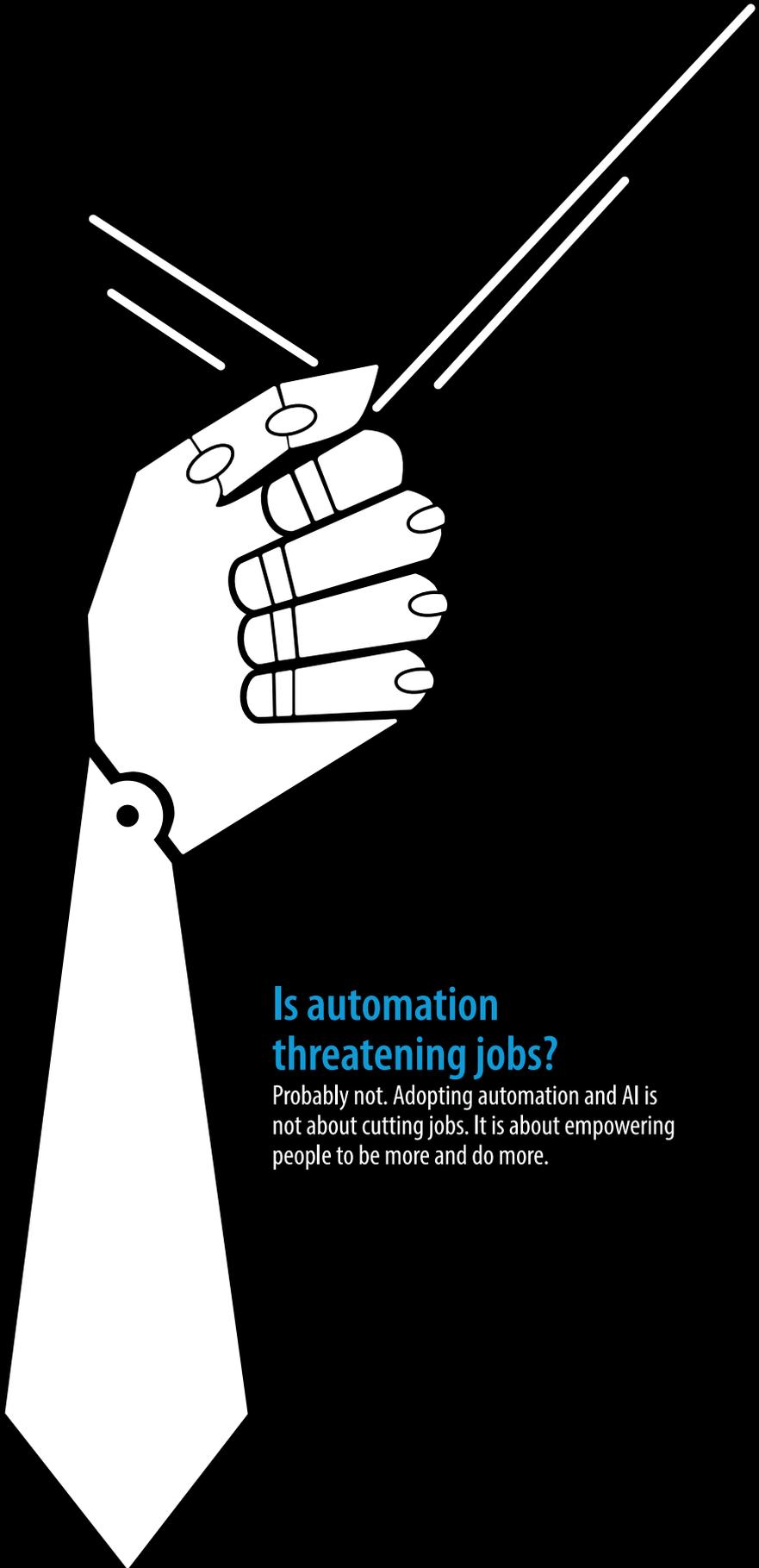
■ The concept of a workplace refugee is not new. But the idea of 'digital refugees' takes it a step further, as it has become a global concern, and a pervasive one. Here we look at how the issue has evolved, and what we can do to tackle it.

Watching the digitization of work and life over the last couple of decades, some clever pundit coined the terms 'digital natives' for millennials who seem to have technology in their DNA, and 'digital immigrants' for the boomers and others who have had to embrace technology. These have proven apt descriptors of segments in our workforces and communities, and when we plan recruitment, training, and deployment.

Today, as technology-driven disruption renders entire companies obsolete with artificial intelligence and pervasive

automation, we see the emergence of a new segment: 'digital refugees'. Like political refugees, digital refugees too are displaced and in many cases struggling and adrift. Social and governmental forces are starting to wrestle with the unique challenges they pose, leading corporations are starting to assess the impact they have on the economy, and communities are starting to wonder if – and how – this wave of disruption will reach their own doorsteps.

The concept of a workforce refugee is not new; thousands of workers have been



Is automation threatening jobs?

Probably not. Adopting automation and AI is not about cutting jobs. It is about empowering people to be more and do more.

displaced by automation or globalization over the past several decades, particularly in manufacturing. Some have retooled and entered other careers, largely in the service sector. But many have languished, losing hope in their nation's ability to offer them a future. The 'rust belt' is filled with stories of shattered dreams.

The case of the digital refugees may be even graver, however, for three significant reasons. First is scale; our best estimates suggest that digital refugees will not be created in isolated pockets of displacement, but rather in massive waves. The 'intellectual rust belt' is likely to be broad and borderless. Second is permanence; just as many manufacturing workers were unable to retrain themselves into knowledge-workers, many digital refugees will be unable to step up to the even higher-order technology jobs that are likely to be created as part of the digital / AI boom. Yes, jobs will be created – but they are unlikely to be jobs that displaced workers can hope to fill.

Third, and perhaps most significant, is societal and governmental readiness to take on the challenge.

There is a bit of a "We have seen this before and we are not going to let it happen again" sentiment. This bodes well for workers – but it may be problematic for corporations. If we are ready to provide a social safety net, whether in terms of retraining, guaranteed wages, or economic stimuli in other sectors, the question is, 'who pays'? Some argue that corporations will need to foot the bill.

Preliminary dialogs last fall in a World Economic Forum council on the Future of Education, Gender, and Work indicated support for the idea of a global 'cap and trade' policy for AI-driven job loss, similar to current 'cap and trade' provisions for carbon generation. In other words, if a corporation leverages AI and automation to disrupt its business model, radically improve efficiency, or enhance service or operations, and if worker displacement is one outcome, then the corporation should pay to provide the safety net. This topic will be taken up at the

spring dialogs on the Future of Education, Gender, and Work.

In February 2017, Bill Gates took a similar position, suggesting that robots should pay taxes. While a robot tax could replace revenues previously generated by employee income taxes, the approach clearly shifts responsibility for filling the tax coffers from the individual to the corporation. On the positive side, this approach could fund the creation of a broader social safety net for displaced workers. In an interview with Quartz, Gates noted, "A tax on robots could help fund the training needed for jobs such as caring for the elderly, teaching in schools, and helping kids with special needs – roles that robots cannot fill." But it will have to be at corporations' expense.

Corporations that are politically savvy, as well

as those that subscribe to compassionate capitalism, are trying to get in front of this wave. They recognize that they have to manage the inevitable disruptions. They are starting to consider ways of managing massive displacements, whether or not to proactively retrain displaced employees, and

Firstly, the intellectual 'rust belt' is likely to be borderless. Secondly, it might become pervasive, as workers find it hard to retrain into knowledge workers.

what their new, post-AI organizations need to look like. Some are finding that AI may not so much target the blue-collar layer (which is already pared to the bone) as the lower white-collar layer – lower and middle management. This creates secondary challenges – not only "What do we do with these workers?" but also "If we eliminate these positions, where is the training ground for the next generation of executives?"

Technology companies are finding the retraining challenge somewhat easier, and are aggressively moving to retrain tech workers with new digital and AI skills. Business Standard (March 7, 2017) reported that Wipro plans to reskill 10,000 employees in cloud, digital, analytics, and DevOps, among other high-demand skills. Tata is reportedly targeting another 100,000 in digital technologies. Infosys is not only reskilling employees in newer technical skills, but has also completed training over

70,000 technical employees in Design Thinking, to go along with its Zero Distance initiative, driving technology improvement and innovation.

The challenge will be greater for traditional brick-and-mortar organizations with employees who are less tech-savvy, whether at factory floor or line manager levels. Reskilling weighs heavily on executives we have been speaking to, those who are driving AI, automation, and digital disruption initiatives. Organizational redesign is also on their minds, including rethinking career paths and competency models for leadership development. Governance is top priority; how will businesses and IT govern pervasive AI and take accountability for its benefits – and risks?

As a leader in corporate learning at scale, and as a business partner deeply experienced in helping clients lead technology-driven transformations, Infosys is developing new offerings to help clients wrestle with the human side of AI, digital, and automation. We are combining human-centric design with technological innovation to find better answers – whether it is for reskilling displaced workers at a leading CPG firm, designing a more empowering culture and physical work environment for a financial services leader, or rethinking career paths for a technology leader. If firms don't want regulatory intrusion (think cap-and-trade for digital refugees), they need to find innovative solutions for human challenges on their own, and lead workers to new roles and help them accommodate into an AI-driven business environment.



Thousands have been displaced by automation or globalization over the past several decades.

Looking at this shift against a backdrop of rising nationalism, we realize that there is a lot more at stake. Many of the countries that are witnessing a rise in nationalism – including the US – actually do not have sufficient skilled IT workers to meet domestic demand. So could a technology company, renowned for technical training at scale, provide training and development to help create a skilled domestic workforce? Instead of being merely a purveyor of AI and automation, could Infosys provide solutions for massive reskilling of digital refugees? We think the answer is yes, and we are actively pursuing this agenda, starting with our recent announcement that we will set up a new development center in Indiana and create 10,000 new jobs in the US.

Responsible employers need to think not only about reskilling digital refugees, but also about developing the skills of future generations. If basic technical proficiency increasingly divides the haves from the have-nots, one answer may be making digital literacy as much a part of primary and secondary education as reading, writing, and 'rithmetic'.

Leading technology companies are collaborating with the Code.org Advocacy Coalition to reshape education and make computer science an integral part of the K-12 curriculum. Supporters of the coalition are working toward fundamental changes in classroom content as well as professional development of educators. It is heartening to see academic transformation taking place ahead of government intervention.

While some detractors argue that early exposure to programming might make children more machine-like, research says otherwise. Introducing children to the fundamentals of computation actually enables them to better understand patterns, recognize underlying relationships, and solve problems. It teaches them to deconstruct complex problems into smaller parts and to address issues with logic – skills which will help them both professionally and personally, throughout life.

“Computational thinking is thinking in terms of prevention, protection, and recovery from worst-case scenarios through redundancy,



The intellectual 'rust belt' which can leave people behind is likely to be pervasive and borderless.

damage containment, and error correction," says Jeannette M. Wing, Corporate Vice President at Microsoft Research and former President's Professor of Computer Science at Carnegie Mellon University. She sees it as a fundamental skill. "We should add computational thinking to every child's analytical ability," she recommended in an article published in the Communications of the ACM.

At the Eliot-Pearson Children's School in the Tufts University Department of Child Study and Human Development, children program robots using building blocks with barcodes. When kindergarteners adopt the learning style of machines as they play with toys, they cultivate a habit of lifelong learning. This will create a wealth of talent for the workplace and help insulate tomorrow's workers against

whatever displacements characterize the next generation.

At the end of the day, the challenge for business leaders is not only how to help displaced workers support themselves, but also how to help them maintain their dignity. When AI and automation take away not only their ability to provide for themselves and their families, but also their productive self-worth, the answer needs to address both the financial and the emotional aftermath. Our solutions to these problems need to address emotional needs as well as physical – which may in the end be the harder problem to solve. Mitigating this risk for future generations, by embedding computational skills and computer literacy at all levels of education, may be one of the greatest gifts we can offer our children and grandchildren.

About the Author



Holly Benson

Vice President and Managing Partner, Infosys Consulting

Holly brings the scientist's curiosity and observational skills to the world around her. As founder and head of Infosys Consulting's Enterprise Talent and Change Practice, she uses her interactions with some of the world's leading corporations — and their workforces — to form fresh and intriguing insights on education, skills, and the future of work. After 25 years of work in the consulting domain, she remains a hands-on practitioner who helps clients deal with people and organizational implications of agile enterprises, intelligent automation, and changing business models. Holly is now bringing this perspective to the World Economic Forum, as a steering committee member of their Global Future Council System Initiative on Education, Gender, and Work.

If you wish to share your thoughts on this article or seek more information, write to us at Insights@infosys.com