

From Research to Action: Work of the Future

MIT Forefront Impact Memo

February 19, 2020

MIT Forefront, a timely new virtual discussion series, convened a panel of experts, business leaders, and advocates to explore new strategies for creating a more inclusive future of work. The discussion highlighted some key themes from the recent report of the [MIT Task Force on the Work of the Future](#), a two-year endeavor to explore how we can harness technological innovations for social benefit.

The goal was to explore how research, advocacy, and policy could influence key areas related to job quality, access, and opportunities for workers most impacted by a rapidly digitizing economy. While the role of technology was considered important, the priority issue that emerged was how policy and institutional and economic choices could shape technology as a complementary tool for achieving greater shared prosperity. This memo summarizes avenues of transformation discussed both by the panel and with the participants in private roundtable discussion that followed.*

First, we discuss building pathways to middle-class jobs for workers without four-year college degrees. Second, we focus on improving the quality of jobs, including how to raise the floor for low-wage work. Lastly, we consider how to harness and shape technological developments to advance the first two goals.

From Research to Action: Work of the Future

Moderator

[David Autor](#), Co-Chair, MIT Task Force on the Work of the Future and Ford Professor of Economics

Panelists

[Natarajan Chandrasekaran](#), Executive Chairman, Tata Sons

[Ai-jen Poo](#), Cofounder and Executive Director of the National Domestic Workers Alliance

[Ginni M. Rometty](#), Former Executive Chairman, President, and Chief Executive Officer of IBM

[Juan Salgado](#), Chancellor, City Colleges of Chicago

[Peter L. Slavin, MD](#), President, Massachusetts General Hospital

*The MIT Forefront roundtable discussion was held under the Chatham House Rule. Therefore, comments from roundtable attendees are not attributed.

Creating Pathways to Middle-Class Jobs

There was general agreement among the panelists that the American labor market was significantly hindered by an overreliance on the four-year college degree credential. Ginni M. Rometty, former executive chairman, president, and CEO of IBM, shared that currently 60% of Americans do not have a four-year degree, and that among Black Americans, 80% do not have a four-year degree. Yet many jobs demand that applicants have such credentials simply to be considered. Rometty and other panelists called on business leaders to focus on skills rather than credentials and open pathways to middle-class jobs that do not run through four-year college completion. Two key avenues of change emerged from the discussion: first, considering high schools and community colleges as part of a seamless career ladder; and second, building a significant, sustained commitment from the private sector to focus on reskilling and training employees.

Reframing high schools and community colleges

The current educational landscape does not provide the relevant skills, training, and pathways to careers that students need, except, arguably, for the minority of students that complete four-year degrees. Juan Salgado, chancellor of City Colleges of Chicago, sees education as running from K-14, not K-12. The K-14 model, which is used by the City Colleges of Chicago, would entail crafting a career plan with and for high school students through an associate's degree or other certification that might include externships, apprenticeships, and career mentorship. Salgado also pointed to Minnesota's South Central College's "H2C" model (High School to College & Career). Students are introduced to career readiness in 9th grade and to college health sciences classes from 10th to 12th grades, acquiring stackable credentials along the way. After three years, students are given the option to earn an associate's degree in nursing by taking one extra semester. Stackable credentials, skills certifications that are cumulative and expandable, are a particularly important part of this process where students could become lifelong learners, moving between community colleges and the labor market throughout their careers.

Participants also suggested education programs become more broadly responsive to student needs. Salgado shared some of the constraints faced by the student body in Chicago that greatly influence their career paths. If students are food insecure and housing insecure (which over 50% were pre-pandemic), then making education work for them requires providing ways to balance finances, work, and school ("wraparound" services). Data show that free college and apprenticeships improved retention rates significantly. Though being responsive to student needs is important, educational institutions must also be in sync with employers' requirements and broader economic trends, both in the short term to meet immediate demands and in the longer term to account for changing occupations and industries.

Private sector commitment to employees

There was general consensus that while community colleges play a vital role in preparing students for skilled jobs, there is an urgent need for a commitment from private-sector employers to invest in their workers by offering ways to upgrade their skills over time and considering their career trajectory, not only their jobs at a certain point in time. Employers thus should be committed to training and mentoring both current and future employees. One route to such programs is for employers to forge educational partnerships with colleges and identify the job skills that they are seeking; in turn, employers commit to hiring students who graduate with those skills. Further, employers can provide high school students with internships, invest in career awareness sessions, or even create opportunities like summer camps where students can gain many of the social or human skills that have been identified as being vitally important for career success. Peter Slavin, MD, and president

of Massachusetts General Hospital, highlighted how entry-level jobs in health care are rife with opportunities to develop internal career ladders. These jobs do not have significant credential demands and have room for on-the-job skill building which can enable employees to advance their careers. He cited an example of an intensive care unit coordinator who was initially hired as a housekeeper and is now applying to nursing school. Rometty called for such programs to be paired with a change in attitude in the workplace towards employees who do not have a four-year degree, as well as changes in structural hiring requirements. Various incentives could be developed to encourage the private sector's commitment to reskilling and training, including business capital tax credits. Governments, employers, and workers could also partner to construct lifelong learning and training accounts.

Improving the Quality of Low-Wage Work and Supporting Workers in Low-Wage Jobs

Low-wage jobs are, as the pandemic has demonstrated, essential to the functioning of our society. Ai-jen Poo, cofounder and executive director of the National Domestic Workers Alliance, stressed that care work, for example, enables other jobs as people can pursue their careers knowing their loved ones are cared for. These jobs also are a vehicle for entry into the labor market for minority populations. The Covid-19 pandemic has brought into stark relief, for instance, how many women, particularly women of color, are low-wage care workers. Covid-19-related unemployment statistics indicate women lost 25% more jobs than men during the pandemic. Slavin also noted the lack of diversity in credentialed positions in health care. For example, African American representation in medical schools has not changed in the last 20 years. These facts underscore that work, even full-time work, is not a guaranteed means to exit poverty. We must improve pay, security, and job supports (e.g., paid family and medical leave) in low-wage jobs so that full-time employment enables individuals and families to escape poverty.

Poo, defining care work as “infrastructural,” argued that we need to raise the floor for what is considered decent employment and move from upskilling workers to upgrading jobs. In her view, while economic mobility is the ultimate goal, entry-level jobs must pay a living wage with benefits. She pointed out that care workers entered the pandemic with few protections: without paid time off or health care and difficulty in acquiring personal protective equipment as well as paying out-of-pocket for safer modes of transportation and for regular Covid-19 tests.

To support the careers of those who are in low-paying jobs, the government must also provide extensive wraparound services modelled on the support structures that highly paid employees can afford. These include transportation, universal broadband, family and medical leave to meet health and family needs, assistance in building soft skills for employment success, and access to loans for non-traditional training. The expansion of apprenticeship programs could also increase job access for underserved communities.

A key mechanism for improving the quality of low-wage work is by amending existing labor law. With the changing nature of work, participants called for labor law to reflect modern pain points of workers. Making benefits portable and reviewing tax and legal categorizations of workers were discussed. Participants also stressed the need for workers and a more diverse population to be involved in any new policy changes. Given the complexity of problems at hand, future solutions would require cooperation and trust which, for workers, can only stem from knowing that they have the power to represent their needs. Workers should have a seat at the table at every stage of company R&D into technology and its deployment at the workplace. We can only have shared prosperity when workers have more representation. A more inclusive workplace, in fact, leads to more innovation. For example,

the success of Silicon Valley as an innovation center is in part due to its embrace of diverse cultures and ideas, and is still a work in progress. Bringing workers' voices to the table adds to this diversity.

Shaping Technology

But what about the technology and the tools that are poised to shape our future? It was evident from the conversation that context of the labor market greatly determined technology's outcomes. The executive chairman of Tata Sons, Natarajan Chandrasekaran, discussed how India's experience with artificial intelligence (AI) and other technologies of work is different from that in the United States and Europe. Whereas the latter were concerned primarily with manufacturing jobs, in India, most of the middle-income jobs came from industries like construction, IT, and agriculture. The goal of labor policy primarily is to shift workers from informal to more formal jobs. Digital technology and AI can allow India to solve for two of its needs: creating formal jobs and providing access to essential services while at the same time creating new markets of jobs. Digitizing health care, education, and the judiciary alone in India would add approximately 30 million jobs. Rometty extended this argument by unpacking how we should consider not how technology will replace jobs but rather how technology will change jobs in different contexts. She compared the experiences of automation in France, India, and China. In France, earlier implementation of AI for bank teller jobs was introduced into a unionized labor market. The strong worker voice allowed workers to use AI to reimagine their existing jobs with better outcomes for all. In India and China, scarcity of medical personnel and a doctor-to-patient ratio of 1:1,600 means AI is a necessity and well accepted by doctors.

Technology then is not necessarily the threat we have imagined it to be. Penetration of AI technology is also still relatively early in its development, providing us time and opportunity to shape its implementation in forms that complement workers. The session's main takeaway was that the future of work is a social choice, and we can actively shape the future by making inclusive, bold, and equitable choices in the present.

Summary of Recommendations

- Education and training programs should connect with high schools and community colleges to create seamless pathways and career ladders to middle-wage jobs. "Wraparound" services should be provided to students in need to help defray costs such as transportation and child care.
- The private sector needs to hire based on skills, not on credentials such as four-year degrees, and partner with educational institutions to provide work-based learning opportunities such as apprenticeships for students and, ultimately, jobs for those who successfully complete training programs.
- The quality of low-wage work must be improved through a series of steps including increasing the minimum wage, expanding benefits and making them portable, and modernizing our labor laws and the legal categorizations of workers. This will be particularly impactful for women and Black and Hispanic workers who occupy a large percentage of low-wage jobs in the country.
- Low-wage workers also need access to services such as affordable transportation, universal broadband, and health benefits including paid family and medical leave. The government has an important role to play in providing these services.
- Companies that are experimenting and adopting new AI technologies should look for ways to increase productivity by using the technology to complement worker skills. Engaging workers in the decisions about adopting new technology can lead to better company outcomes and worker satisfaction.