

## Involving Workers in Technological Change

*It's a well-accepted tenet of modern life that technological change shapes how we work. But what if workers were to shape technological change? Could that improve organizational success and the quality of jobs? These questions were the focus of a workshop held at MIT in June 2019.*



As part of the day's proceedings, Dr. Nolan Chang (left) and Hal Ruddick (center) discussed Kaiser Permanente's labor-management partnership with Barbara Dyer of MIT Sloan (right).

There's much talk—and concern—about the impact technology advances will have on work in the future. But can that impact be more beneficial if workers have

more say in how new technologies are adopted in the workplace?

On June 5, 2019, an MIT workshop on worker-centered technological advancements explored approaches that start with this premise: involving workers in the process of developing technological solutions to organizational challenges could lead to better outcomes by improving *how* work is done. Managers can use technology as a tool to enhance job performance and job quality rather than viewing it as solely or primarily a replacement for workers.



“We’re here to shift the debate from wild, anxiety-producing predictions about the end of work and the triumph of robots to one about shaping a future that combines the talent and ingenuity of people with the capabilities of technology to achieve benefits for society that neither humans nor machines could accomplish solo,” explained Barbara Dyer, Executive Director of the Good Companies, Good Jobs Initiative at MIT Sloan. The Good Companies, Good Jobs Initiative hosted the interactive workshop in partnership with the MIT Work of the Future Task Force and with support from the Ford Foundation.

The event, which was held on the MIT campus, featured innovative labor and management representatives and leading researchers. A good part of the day’s schedule was devoted to small-group discussions of the topic by attendees. (For more on those discussions, see the appendix “Attendees’ Perspectives on

Building an Inclusive Future of Work,” on page 8.)

The day’s first speaker was David Autor, the Ford Professor of Economics at MIT and Co-Chair of the MIT Work of the Future Task Force. “All jobs will be affected” by technology advances, explained Autor.

“Many jobs will be eliminated, but many new jobs are created” as technology advances, he said. “The challenge is not a lack of jobs,” Autor explained. The challenge is how to create promising careers for less-educated workers. Among Autor’s recommendations:

**Public policy can influence how technology is deployed.** People “tend to think of technology as...marching inexorably in one direction,” Autor observed. “But, in fact, technological development is an economic process shaped by incentives, ideology, and investment.” Historically, he explained,



government has played a leading role in shaping the course of innovation through public policy—and can do so again.

**Create new kinds of worker representation.** In the U.S. in recent decades, the balance of power has shifted to shareholders and away from organized labor, Autor pointed out. “Innovation in models of worker representation is needed to bring worker voice into firm decision-making,” he said. In some other countries, Autor explained, labor is seen as an important stakeholder that plays a much bigger role in corporate decision-making.

### **THE HISTORICAL CONTEXT**

After Autor spoke, MIT Sloan’s Thomas Kochan provided historical context on the role of the workforce in technological change. Kochan is the George Maverick Bunker Professor of Management at MIT Sloan and Co-Director of the MIT Institute for

Work and Employment Research. He highlighted costly mistakes made when U.S. car manufacturers, for example, have tried to move too fast or too far with automation.

Manufacturers that rushed to automate without incorporating the wisdom of the workforce found the process ultimately went much slower and yielded fewer gains, cautioned Kochan. Drawing on a number of studies about the incorporation of new technologies into the workplace, Kochan recommended engaging workers fairly early in the decision-making, as well as “throughout the implementation process, so that they can help to change the technology” and adapt it to fit the organization’s needs.

Listening to the workforce while introducing new technology is a very different approach from the one many companies use, Kochan acknowledged. “It requires paying attention to the people who know



how the work is done and bringing them in," he said. "And that doesn't happen naturally in organizations."

### **OPPORTUNITIES AND CHALLENGES**

The day's program also featured several companies that seek to involve employees when incorporating new technologies into the workplace. At one such company, Kaiser Permanente, labor leaders, managers, and medical professionals are taking a worker-centered approach to using advancing technologies to transform healthcare delivery.

Kaiser Permanente is a not-for-profit health plan based in Oakland, California that had \$79.7 billion in 2018 operating revenues and has about 12.3 million members. The audience heard from Dr. Nolan Chang, Assistant Medical Director of the Southern California Permanente Medical Group; and Hal Ruddick, Deputy Executive Director of

the Alliance of Health Care Unions at Kaiser Permanente, a collective of locals from nine unions representing about 50,000 Kaiser Permanente employees. Barbara Dyer moderated the discussion.

Chang and Ruddick described how, at Kaiser Permanente, labor and management worked as partners on issues such as adopting new technologies. For instance, one area that's seen technological change is patient registration. Patients can now check in to appointments via texting, using a kiosk, or the old-fashioned way, by talking to a Kaiser Permanente employee.

But long before the organization selects new technology, management and labor leaders talk extensively about why. And when technology eliminates jobs, Kaiser Permanente's robust redeployment program gives displaced workers a year to be retrained for new jobs. "When you take the fear of being unemployed off the



table, that really helps unleash the engagement of employees in technology issues,” said Ruddick.

### LEARNING FROM EUROPE

The symposium also offered the chance to hear from management and labor leaders from Europe, where unions are common and worker rights are considerably stronger than in the United States. Inez von Weitershausen, Research Associate at the Good Companies, Good Jobs Initiative, facilitated a discussion with managers from an innovative mining company from Sweden and an award-winning industrial parts manufacturer from Italy. Their stories illustrated what’s possible when workers are actively involved in technology changes.

Pär Göting, General Manager for the Boliden area of Stockholm-based Boliden Group and Andreas Martensson, a System Developer at Boliden Mineral AB and Chairman of the local union, explained

how they work together while guiding one of Sweden’s oldest mining operations into the digital age.

About five or six years ago, Boliden began to equip all of its mines with an extensive wireless network, enabling IP phones, remote-controlled equipment and a positioning system within the mines. Göting felt confident that a wireless network would be highly beneficial in emergencies and also provide the backbone for future innovations “that we don’t really know yet.”

The workers, however, had some concerns, and the union negotiated some limitations on the new technology; for example, management cannot infringe on employee privacy by using the positioning system to arbitrarily track employees’ location or their restroom breaks.



Workers know they have a voice and, in Sweden, their right to negotiate about changes, including technological changes, is protected by law. (Union reps also sit on Boliden’s board.) So taking employees’ viewpoints into consideration is part of how Boliden does business. “We must have consensus; we don’t make decisions without anchoring our thoughts with everybody,” said Göting. Martensson similarly noted that the company and the union share a common aim: “happy workers that feel they’re involved in the process of the company.”

Laura Rocchitelli, President of the ROLD Group, and Luca Cremona, Industrial Business Unit Manager at ROLD, described how they transformed an old-line family business based in Nerviano, Italy into a company recognized for its best practices with technology and retraining.

When Rocchitelli and her two brothers inherited the family business from their father, some workers had been there for decades. Trying to retrain longtime employees for changing technologies and ways of doing business was not easy, Rocchitelli explained, but necessary.

Rocchitelli said that “the first step was to introduce new competencies” needed for digital transformation. At first, some employees were skeptical, but with the involvement of everyone from the board to management to the shop floor, she moved forward on an ambitious technology plan. Rocchitelli said that the company was fortunate that its union is not one that opposes technological changes.

Once a maker of commodity parts for household appliances, ROLD introduced its own digital manufacturing platform, which has made the company a technical partner to customers in creating



products, rather than simply a supplier. But employees needed training, so Rocchitelli collaborates with local high schools and universities to get workers the skills they need. “Training...is the only way to grow and to find a way to stay competitive,” she said.

### **WORK OF THE FUTURE**

The last part of the day-long symposium featured a panel discussion that included Elisabeth B. Reynolds, Executive Director of the MIT Work of the Future Task Force and Executive Director of the MIT Industrial Performance Center; Michael Piore, David W. Skinner Professor of Political Economy, Emeritus, in the MIT Department of Economics; and David Rolf, Founder and President Emeritus of the Service Employees International Union (SEIU) 775, based in Seattle. Paul Osterman, Nanyang Technological University (NTU) Professor of Human Resources and Management at

MIT Sloan and Co-Director of the MIT Institute for Work and Employment Research, moderated the discussion.

**Does having deeper worker involvement** in decisions like whether and how to adopt technology pay off in better business outcomes? Osterman noted that there has not been a lot of research on that question—and that more research should be done.

**Experimentation and innovation** are taking place in both how workers are organized and in education and training, Reynolds observed. For example, on the labor organizing side, she pointed to Coworker.org, where employees can petition their employers for change, as well as nonprofits fighting for a higher minimum wage.

**Lack of worker involvement** in key decisions needs to be



addressed on a systemic level. "The U.S. system of industrial relations was designed...to prevent workers from being involved in technological choices," Piore pointed out. "There are a whole set of institutional obstacles that need to be recognized."

**Major reform is needed to labor law**, Rolf argued. He advocates for changes such as: sector-wide bargaining; a system of codetermination that would give U.S. workers the kind of say that many of their European counterparts have; and lifelong benefits that follow employees from job to job.

In closing remarks, Kochan wrapped up the symposium by stressing the benefits of dialogues like this that bring together different stakeholders, such as labor and management. "If we could mirror this around the country, just think of the possibilities," he said.

*--Reported and written by Susan Greco*

## APPENDIX: Attendees' Perspectives on Building an Inclusive Future of Work

What does it mean to put workers in the center of technological innovation? Where is it working? What are the obstacles? In roundtable discussions during the day, about 80 participants tackled those questions. Although a wide variety of views were expressed, some ideas and concerns emerged frequently. Here are a few highlights:

### What are some features of worker-centered innovation?

- **Inclusion:** Worker-centered innovation and design implies that a company engages workers as early as possible in the process of technological change—especially large-scale change—and makes a commitment to open and continuous dialogue. That path often takes longer but leads to consensus. And it's not just low-wage





jobs that are affected by technology: radiologists and pathologists, for example, are threatened by advances in artificial intelligence.

- **Clear reasoning:** The “why” of new technologies is important to workers. Even if they learn about it after implementation, knowing why gets their buy-in and frees them for creative thought.
- **Ample training:** Worker-centered also means giving people the appropriate training to stay employed, even if it’s in a different position. And education should be constant, not just in reaction to an impending job loss. But dealing with adult learners requires new ways of thinking about competencies, continuing education, and skills development.

### Where is it working?

A worker-centered philosophy toward automation can be found in companies that are dedicated to being learning organizations. It can be found at some privately

owned small- to medium-sized companies and in flatter organizations committed to transparency, such as those that share their plans and financials with employees. Other organizations that adopt a more worker-centered approach to new technologies include some manufacturing environments where workers are treated as highly skilled artisans and workplaces where labor unions serve as channels for training.

Among U.S. companies, participants lauded Kaiser Permanente and the unions that represent Kaiser employees for their deep commitment to an ongoing labor-management partnership. Many roundtable participants voiced respect (and a little envy) for European companies in countries where workers enjoy a social safety net that dissipates the fear of technology-related job loss. On the whole, many participants felt that European companies seem to



place much more importance on social responsibility and their long-term legacy vs. short-term shareholder gains.

Roundtable groups talked about how in countries such as Sweden and Germany, workers have much more of a voice. *Codetermination* is an important part of labor law and corporate governance in those countries that mandates employee participation in business decisions and employee representatives on companies' boards.

### What gets in the way?

Participants were not shy about naming obstacles—from fear of change to an overabundance of cheap labor.

- It takes more time to include workers in technology decisions and to retrain them. Also, workers often resist change and are not open to learning new skills.
- Corporate hierarchy also gets in the way of greater worker

involvement, especially when decisions affecting local workers are made at the national or regional level. Often, there's no organizational structure to allow for worker participation.

- Lack of incentive is a major stumbling block. For example, some participants asked: What is the business case for retraining when companies can simply hire new workers? One participant used the example of consumer product developers; they have a built-in incentive to design with users in mind, since this is the key to higher sales. But it's far more challenging to get companies to see the worker as an important stakeholder and to design with the worker in mind.

- External forces also interfere with a worker-centered approach. Market pressure, competitive position, and industry norms can all influence the approach to automation decisions. For instance, the turnover rate in front-line retail jobs is very high, so



managers in that industry do not often consult frontline employees on technology.

- Corporate ideology is an obstacle. One question raised was: How can we shift U.S. thinking to see workers as assets, not just costs to be minimized—and worker input as a source of innovation?

### What's next?

During his presentation, David Autor had pointed out that there's a tremendous opportunity for innovation in training and education. One suggestion from the roundtable discussions was that training and workforce development is a good place to start to try to transform labor-management relationships in the United States so that they become more collaborative and less

adversarial. One idea: Encourage training and workforce development through business tax credits, much the way that R&D tax credits are used to incentivize research and development.

Some participants noted that it may make sense to start with innovation on the state and local level. But some called for significant policy changes in the U.S., such as reform of corporate governance models that focus excessively on shareholders' interests at the expense of workers.

"We need to take responsibility as a society to put pressure on government," one participant said in the discussions. The payoff of technology "shouldn't be to make a few people richer but to distribute the wealth."