Easing job jitters in the digital revolution

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As new technologies reshape workplaces, EU research has come up with new ways to help companies and workers stay in control.

Professor Steven Dhondt has a reassurance of sorts for people in the EU worried about losing their jobs to automation: relax.

Dhondt, an expert in work and organizational change at the Catholic University Leuven in Belgium, has studied the impact of technology on jobs for the past four decades. Fresh from leading an EU research project on the issue, he stresses opportunities rather than threats.

Right vision

"We need to develop new business practices and welfare support but, with the right vision, we shouldn't see technology as a threat," Dhondt said. "Rather, we should use it to shape the future and create new jobs."

The rapid and accelerating advance in digital technologies across the board is regarded as the world's fourth industrial revolution, ushering in fundamental shifts in how people live and work.

If the first industrial revolution was powered by steam, the second by electricity and the third by electronics, the latest will be remembered for automation, robotics and artificial intelligence, or AI. It's known as "Industry 4.0."

"Whether it was the Luddite movement in the 1800s through the introduction of automatic spinning machines in the wool industry or concerns about AI today, questions about technology's impact on jobs really reflect wider ones about employment practices and the labor market," said Dhondt.

He is also a senior scientist at a Netherlands-based independent research organization called TNO.

The EU project that Dhondt led explored how businesses and welfare systems could better adapt to support workers in the face of technological changes. The initiative, called Beyond4.0, began in January 2019 and wrapped up in June 2023.

While the emergence of self-driving cars and AI-assisted robots holds big potential for economic growth and social progress, they also sound alarm bells.

More than 70% of EU citizens fear that new technologies will "steal" people's jobs, according to a 2019 analysis by the European Center for the Development of Vocational Training.

Local successes

The Beyond4.0 researchers studied businesses across Europe that have taken proactive and practical steps to empower employees.

One example is a family-run Dutch glass company called Metaglas, which decided that staying competitive in the face of technological changes required investing more in its own workforce.

Metaglas offered workers greater openness with management and a louder voice on the company's direction and product development.

The move, which the company named "MetaWay," has helped it retain workers while turning a profit that is being reinvested in the workforce, according to Dhondt.

He said the example shows the importance in the business world of managers' approach to the whole issue.

"The technology can be an enabler, not a threat, but the decision about that lies with management in organizations," Dhondt said. "If management uses technology to downgrade the quality of jobs, then jobs are at risk. If management uses technology to enhance jobs, then you can see workers and organizations learn and improve."

The Metaglas case has fed into a "knowledge bank" meant to inform business practices more broadly.

Dhondt also highlighted the importance of regions in Europe where businesses and job trainers join forces to support people.

BEYOND4.0 studied the case of the Finnish city of Oulu—once a leading outpost of mobile-phone giant Nokia. In the 2010s, the demise of Nokia's handset business threatened Oulu with a "brain drain" as the company's engineers were laid-off.

But collaboration among Nokia, local universities and policymakers helped grow new businesses including digital spin-offs and kept hundreds of engineers in the central Finnish region, once a trading center for wood tar, timber and salmon.

Some Nokia engineers went to the local hospital to work on electronic health care services—"e-health"—while others moved to papermaker Stora Enso, according to Dhondt.

Nowadays there are more high-tech jobs in Oulu than during Nokia's heyday. The BEYOND4.0 team held the area up as a successful "entrepreneurial ecosystem" that could help inform policies and practices elsewhere in Europe.

Income support

In cases where people were out of work, the project also looked to new forms of welfare support.

Dhondt's Finnish colleagues examined the impact of a two-year trial in Finland of a "universal basic income"—or UBI—and used this to assess the feasibility of a different model called "participation income."

In the UBI experiment, participants each received a monthly €560 sum, which was paid unconditionally. Although UBI is often touted as an answer to automation, BEYOND4.0's evaluation of the Finnish trial was that it could weaken the principle of solidarity in society.

The project's participation income approach requires recipients of financial support to undertake an activity deemed useful to society. This might include, for example, care for the elderly or for children.

While detailed aspects are still being worked out, the BEYOND4.0 team discussed participation with the government of Finland and the Finnish parliament has put the idea on the agenda for debate.

Dhondt hopes the project's findings, including on welfare support, will help other organizations better navigate the changing tech landscape.

Employment matchmakers

Another researcher keen to help people adapt to technological changes is Dr. Aisling Tuite, a labor-market expert at the South East Technical University in Ireland.

Tuite has looked at how digital technologies can help job seekers find suitable work.

She coordinated a project to help out-of-work people find jobs or develop new skills through a more open online system.

Called HECAT, the project ran from February 2020 through July 2023 and brought together researchers from Denmark, France, Ireland, Slovenia, Spain and Switzerland.

In recent years, many countries have brought in active labor-market

policies that deploy computer-based systems to profile workers and help career counselors target people most in need of help.

While this sounds highly targeted, Tuite said that in reality it often pushes people into employment that might be unsuitable for them and is creating job-retention troubles.

"Our current employment systems often fail to get people to the right place—they just move people on," she said. "What people often need is individualized support or new training. We wanted to develop a product that could be as useful for people looking for work as for those supporting them."

Ready to run

HECAT's online system combines new vacancies with career counseling and current labor-market data.

The system was tested during the project and a beta version is now available via My Labor Market and can be used in all EU countries where data is available.

It can help people figure out where there are jobs and how to be best positioned to secure them, according to Tuite.

In addition to displaying openings by location and quality, the system offers detailed information about career opportunities and labor-market trends including the kinds of jobs on the rise in particular areas and the average time it takes to find a position in a specific sector.

Tuite said feedback from participants in the test was positive.

She recalled one young female job seeker saying it had made her more

confident in exploring new career paths and another who said knowing how long the average "jobs wait" would be eased the stress of hunting.

Looking ahead, Tuite hopes the HECAT researchers can demonstrate the system in governmental employment-services organizations in numerous EU countries over the coming months.

"There is growing interest in this work from across public employment services in the EU and we're excited," she said.

Correction note: This article was updated on 25 September 2023 to include a reference to Steven Dhondt's role at TNO in the Netherlands.

More information:

- HECAT
- BEYOND4.0

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