FUJITSU

How Asia is destined to play a key role in building a more sustainable world

Series 4

Labor markets are witnessing a tipping-point for human's relationship with machines

In October 2021, Fujitsu unveiled a new global business brand called "Fujitsu Uvance." The new brand aims to leverage Fujitsu's technological capabilities and problem-solving expertise to offer greater value to customers, and to enable the company to achieve its ultimate purpose, which is to make the world more sustainable by building trust in society through innovation.
The word "Uvance" embodies a concept of making all (Universal) things move forward (Advance) in a sustainable direction. It demonstrates Fujitsu's determination of "building new possibilities by connecting people, technology and ideas, creating a more sustainable world where anyone can advance their dreams. "

Fujitsu has long taken a human-centric approach to the task of digital transformation. And it has done so for a very good reason: because human input is essential to the creation of a sustainable society. The role of technology is to enable humans to work more creatively, and past industrial revolutions have relieved humanity of the need to perform many tedious and repetitive tasks. As automation, AI and other technologies advance, this will no doubt continue to be true in the future. But people will always be the focus of the drive to move forward. This article from The Economist Newspaper, a leading source of global political and economic news, examines some of the misconceptions that people have about automation, and the important role it can play in creating a better world.

The Economist

Automation

Robots threaten jobs less than fearmongers claim

Recessions and pandemics accelerate automation.
Yet warnings of a jobless future are overblown

The coffeeshop is an engine of social mobility. Barista jobs require soft skills and little experience, making them a first port of call for young people and immigrants looking for work. So it may be worrying that robotic baristas are spreading. rc Coffee, which bills itself "Canada's first robotic

café", opened in Toronto last summer. "The barista-to-customer interaction is somewhat risky despite people's best efforts to maintain a safe environment," the firm says. When this correspondent visited in January, a gaggle of people stood by, trying to make it work.

Many people expect the pandemic to accelerate automation in industries far beyond coffee. Anecdotes abound of robots being brought in to reduce risks of infection, from automated slaughterhouses to do-it-yourself baggage drop-offs at airports. This wave of automation, some fear, will eliminate jobs, especially for those with less marketable skills, meaning more unemployment and inequality. Jobs in coffeeshops may not pay much, but their demise would be a disaster. "One thing worse than too many low-paid jobs is too few low-paid jobs," argues David Autor of mit.

Recessions often lead to a burst of automation, and they do not come bigger than this one. When revenues but not wages fall, humans become relatively more expensive, giving bosses an incentive to use machines. A paper by Joel Blit of the University of Waterloo, in Ontario, argues that "all of the routine job losses in Canada have occurred over the past three recessions", with America seeing similar trends. Pandemics speed automation, partly for the reason identified by rc Coffee: to stop people getting sick. Economists call this "forced automation". Previous pandemics, from h1n1 in 2009 to Ebola in 2014, hastened the adoption of robots.

Will this one? Surveys by Deloitte and McKinsey, two consultancies, find that firms have high ambitions to automate. In recent congressional testimony, Daron Acemoglu of mit argued that "There are now more reasons for employers to look for ways of substituting machines for workers and recent evidence suggests that they are already doing so". There is a sense that before 2020 companies had dawdled over automation, and the pandemic is forcing them to try new ways of doing things.

Yet doom-mongers struggle to point to actual evidence of accelerating automation. Many do not bother trying to track it, preferring instead to focus on the next bloodcurdling prediction. So we tried to find some evidence, which pointed, if anything, to the opposite conclusion. American imports of industrial robots fell by 3% in 2020. The growth of spending on automation slowed in 2020, suggests a report in September by Gartner, a research firm.

Rockwell Automation, the world's largest company dedicated to industrial automation, saw sales decline by 5.5% last year. Surveys of firms that say robotisation is around the corner are often unreliable. If somebody from McKinsey asks a manager if she will soon be adopting cloud computing or big data, will she say "no"? A survey by ubs of what firms in France, Germany, Italy and Spain are doing finds little evidence of growing interest in automation.

Some economic research suggests that more jobs are being automated away. Lei Ding and Julieth Saenz Molina of the Federal Reserve Bank of Philadelphia looked at jobs that seem most at risk. Based on data up to last August, it finds that "the pandemic displaced more workers in automatable occupations". But the effect is small. And employment in many areas supposedly at greatest risk may have declined not because of automation, but because of the pandemic. Take taxis, which many economists say will soon be driven by robots. Their numbers tumbled in 2020, but because people travelled less, not because of driverless taxis.

Adapting research from the Federal Reserve Bank of St Louis, we divided American jobs into "routine" and "non-routine" ones. Routine jobs are seen as more easily automatable because they rely on repetitive patterns that machines can learn. During the pandemic the trend towards fewer routine jobs, which has existed since the 1980s, has actually slowed. There are at least 900,000 "extra" routine jobs today than expected a year ago, given America's overall employment. Even Australia,

which more than most can be said to be "post-covid", offers similar results: automatable jobs are about as common as expected without the pandemic.

The labour lump

If a pandemic-induced wave of job-killing robots does not happen, that is just one more example of misplaced fears about machines. Luddites in early-19th-century Britain smashed up textile machinery for apparently putting them out of work. In 1928 the New York Times proclaimed that the "march of the machine makes idle hands". In 1961 Time magazine talked of "the automation jobless". A paper in 2013 by Carl Benedikt Frey and Michael Osborne, of Oxford University, was widely misinterpreted as meaning that 47% of American jobs were at risk of being automated. Yet such fears were not realised.

The 1920s saw a wave of automation with few ill effects. Despite Time'sfears, the 1960s had low unemployment. Before covid-19, employment was rising even as robots improved. A paper in January 2021 by Alexandre Georgieff and Anna Milanez of the oecd tests how automation theorists' predictions have actually turned out. Countries facing what they call higher "automation risk" in 2012 saw stronger employment growth, consistent with the idea that technology adoption leads to higher productivity. It is striking that Japan, Singapore and South Korea all have world-beating rates of robot adoption, and yet also low unemployment. Perhaps technology allows more people, not fewer, to be employed.

How did the doom-mongers get it so wrong? One well-known issue is the so-called "lump-of-labour fallacy": that there is a finite amount of work, so if some is automated that makes less to go round. In fact, by lowering costs of production, automation can create more demand for goods and services, boosting jobs that are hard to automate. The economy may need fewer checkout attendants at supermarkets, but more massage therapists. Technology often changes rather than scraps jobs. Francis Miers of Automation Consultants, a British software firm, argues that his firm's technology does not eliminate the need for developers: "It just makes them more productive."

If the pandemic has not so far led to robots taking all the jobs, it is still early days. And some believe this time will be different. Technology is so sophisticated it is difficult to split jobs into those that can and those that cannot be automated. Massage therapists are not safe. Capsix Robotics, a French company, has developed a robot that gives a full-body massage. Admittedly it does not look like the best massage in the world. But it is an example, from machines that read medical scans to gizmos that compose music in the style of Bach, of technology intruding into new territory.

In a new book Daniel Susskind of Oxford University extends these ideas, talking of a "lump-of-labour-fallacy fallacy". Technological progress increases demand for work, but "it is wrong to think that human beings will necessarily be better placed to perform the tasks that are involved in meeting that demand," he says. People who get their coffee cheaper from rc Coffee might have more to spend on massages—but they may get a Capsix robot to give them.

Perhaps, then, this is a tipping-point for humans' relationship with machines. If anything could cause such a wholesale change in labour markets, a once-in-a-generation pandemic might be it. Yet it would still be wise to hold off from fretting about the future of work. Given the history of outlandish and failed predictions, it is hard on principle to take the worst predictions too seriously. And there are three further reasons to believe that the pandemic will have only a modest impact on automation.

The first concerns travel. Economists talk broadly about a task switching from a human to a machine. But choosing what to automate, and how, requires a thorough understanding of how the business operates. "Automation is hard," says one consultant, drily. Even in a pre-covid world it was taking a lot of

time to understand the ins and outs of a business process and how technology could improve it—and that was when people could see offices and factories in person. It becomes even trickier in a world where the only communication is via video-link, says one automation expert. Restrictions on international travel and meeting in person will remain in place for some time yet.

The second reason concerns levels of investment. Companies shun capital spending when uncertainty is high, which it is at present. Global bank-lending standards have tightened, and fiscal stimulus has largely focused on protecting households' and companies' balance-sheets, not on creating more incentives for investment. Recent research from Oxford Economics, a consultancy, finds that global investment growth in 2019-25 will be lower than it would have been without the pandemic.

The third factor is harder to measure, but crucial to understanding how technology shapes work. Many automation theorists have a narrow view of economic production. They see humans as one of many inputs, and therefore as interchangeable with machines. When consumers buy goods, that is often a fair assumption: few consumers will care if a chair is made by man or machine, so long as it is a good chair. But in today's economy, that assumption looks confused. Humans are not just an input; for many goods and, especially, services they are the output too.

An example came earlier this year in Japan. The South China Morning Post reported the case of a 37-year-old man who called his job "rent a person who does nothing", selling companionship to clients, including to somebody who visited the grave of a dead friend. I do "nothing in particular", said the man, yet he charged the equivalent of $95 for his services.

This example gets to the heart of something about the economy. A growing share of jobs require people to be physically involved. The number of jobs in health care and education is rising fast. When somebody is sick, or needs to be taught, they expect face-to-face contact, not because people are better at it, but because they convey sympathy and fellow feeling. Something irreducible would be lost without them.

Or go back to the example of coffee. Blind tasting suggests that robots or machines are better than humans at making coffee. Yet those same tests find that people are cross when they find out that they are paying for a machine-made drink. It turns out that they value not only the taste of the coffee, but the mere fact that a real person has brewed it.

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