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A Data-Driven Guide to Whether a Machine Will Be Doing Your Job By 2025

Humans and machines will clock the same work hours by 2025 (and other startling findings from the World Economic Forum's 'Future of Jobs 2020' report).

TC By Thobey Campion

December 15, 2020, 11:22pm 🚹 💆 💄







The World Economic Forum's 'Future of Jobs Report' has become somewhat

of a divining rod for WTF we're all going to do for a living. Considering the current employment/everything crisis, the 2020 edition arrived this year with a little more heat on it than usual. It surveys corporate executives in 35 countries around the globe about workforce transformations they anticipate in the next five years. The 291 responses come from companies that collectively have more than 7.7 million employees. The primary objective is to map the jobs and skills of the future.



As one might only expect out of 2020, the exhaustive document is a tour-de-force bummer. It contains fairly crucial insights though. So we wrestled the 163-page beast down for you. Spoiler alert: COVID's a wrecking ball, automation is coming faster than greased lightning, remote work isn't going anywhere, inequality is worse than ever ... but everything might also be fine.

Let's get COVID Out of The Way First

The unemployment numbers are in and unsurprisingly staggering. Comparing the financial crisis of a decade ago to current day figures is as revealing as it is scary. In 2010, unemployment in the OECD (which

encompasses 37 countries around the world) peaked at 8.5 percent, only to drop to an average of 5 percent across global economies in late 2019. The International Labour Organization (ILO) predicts figures could peak at 12.6 percent by the end of 2020 and persist at 8.9 percent by the end of 2021.

The resulting numbers paint an even more alarming picture. The IMF estimates that 97.3 million individuals, or roughly 15 percent of the workforce, are at high risk of being furloughed or made redundant in the current context. Shifting our gaze forward a few months, the International Labour Organization (ILO) projects that by the second quarter of 2020, 195 million workers will have been displaced. The double-roundhouse to any sense of security? All this is going down at a time when jobs are transforming at greater speeds than ever before.

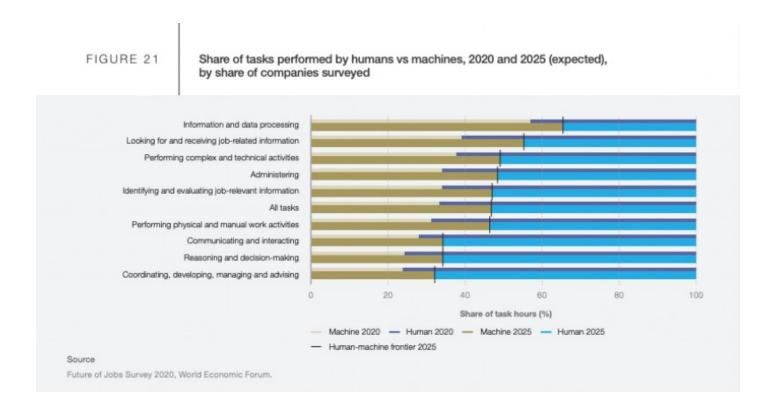
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So what are businesses doing to adjust for COVID-19's pressures? Well, 1 percent plan to increase their workforce, 14 percent plan to permanently reduce their workforce, 28 percent plan to temporarily reduce their workforce, 30 percent plan to temporarily reassign workers to different tasks, and 83 percent plan to accelerate automation of tasks.

On that...

The Machines Aren't Messing Around

The movement towards widespread automation is more deeply evident in the workforce than anywhere else. One of the central findings, repeatedly shared in the report, is that by 2025 the time spent on tasks at work by humans and machines will be equal.



Among the business leaders surveyed, just over 80 percent report that they are accelerating the automation of their work processes. 50 percent also indicate that they are set to accelerate the automation of jobs in their companies.

This transition will result in unprecedented labor market upheaval. By 2025, 15 percent of the global workforce will be disrupted by the shift in division of labor between humans, machines and algorithms. That's 85 million

displaced jobs.

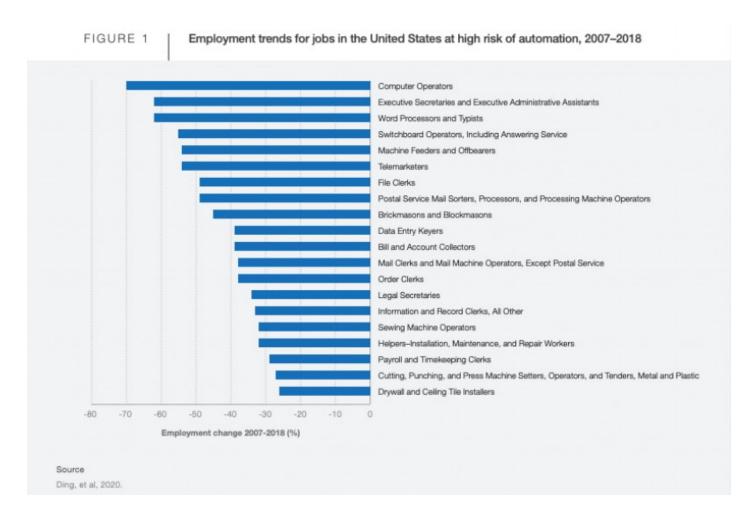
This does spell opportunity for some 97 million workers. Automation tends to wipe out some jobs while generating others. The new landscape will be inhabited by Data Analysts and Scientists, AI and Machine Learning Specialists, Robotics Engineers, Software and Application developers as well as Digital Transformation Specialists, Process Automation Specialists, Information Security Analysts and Internet of Things Specialists. You get the idea.

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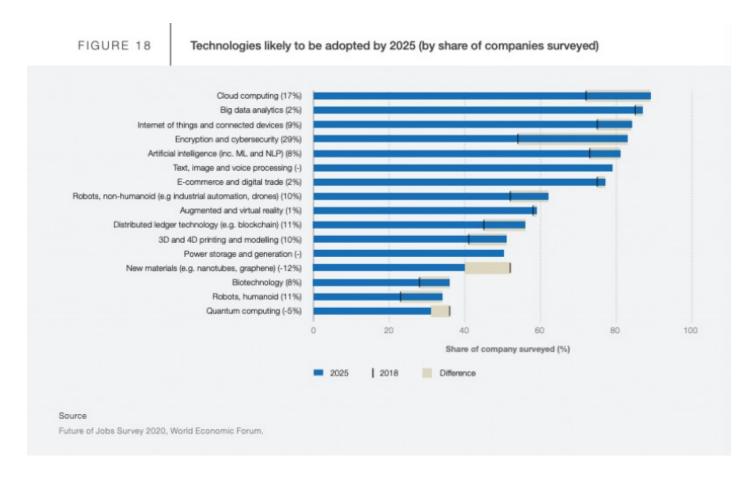
Let's take a look at some winners and losers of the automation revolution.

Increasing demand		→ Decreasing demand Output Description Descriptio	
1	Data Analysts and Scientists	1	Data Entry Clarks
2	Al and Machine Learning Specialists	2	Administrative and Executive Secretaries
3	Big Data Specialists	3	Accounting, Bookkeeping and Payroll Clerks
4	Digital Marketing and Strategy Specialists	4	Accountants and Auditors
5	Process Automation Specialists	5	Assembly and Factory Workers
6	Business Development Professionals	6	Business Services and Administration Managers
7	Digital Transformation Specialists	7	Client Information and Customer Service Workers
8	Information Security Analysts	8	General and Operations Managers
9	Software and Applications Developers	9	Mechanics and Machinery Repairers
10	Internet of Things Specialists	10	Material-Recording and Stock-Keeping Clerks
11	Project Managers	11	Financial Analysts
12	Business Services and Administration Managers	12	Postal Service Clerks
13	Database and Network Professionals	13	Sales Rep., Wholesale and Manuf., Tech. and Sci.Products
14	Robotics Engineers	14	Relationship Managers
15	Strategic Advisors	15	Bank Tellers and Related Clerks
16	Management and Organization Analysts	16	Door-To-Door Sales, News and Street Vendors
17	FinTech Engineers	17	Electronics and Telecoms Installers and Repairers
18	Mechanics and Machinery Repairers	18	Human Resources Specialists
19	Organizational Development Specialists	19	Training and Development Specialists
20	Risk Management Specialists	20	Construction Laborers

Here is a line-up of jobs at highest risk of being automated.



A look at other technologies likely to be adopted by 2025 reinforces the inexorability of increased automation.



Remote Work Is Only Sort of Working, But It's Staying Put

If you're considering purchasing that brand new home fax machine, by all means proceed because the chances of returning to work life as we once knew it are: remote.

By mid-April, nearly 55 percent of economies (about 100 countries) had enacted workplace closures which affected all but essential businesses. 84 percent of employers are set to "rapidly digitalize working processes," with the potential to move 44 percent of their employees to operate remotely. 80 US companies have announced either a fully distributed or remote-first workforce from here on including Basecamp, Nationwide, Square, Coinbase, Hims, Dropbox, Shopify, and Twitter. Curiously, even the National Transport Authority is in the mix.

Yet business leaders remain skeptical about the productivity of remote working. 78 percent expect some negative impact of the current way of working on productivity, with 22 percent expecting a strong negative impact.

So, a lot of head-scratching, a lot of savings on office snacks.

Existing Inequalities are Set to Deepen

All this change brought on by COVID-19 lockdown measures is snowballing inequality. According to the report, the people most adversely affected are depressingly familiar—it's those living in neighborhoods with poor infrastructure, with poor employment prospects, and whose income does not equip them with a comfortable living standard, healthcare coverage, or savings.

Across the board, jobs held by lower wage workers, women, and younger workers have been more deeply impacted in the first phase of the economic contraction. In some countries those affected have been disproportionately women. This is certainly the case in the United States where, between December and April 2020, women's unemployment rose by 11 percent while the same figure for men was 9 percent.

Meanwhile, higher-paying industries have a lower share of workers at risk of unemployment. The industries with the largest opportunity to work from home are the Information Technology and Insurance industries, with 74 percent of workers reporting having access to remote working. Fields like Finance, Legal work and Business Services could, in theory, perform more remote work.

More sharply defined, folks recalled into the labor market—meaning they got their job back—tend to have the highest average wage; those displaced have the lowest average wage. Let's play this out in a couple industries: Retail workers who were displaced earn on average a low \$17.80/hour while those recalled are earning \$27.00/hour. In Information and Media, those displaced earn \$28.70/hour while those recalled earn \$61.20/hour.

Slicing the data regionally, the current theoretical share of jobs that can be performed remotely in any given economy is around 38 percent of jobs in high-income countries, 25 percent in upper-middle income economies, 17 percent in lower-middle income economies and 13 percent in low-income economies. And that's before adjusting to account for the uneven distribution of internet access.

Around 60 percent of workers in high-income countries such as the United States and Switzerland are unable to fully work from home. This figure rises to more than 80-90 percent for the workforces of Egypt and Bangladesh.

The Arguments for Cautious Optimism (AKA It May All Be OK)

At the dawn of the Fourth Industrial Revolution, a glance in the rearview mirror offers some glimmers of hope. Historically, innovation has resulted in short- and mid-term compile errors but long-term upgrades. Trades based on old technology get replaced by machines, birthing new ways of work and new skill sets. Theoretically those new professions generate more prosperity. So maybe this is an awkward moment before things get super chill? Maybe.

The current job destruction will most likely (read: sort of has to) be offset by the growth in 'jobs of tomorrow'—the surging demand for workers who can fill green economy jobs, roles at the forefront of the data and AI economy, as well as new roles in engineering, cloud computing, and product development will need to form a collective saving grace of vocational substitution.

Public policy is also showing signs of taking on the responsibility not only of temporary relief but also long-term effectiveness. The IMF estimates that almost \$11 trillion has been deployed through direct fiscal impulse and liquidity measures aimed at supporting households and businesses through the crisis. Data from the ILO shows that more than 1,000 different policy measures have been implemented in more than 200 countries since the onset of the pandemic. Not too shabby.

This openness to transition to new job opportunities, matched with new reskilling opportunities, can help place young professionals back on track, finding routes out of affected and into new, growing opportunities.

Ultimately, countries are owning the challenge of keeping humans relevant.

That is—unlocking the value of human potential in tandem with profitability, halting the erosion of wages, making work meaningful and purposeful, expanding employees' sense of growth and achievement, promoting and developing talent on the basis of merit and proactively designing against racial, gender or other biases.

Businesses too are moving towards owning the challenge. This is evident in the commitment to employee growth. There has been a five-fold increase in employer provision of online learning opportunities to their workers and a nine-fold enrollment increase for learners accessing online learning through government programs. 66 percent of businesses believe they will see a return on investment within a year of funding reskilling for the average employee. This doesn't just mean "learn to code," but that the development of new industries will hopefully create a wide spectrum of jobs.

The Competitive Advantage of Being a Human

Perhaps the rosiest conclusion of the report is that our very humanity is our key to workforce viability.

There will be continuing emphasis on human interaction in the new economy, with increasing demand for care economy jobs; roles in marketing, sales and content production; as well as roles at the forefront of people and culture.

Even more encouraging though, major emerging emphasis is being placed on distinctly human skillsets. Those in employment are hitting the personal development courses hard, which have seen 88 percent growth among that segment.

In contrast to the more technical skills highlighted in 2019, the top 10 focus areas of those in employment include self-management skills such as mindfulness, meditation, gratitude, flexibility, resilience, stress tolerance and kindness.

So we've got that going for us, which is nice.

Thobey Campion is the former Publisher of Motherboard and the Co-Founder of Lost & Found.

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