Impact of AI on Jobs in the UK: 10-30% of Jobs Could be Automated with AI

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The impact of generative artificial intelligence is likely to be faster and more widespread than previously thought. That means challenges ahead for workers, managers and policymakers.

The U.K.'s Department for Education has published a new report about AI's impact on the job market. The report's authors said that there was now a "consensus" that 10-30% of jobs could be automated with AI. The technology also has the potential to increase productivity and create new high-value jobs in the U.K. economy.

AI could help power new research to extend human longevity or help us tackle huge problems such as the climate crisis," said David Shrier, Professor of Practice, AI and Innovation at Imperial College Business School. "But we only can do that if we don't destroy society first."

Which jobs are most threatened by generative AI?

The report has detailed the professions that are most at risk from the introduction of artificial intelligence in the workplace, with jobs in finance, law and business management most likely to be impacted. The report said that the jobs most at risk from the impact of large language models and generative AI include telephone sales, legal professionals and psychologists.

Employees with more advanced qualifications are typically in jobs more exposed to AI, the report's authors warned.

The report also noted there will be regional variations in the impact of AI on jobs, with workers in London and the South East of England being most exposed to AI, largely because there are more professional jobs concentrated there.

Policymakers are still trying to figure out the likely impact of generative AI and related technologies on jobs and economies over the next few years. In many cases, generative AI can be used to augment jobs and create new businesses, but it can also be used to replace jobs.

Why the impact of generative AI on jobs could be exaggerated

If AI can both automate and augment jobs, which will it be? Early indicators in Europe at least seem positive: New research from the European Central Bank suggests that reports of AI ending human labour may be greatly exaggerated.

AI-enabled automation has so far been associated with employment increases in Europe – at least for high-skilled occupations and younger workers, it said. "This is at odds with the evidence from previous technology waves, when computerisation decreased the relative share of employment of medium-skilled workers," the report's authors noted in a research bulletin.

During the deep learning boom of the 2010s, occupations potentially more exposed to AI-enabled technologies actually increased their employment share in Europe, the bank said. However, it also acknowledged that we are very much at the start of the AI era. "AI-enabled technologies continue to be developed and adopted. Most of their impact on employment and wages – and therefore on growth and equality – has yet to be seen," it said.

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Research by the Institute for the Future of Work also reflects this: Its survey found that 79% of firms are adopting robots and AI, and so far the net impact on job creation and skills is positive. While some firms said that new technologies were eliminating jobs, they also said they created jobs, too.

Professor James Hayton, the lead author of the Institute for the Future of Work report, told TechRepublic in a telephone interview that AI adoption was taking place across small and large businesses across many sectors of the economy.

"The implication is that this is hugely widespread in comparison to manufacturing automation in the past, maybe even PCs in the 1980s. This is much more widespread across the whole of the economy with implications for the whole of the workforce," he said.

How the introduction of AI plays out may come down to the quality of the managers involved.

"It's really an organizational challenge and a management challenge. The organizations that are better at management practices will involve their people in making those adjustments, so that everyone is more committed to those changing roles, and they are more effective in that transition," he said.

The broader economic impact of AI

If the impact of AI within a single organisation – for good or bad – depends on its managers, then broader impacts on individual careers – society and economy in general are still far from clear.

Hayton said some senior jobs might remain safe because you need someone to oversee the output of the AI.

"You need human judgement. If you are coding, you need human judgement to check the code. If you are writing copy, you need that [human judgement]. You can't just hope for the best," he said.

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More junior workers in roles that can be automated might not be so lucky. In some scenarios, companies will use AI to make staff productive; in others, they will simply decide to cut staff costs.

That might mean shifting those jobs to lower-cost economies and using AI to augment the skills of local workers. In which case, the shift of manufacturing from many Western economies in the 1960s (i.e., manufacturing employment moved to new locations such as China, and the lower cost of production led to a consumer boom) could be a model for what will happen to knowledge workers next due to generative AI.

Shrier said that one of the things that is going to be different about the rise of generative AI and large language models is that higher-value jobs are threatened.

"The technology has got better, and it's got better at exactly the thing that structurally the G7 countries have shifted their economies towards," he told TechRepublic in a Zoom interview.

SEE: TechRepublic's coverage of the G7 countries establishing a voluntary AI code of conduct

AI and society – the long-term view

Newer technologies (including AI) are getting adopted faster, and that means the pace of change is much more rapid than prior technology disruptions have been, Shrier argued.

He added: "What we are seeing is something which has profound and troubling implications for the nature of work and the economy, which is you need a senior person to look at what the AI generates and tweak – but you don't need an army of junior people to generate the original work."

While that might be great for companies in the short term in terms of cutting costs, the broader economic impact might be a lot more painful. As Shrier pointed out: "Who's going to buy the goods and services to power the economy if everyone is out of work?"

He's asking the sort of tricky question that means governments might have to take a harder look at what kind of social safety net they need in place in an AI-inflected future. It might put more momentum behind ideas like universal basic income in the face of what could be massive job eradication, especially as this shift could be focused in areas of the economy like financial services, which currently generate big tax income for governments.

"I have both intense concern and optimism in equal measure; on the one hand, we have things like the potential for the total collapse of society in a few years not in like 30 years…and on the other hand, AI can finally solve some of the most intractable problems that humanity is facing," Shrier said.