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AI threatens women's job market participation

The possibility of an AI-managed world is increasingly tangible. Not well represented in STEM areas, women could get left behind in an AI-driven economy. Anne Theunissen and Lorea Olivieri Novoa write that governments, businesses and educational institutions must pool their resources to invest in STEM education for girls, bridging the digital divide and ensuring that AI is developed with a gender lens.

Did you know that a staggering 79 per cent of employed women in the US work in jobs at high risk of automation, compared to 58 per cent of men? And that for every seven men whose occupations are susceptible to disruption and automation, there are ten women in the same situation?

This may not be the case everywhere. In many countries, men are at a slightly higher risk of losing their job due to automation, even though technology is likely to affect large proportions of the female workforce too. Many jobs in female-dominated industries (cashiers, secretaries, and bookkeeping clerks, for example) are being replaced by AI systems, thereby generating gendered patterns of job loss.

A particular group is more disadvantaged than others. People from lower socioeconomic backgrounds, especially those in more unequal societies, are more exposed in the rapid expansion of artificial intelligence. This might be because of the nature of the jobs typically done by low-income individuals. While both poor men and women tend to do those jobs with operational actions that machine learning systems can easily program, women with low(er) incomes tend to be in more vulnerable forms of employment compared to their male counterparts.

These results are problematic, considering many poor individuals may not have access to the education they need to work in the new class of high-skilled jobs that will be created. Consequently, they face a disadvantage that locks them out of future economic opportunities and makes them highly vulnerable to further marginalisation.

The possibility of artificial intelligence managing our world is becoming a tangible reality. While this may sound like exciting news to some, because AI may enhance productivity, improve decision-making and reduce human error, we must recognise that it will fundamentally change how we work and live in the near future, aside from its noticeable effect on various jobs.

The gendered influence of AI goes beyond mere job displacement. Data from LinkedIn indicates that the share of women in STEM (science, technology, engineering, and mathematics) has been consistently lower than that of men. This has limited their ability to take part in the advancement and utilisation of AI. In a blog for the MIT's professional education site, Clara Piloto states: "*In 2023, the gender gap in STEM remains significant, with women making up only 24 per cent of the STEM workforce in the United States, 17 per cent in the European Union, 16 per cent in Japan, and 14 per cent in India.*"

Men make up the greater share of the global STEM workforce, with women constituting only about 29.2 per cent (and only 22 per cent in AI specifically). This lack of female representation restricts their influence on shaping the future of work. New jobs and skills will become necessary as AI transforms industries.

Women not well represented in these areas could get left behind in the shift to an AI-driven economy. This could worsen existing gender disparities in the job market, as women are predominantly found in lower-paying, less stable roles. Their underrepresentation in STEM, and their general underrepresentation in the internet-using population compared to men across the digital divide, implies that women are less likely to have the skills needed to navigate the evolving job market and take advantage of the benefits of new technologies.

Emerging AI-driven sectors are likely to create new, high-paying jobs, but men may dominate these roles due to their higher participation rates in STEM. Therefore, we can imagine artificial intelligence as a two-sided coin: it offers us a promising future with a myriad of technological advances, efficiency, and innovation. At the same time, it presents us with an uncertain future and the potential to go backward in other areas.

Lastly, AI, algorithms and other digital tools perpetuate gender biases when it comes to recruitment processes, and, as a result, it slows women's professional development. While dedicated action has been taken to reduce inequality between women and the rest of the world, artificial intelligence has the potential to increase it even further than before.

Using pre-coded systems for analysing CVs and selecting candidates can promote stereotyping. As a result, inequalities persist, and diversity in the workplace becomes even more difficult to achieve. A glaring example happened in 2018, when Amazon used an AI programme in its hiring process that automatically rejected resumes including terms referring to women.

To avoid such situations and biases, companies should design gender-sensitive AI and never leave the whole process to a machine. An article by McKinsey partners suggests that women must

participate in the creation of technology as a way to address gender bias in AI algorithms. The United Nations emphasises the idea that the low participation of women in artificial intelligence needs to be corrected to prevent even machines, which will become increasingly indispensable in the future, from becoming male-dominated.

The intersection of AI, automation and gender presents a complex and urgent challenge. While increasing productivity may be enticing, the effects on women cannot be dismissed. In this new era dominated by artificial intelligence and automation, in which almost eight million jobs could be lost in the UK, women should not be put aside in the advancement of technology. They should be recognised as a particular part of the population that could be exposed to many risks in the fourth industrial revolution.

In conclusion, we must take proactive steps to ensure AI becomes a positive force. Governments, businesses and educational institutions must pool their resources to invest in STEM education for girls, bridging the digital divide and ensuring that AI is developed with a gender lens. If we act boldly today, we can exploit AI's capacities while guaranteeing gender equality as we shape a fairer world.

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