

# The Effects of Artificial Intelligence on the Working Lives of Women

A joint report by UNESCO, OECD and IDB

## EXECUTIVE SUMMARY

Artificial intelligence (AI) is “a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. AI systems are designed to operate with varying levels of autonomy” (OECD, 2020). AI is rapidly being integrated into both workplace and domestic settings. The world of work is changing as a result.

The use of AI technologies will affect women’s opportunities for work, and their position, status and treatment in the workplace. Around the globe, women in the labour force earn less than men, spend more time undertaking unpaid child- and elder-care jobs, hold fewer senior positions, participate less in science, technology, engineering and mathematics (STEM) fields, and tend to hold more precarious jobs overall. In harnessing AI, governments, institutions and companies must narrow gender gaps rather than perpetuate or exacerbate them.

This report, by the IDB, OECD and UNESCO, outlines current knowledge of the impact that AI systems have on women’s opportunities for work, and their position, treatment and status in the workforce. It does so by exploring how AI is used within and outside the workplace, and how it could be used in the future. It looks at the potential impact of new and emerging AI technologies on the skills that employers will require, on how women look for and are hired for jobs, and on how jobs are structured through automated monitoring and oversight. The report maps the opportunities and challenges that AI presents for the working lives of women and highlights the complexities that varying national and regional contexts present for understanding the impact of AI on the work of women. The report also notes that current research does not offer a complete or definite picture of how AI impacts the working lives of women and calls for further research and analysis in this area.

The report offers six findings:

1. **Reskilling and upskilling women workers** – AI is changing the labour market, bringing new skill demands to workers of the future. It is crucial that women are not left out of the increased demand for professionals in STEM/AI. Programmes that support reskilling and upskilling women will help them access these fields. Digital skills will also be important for workers to understand the systems being implemented and raise concerns when necessary. The existing gaps in women’s access to these skills and jobs are troubling, and societies should work to narrow and eventually close them. This is the responsibility of governments, NGOs, academia, trade unions and the private sector.
2. **Encouraging women in STEM** – More women at the forefront of AI design and development will be a significant step forward. To get more women leading in AI and technological development, governments, institutions, organisations and companies should support the education of women and girls, in STEM education in particular.
3. **Accounting for contextual and cultural complexity** – AI systems have different impacts in different contexts and countries. Diverse labour markets, economies, cultures and gender norms shape how workers experience AI systems, meaning that AI-based tools and technologies will impact the working lives of women in a variety of ways. These contextual and cultural complexities should be addressed systematically when designing and implementing AI systems or policy and regulation responses to AI.

4. **Leveraging multi-stakeholder approaches** – Governments, private sector companies, technical communities and academia need to engage these issues and take responsibility for the impact of AI tools and systems. Governments should create and promote policies that consider the potential impact of AI systems on vulnerable groups. Organisations and institutions have a role in supporting skill-equalising work environments for women.
5. **Shaping gender stereotypes** – This report shows the powerful connection between stereotypes surrounding women’s paid and unpaid work, and how these can be both shaped by and encoded into AI systems. For example, virtual personal assistants might promote certain gender stereotypes, particularly around care and assistance. The role of women at work, and their often unpaid and unequally distributed domestic and care responsibilities must be more thoroughly considered when creating equal work environments for women, as well as in the design, policy and implementation surrounding AI technologies.
6. **Continuing applied research** – More applied research is needed on how AI systems impact work in general and the working lives of women in particular, and to understand potential societal impacts of widespread use of specific AI systems. For example, Chapter 3 highlights the differing effects on men’s and women’s job opportunities when AI hiring systems are rolled out with key questions left unanswered. Chapter 4 shows the lack of research surrounding the impact that AI monitoring systems have on the working lives of women and their opportunities for recognition and promotion. Going forward, organisations and governments should be transparent about how their AI systems function. Further research in this area will be required to catalyse the explainability of AI systems’ function and protect employees engaged with AI.

While emerging AI systems could present further challenges to the work of women, these impacts are not yet inevitable. This report aims to encourage organisations, the public, policymakers and academics to grasp the opportunities and be proactive in facing the potential challenges. Designing and deploying novel technologies, guided by a principles-based approach and best practices, will both help ensure that today’s gender stereotypes are not built into tomorrow’s technological systems and help close gender gaps.

More research in this area should cover system design, functionality and – most importantly – social and cultural impact. Research can help ensure that the application of AI in the workplace does not create feedback loops that encode existing gender bias. It can also help address global disparities in knowledge about AI systems across country and regional contexts.

Most existing research about AI focuses on advanced economies, usually in the Global North. As social and economic contexts vary by country, this lack of regional representation can exacerbate inequalities in the ethical design and deployment of AI. As the cases in this report show, there are lessons about the benefits and harms of AI in a range of global contexts.

Technological advances bring productivity gains, but all individuals’ talent must be developed for these gains to be fulfilled. The design of technologies, the gendered gaps in data, and the speed, scope and scale enabled by AI can make matters worse for women workers if there is no active attention to this issue. Preparedness for the future means governments, organisations and all employees – not just women – must understand the challenges and opportunities that new types of AI technologies present and how these can lead to fair and equitable work.