The path to genderless digitalisation

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> *Technology and automation need not be our enemies. With the right tools and direction, they may have a positive impact on women's rights and empowerment*

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In many parts of the world, technological innovations such as artificial intelligence (AI), robotics and machine learning are already having an impact on many aspects of society. They allow us to communicate faster, to share information, to feel closer to one another. They have become an essential part of our everyday lives, providing us with unprecedented opportunities for advancement in areas ranging from education to political participation.

Their mundaneness and expanded use makes us believe that they are genderless. But nothing is further from the truth, at least not when it comes to their impact. Just as technological innovations can help us advance, they can also further deepen existing inequalities and biases.

These inequalities can be seen in access to (and use of) information and communications technologies (ICT) - the offline population is disproportionately poor, rural and female. They can also be seen in areas such as the lack of digital skills, the absence of relevant content for women and the rise of negative stereotypes. All of these elements increase what is known as the 'gender digital divide'.

To these existing inequalities, a new and emerging issue needs to be added: the rise of sexism and discrimination imbedded in algorithms or the use of algorithms and machines, including robots and AI.

Machine learning and AI rely first and foremost on the information humans give them, including inherent discriminatory behaviour and bias analyses. At the moment, machines are not equipped like human beings to consciously counteract these taught biases. Machine learning and AI cannot distinguish causation from correlation, nor can they independently assess when it is necessary to gather more data to check for, and provide, a sounder, more balanced conclusion.

In other words, through our language and interpretations, we are transmitting our own conscious and unconscious biases to machines and algorithms. As a result, some studies indicate that as the use of AI systems becomes more widespread, groups already facing inequalities, such as women, may be negatively impacted even further.

Added to this unconscious algorithmic bias is a clear conscious discrimination towards women who work on these fields. Such is the case of women coders. According to a study published by the World Economic Forum, code written anonymously by women had a 78.6% approval rate while code written anonymously by men had 74.6%. However, when the gender of the coder was specified, the approval rate for women fell to just 62.5%.

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We already know that the technology-driven and automated world of work will be characterised by the constant need to educate, train and build digital skills. This puts millions of women workers at a disadvantage. Women are already facing the challenge of balancing their professional and private life responsibilities, and women already have a gap in their digital skills relative to men.

This disadvantage is further accentuated when we look at the types of jobs that are predicted to be displaced by AI, automation and digital innovations. Studies show that 47% of employees are in job categories that are amenable to computerisation (particularly those that require routine measurements, operation, pattern recognition or manipulation). As Erik Brynjolfsson and Andrew McAfee put it in their 2014 book, 'The Second Machine Age', "… there's never been a worse time to be a worker with only "ordinary" skills and abilities to offer, because computers, robots, and other digital technologies are acquiring these skills and abilities at an extraordinary rate".

Women represent 50% of the total workforce but their issues are not included at the negotiating table

The World Economic Forum says that this trend could lead to a net employment impact of more than 5.1 million jobs lost to disruptive labour market changes in white collar office functions such as administrative and office work – areas where there is a high concentration of women workers – and a total gain of two million new jobs in computer-, mathematical-, architecture- and engineering-related fields, where women are vastly underrepresented.

Unfortunately, we are still generations away from empowering women in the occupations that will grow in demand. According to the OECD, by the age of 15 fewer than five per cent of girls consider careers in engineering and technology, compared with 18% of boys. In Europe only nine per cent of developers are women, only 19% of bosses in the ICT and communications sectors are female (compared with 45% in other service sectors) and women represent just 19% of entrepreneurs in this sector (compared with 54% in other service sectors).[1]

In other words, women face more than one challenge. On the one hand, the unequal distribution of household responsibilities,

a result of pre-existing social and cultural stereotypes, translates into less available time to re-train and educate themselves. This is on top of a lack of economic resources for equal access to available technologies, and the lack of encouragement to join those careers and workplaces that will provide job opportunities in the future, making it harder than ever for women to be ready for what lies ahead.

But not all is lost. Technology and automation need not be our enemies. With the right tools and direction, they may have a positive impact on women's rights and empowerment. By providing new opportunities to solve societal problems and imbalances, the gender digital divide can be bridged.

For example, ICT can help to improve women's working conditions by creating spaces where women workers can be active in claiming their labour rights; where they can organise and lobby to improve laws, wages and working conditions, and report abuses. Take the case of violence against women, where ICT tools help create a virtual space where women can acquire information on violence, and where victims and survivors can find a safe place to discuss their experiences and seek help.

To be able to take advantage of these tools and use them for social inclusion, we first need to understand the digital advantages and limitations.

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1   European Parliament Report on gender equality and empowering women in the digital age (2015/2007(INI)). 8 April 2016; and Opinion of the Advisory Committee on Equal Opportunities for Women and Men.

UNI Women, the women's section of the European services workers union, believes that technological innovation needs to be addressed from a human rights perspective, focusing on freedom from discrimination, the right to freedom of opinion and expression, freedom of peaceful assembly and association, the right to work and to the enjoyment of just and favourable conditions of work, the right to education and to participate in cultural life; and the rights of women.

By embedding a human rights approach in the design and use of technologies and automation, we can create safe and equal environments where all groups, particularly those facing inequalities, can participate in fairer conditions. This requires governments and states to develop and implement relevant policies and programmes aimed at promoting accountability, equality and non-discrimination, participation, transparency, empowerment and sustainability; to include gender advocates and experts in the policy development process; and to allocate sufficient resources. Business must also be involved, with proper training and education for managers and CEOs on gender biases, which will help create more collaborative work environments.

Women represent 50% of the total workforce but their issues are not included at the negotiating table, they have limited access to leadership positions and are subject to many forms of discrimination. Their lack of participation in decision-making processes, in the development of technologies, and in union work, also means that their issues are not being

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discussed and catered for. Women workers are at a disadvantage, and one that can be augmented by a growing gender digital gap and biases in technological innovation.

As part of our goal to create more inclusive and equal workplaces, where technology can be used as a tool for growth, UNI Women's work agenda includes the expansion and implementation of our ongoing campaigns such as 'Break the Circle!', to end all forms of gender based violence; 'Equal Pay'; and '40for40', to increase women's representation in decision-making positions.

We are also building discussion groups and workshops in which women and affiliated unions can provide information, share tools and resources on how technology is impacting their lives to better understand the challenges ahead.

We have designed programmes, including a mentoring programme where a young woman is trained by a woman leader in her union, helping her to not only develop the necessary skills to grow in her union work (with skills such as leadership, communications and organisation), but to build support networks that will allow her to stay in their career and follow her work path. This programme will be launched for women in

sectors where the biggest growth is expected as a result of technology and where women have the lowest representation, such as IT.

As actors in civil society, we are also aware that governments, the private sector and civil society need to work together to invest in digital skills training for women and girls, making sure

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that education starts early and that educational opportunities are available at all levels, from basic training to more advanced programming.

This new world of work does not need to be terrifying. With proper policies and education, with proper tools, with a human rights approach where freedom from discrimination is embedded in all our work, we can build the capacity to adapt and learn to work with machines.

Now, more than ever, human skills such as awareness, perception, complex problem-solving and decision-making, all of which are typically labelled 'female' skills, will be essential. The future world of work is about partnerships. It is about having the capacity to adapt and learn to work with machines. We can use technology as our ally to amplify our cognitive abilities, to liberate ourselves from burdensome tasks, and to create more inclusive environments. ○