

POLICY BRIEF

BREAKING THE CYCLE OF DISCRIMINATION: GENDER AND DIGITAL WORLD IN EUROPE

The policy brief will examine gender and digital tools in Europe. The focus will also be on the relationship between gender and digital technology and how technology negatively affects women.

In most Western countries, the digital revolution has disrupted various areas of our lives, with digital technologies now being leveraged in sensitive areas such as employment, medicine, justice, or law enforcement. The fact that societies are becoming more and more data-driven raises concerns about how to ensure fundamental human rights against data misuse and abuse. Indeed, the Covid-19 pandemic has accelerated a global digital and data-driven transformation. As we move towards the Fourth Industrial Revolution (4IR) – defined by the increasing use of automation and artificial intelligence – the digital revolution has increased the need for regulation and democracy. From pervasive hate speech to online gender-based violence (OGBV) or large-scale surveillance advertising, the internet has become harmful for individuals and communities, particularly marginalized groups such as women and girls, the LGBTQI+ community and people of color. The Cambridge Analytica scandal revealed the extent of the use of personalized data to manipulate public discourse during elections.



Historically, women have substantially contributed to technological innovation as programmers and computer scientists. Yet, their role is often invisible and unrecognised. Today, technologies are created within gender bias and thus reflect pre-existing gender inequalities. Explicit and implicit gender biases were found to be embedded in digital services and products, reinforcing power dynamics that increase the marginalization of women and gender-diverse groups. EU-wide, the data show that women are unequal to men in terms of access and digital skills, especially older women and women with low levels of education. In fact, boys tend to overestimate their performance and abilities, while girls underestimate both. Although women, especially young Europeans, are catching up with men in internet use, this progress is uneven across the Member States.

Concepts like digital rights, data governance, digital citizenship have come into existence in relation to the internet users concerns. In 2018, the EU recognized personal data protection as a fundamental right under the article 8(1) of the Charter of Fundamental Rights of the European Union with the implementation of the General Data Protection Regulation (GDPR). Despite lacking in gender recognition as a sensitive or special category, it recognizes data related to sex life and sexual orientation as such. This provision allowed to tackle some OGVB as personal data can be used to track, monitor or even harass and attack marginalized groups, such as women of color and non-binaries. In addition, women also experience bias and discrimination with algorithms often being used to support decision making, at the intersection of issues such as race, gender, ethnicity, social class, and geographical origin. For example, women, in particular women of color, are being denied access to finance due to algorithms built on historically discriminatory data.

A few years later, the Digital Services Act (DSA) of 2022, introduced mandatory due diligence obligations for online platforms. By dealing with illegal content, which was previously arbitrarily moderated by digital platforms and affected mainly women and the LGBTQI+ community, the DSA helps to make the Internet safer, more transparent, predictable and accountable for the users. The obligations for online platforms to analyse and assess the systemic risks to fundamental rights posed by their services (Article 34), to implement mitigation measures (Article 35), and to be subject to independent audits to assess their efforts (Article 37) may establish an unprecedented regulation, but only if implemented properly with mandatory due diligence obligations, accompanied by effective accountability mechanisms.



An intersectional approach is needed to address the disparity between women and men in digital access, use and benefits, also known as the "gender digital divide". Research shows that societies with greater gender equality also perform better in the digital economy. Gender equality is therefore essential for a prosperous, modern economy. Digital transformation and technological innovation represent opportunities and challenges for Member States in terms of economic growth, productivity and employment. Access to the internet and ownership of digital devices can provide additional employment opportunities, income and knowledge.

Although the DSA represents considerable progress, there is still a significant gap between men and women in the digital field. This document aims to provide a quick overview of the issues raised in the digital world with a gender and intersectional approach, while offering an insight into how gender equality in the digital field can become an effective commitment.

METHODOLOGY

The policy brief will include a variety of sources that describe the relationship between gender and digital tools. Most research methods include articles that examine the current situation in Europe. We will also analyze legislation and practices at a regional level in order to obtain a clear picture of the situation in Europe. Most of these sources will focus on current issues concerning the impact of digital technologies on gender, stereotypes in algorithms, differential access to digital tools and online violence.



POINT 1

SHORTCOMING AND DANGER RELATED WITH THE USE OF SOCIAL MEDIA

Social media is well documented to be associated with **body image concerns** such as eating disorder and unhealthy weight control behaviors or use of cosmetic surgery due to filters and dangerous trends which are portraying standardized bodies and beauty. Moreover, unique social-media-based movement comes from trends that promote a **patriarchal vision of gender norms**. In addition, **online gendered disinformation and sexist hate speech** are growing at an alarming rate, and the anonymous, affordability, and impunity nature of the internet has extended gender-based violence against women and girls (VAWG) to online violence. This includes **direct or indirect threats of physical or sexual violence**, abuse targeting one or more aspects of a woman's identity (e.g., racism, transphobia, etc.), targeted harassment, cyberstalking, zoom bombing, privacy violations such as doxing, trolling, "revenge porn", and deep fake pornography. Those are often intended to shame, intimidate, degrade, belittle, or silence women. A global study found that **38% of women have personal experiences of online violence and 86% of women who are online have witnessed digital violence against women**.

Research has documented that **online VAWG extend offline violence**. In addition, these violence also **undermine democracy** as women are frequently marginalized and attacked online in ways that their male counterparts are not. There is evidence that online violence is having a negative **effect on women's and girls' presence in public spaces** as women's voices are often silenced, discredited, and censored. One study has showed that online VAWG is a cause of women not seeking re-election. Economically wise, a study for the European Parliamentary Research Service has estimated that the economic costs of online VAWG is from 49 to 89.3 billion euros per year. Besides, a UNESCO study of women journalists found that 11% of respondents missed work to recover from violence, 38% made themselves less visible, 4% quit their jobs and 2% abandoned journalism altogether.

POLICY RECOMMENDATIONS

1 Develop European standards, definitions and frameworks to VAWG in digital contexts, criminalize and prohibit it.

There is currently no European definition of VAWG in digital contexts. It is known interchangeably as “ICT-facilitated violence”, “online violence”, “tech facilitated or related” violence, “digital violence” or “cyberviolence”.

Current laws on the subject lack clear and consistent definitions and often are not adapted to the various forms of VAWG in digital space. Legal frameworks vary across the EU and should be harmonized. In this context, internet intermediaries are left responsible for preventing and detecting online VAWG with standards that differ between platforms and that are inconsistently enforced.

2 Strengthen law enforcement capacities’ to investigate and prosecute crimes effectively, including greater accountability for perpetrators or internet intermediaries.

Dealing with pornographic websites accountability since such content is widespread on those platforms and not easily removed.

Established specialised courts to deal with cases of violence against women, a measure which could help to address low prosecution and conviction rates for crimes of domestic violence and rape, which appear to be a problem common to numerous Member States.

3 Increase investments in prevention for an inclusive, safe, and healthy educational spaces both online and offline to transform the harmful behaviors, to increase diversity, inclusiveness, and representation in social media and empowerment of women and girls.

Most girls report their first experience of social media harassment between the ages of 14 and 16, and 47% of girls who have been harassed online have been threatened with physical or sexual violence

Lesbians, bi, queer and trans women, migrants, women with disabilities or suffering from a chronic illness, women in specific contexts such as women in situations of violence domestic or poverty, but also women with a public image, such as politicians, journalists, women's rights defenders, or activists, are more exposed to this type of violence.



POLICY RECOMMENDATIONS

4 Establish and enforce strict codes of conduct for users and develop standards for content moderation that detect and respond to more subtle forms of online violence.

Some dangerous contents are overriding moderation by using coded hashtags. There is a need to address the systemic risks that stem from non-illegal conduct that nevertheless results in abuses. Although this would seem challenging, researchers have reiterated that comprehensive coordination between legislators, online platforms and civil society to holistically analyse and address such phenomena is the best method to tackle systemic risks such as OGBV.

5 Research on perpetrators and their motivations, including the role of organized men's groups, incels and radical groups and how they avoid detection.

It is important to better understand the impact, drivers, risk, and protective factors as well as the responses to online VAWG by service providers

6 Develop standards for measuring online VAWG and regularly collect data to address data and evidence gaps.

While there continues to be significant gaps in data, one global report from 2018 onwards suggests that prevalence ranges from 16% to 58% depending on the question asked, and the demographic features of respondents such as their age and gender.

7 Require social media companies to provide full transparency of their algorithms and rules enforcement.

Algorithms, which are built on our own biases, were found to prioritize scantily clad women's picture in bikini or underwear on Instagram's newsfeed. TikTok algorithm recommended eating disorder and suicide with razors and overdoses content very rapidly after tests runned by the Center for Countering Digital Hate in 2022.

POINT 2

WOMEN REPRESENTATION AND ACCESS IN THE DIGITAL WORLD

Known as the digital divide, inequality on the internet and ICT access affects disproportionately people worldwide. The ITU's report found that more than half of the total global female population (52%) is still not using the Internet, compared to 42% of all men. In the European Union, this gap is much smaller when it comes to internet use and internet user skills. 85% of women used the internet regularly in 2020, compared to 87% of men. A difference of 4 percentage points can be seen in the digital skills indicators: 54% of women have at least basic digital skills (58% of men), 29% have above basic digital skills (33% of men), and 56% have basic software skills (60% of men) in 2019. Nevertheless, women are still underrepresented when it comes to education in the digital field. In this sense, they are less likely to have specialized digital skills and work in this field than men. Only one in five ICT specialists and one in three science, technology, engineering and/or mathematics (STEM) graduates are women. This is justified by the gender gap in STEM especially in information and communication technologies in higher education. In 2020, 54.9 percent of women got a Bachelor in Natural Sciences, Mathematics and Statistics, 20.7 in Information Communication Technologies and 25.5 in Engineering, Manufacturing and Construction.

In addition, **only 18% of ICT specialists are women**, and the 12 indicators measured reflect this gap between men and women. The dropout rate from digital careers for women working in the digital sector is higher than for men, particularly for women between 30 and 44 years old as it corresponds to the time period in the EU when many of them have their first child and/or are caring for young children. In terms of leadership positions, when compared to other industries, women are still underrepresented in the information technology industry. When we look at the hierarchical level of women in commanding positions in the digital sector, statistics found that the more responsibilities there are, the fewer women are represented: **Only 14.8% of start-up founders are female.**

This under-representation of women which begins in education fuels gender stereotypes and the everyday sexism already prevalent in our societies.



POLICY RECOMMENDATIONS

1 Ensuring gender parity in management positions

It is important to ensure gender parity in decision making committees, task forces, high-tech corporate boards and advisory bodies.

Women representation at all levels of decision making will increase the range of perspectives for decision making and change gender stereotypes by presenting female role models.

Quotas will allow for greater diversity and inclusion in technologies, both in terms of gender and skills, especially for software developers, IA professionals or in the research field.

2 Developing a gender mainstreaming strategy

This strategy covers the deployment of effective initiatives for all women and girls in high schools and universities, including mentoring programs, webinars, workshops, initiatives, projects that promote science and technology education.

The gender mainstreaming strategy is an opportunity for women and girls to gain leadership, network, and collaborate in order to learn more and make rational choices for their professional careers.

POINT 3

ARTIFICIAL INTELLIGENCE AND GENDER BIAS

Artificial intelligence including machine learning offers a multitude of opportunities and can be both a carrier of diversity and reproduce discriminatory biases such as gender bias. Like cognitive bias, gender bias is a phenomenon that alters the result of an algorithm by making it **biased, non-neutral, or even prejudicial**.

As algorithms are deployed in more and more sensitive domains, such as law enforcement, justice, human resources or medicine, the societal consequences are increasingly profound and high-priced. Artificial intelligence can be subject to gender bias if they are trained on biased data or developed by individuals with biased perspectives. This bias can manifest in various forms, such as in natural language processing models that assign gendered language to certain professions or in facial recognition systems that are less accurate for women.

Some recruitment platforms over-represent technical positions for men, and, conversely, care-related jobs for women.

Amazon abandoned an internal project that attempted to use AI to verify applications after the software systematically downgraded women . But hundreds of companies, large and small, are using recruiting tools that probably have the same flaws, and their use is spreading.

According to Harvard Business Review, word embeddings can be a biased aspect of AI. Like a game of word association, these systems can often associate 'father' with 'doctor' and mother with 'nurse'

Facial recognition programs performed less well for black people but also less well for women. The Gender Shades project, which evaluates the accuracy of AI-powered gender classification products, shows that companies perform better for men than for women, with a difference of 8.1% to 20.6% in error rates.

POLICY RECOMMENDATIONS

1 Foster research on ethical AI to innovate and find new technologies to tackle gender bias

Efforts such as diversifying the data used to train AI models, increasing transparency in AI development, and involving diverse perspectives in the development process can help mitigate gender bias in AI.

Research would allow more innovation so that biases can be identified, documented, and used to define solutions, clean up data, and ensure that models work.

2 Strengthen the implementation on ethical IA within companies

Private companies must be responsible for the impact of their algorithms on people's lives.

Artificial intelligence creates new challenges in terms of ethics and data protection, which need to be addressed through the implementation of a preventive policy by companies.

3 Continue efforts to provide targeted training on gender issues

The voices of women, girls and other marginalized groups are urgently needed in decision-making processes.

Gender awareness in IA is really important. While this will not end gender bias, training will help reduce the risk of discrimination.

These trainings should be aimed at algorithm developers, designers, and other professionals involved in the process.

4 Setting up in all European countries an effective complaint procedure in case of discrimination or violation of fundamental rights due to AI

The European Union should recognize any violation due to AI by setting up a legal framework and protect European citizens.

Private companies must be held accountable for the impact of their algorithms on people's lives.



In conclusion, despite decades of collective efforts to promote gender equality in the digital world, women remain underrepresented in this field and in leadership positions. This underrepresentation not only limits the real growth potential of companies, but also reinforces gender bias. Committing to the cause of women also means integrating the multiple forms of discrimination they are likely to experience. It is important to take intersectionality into account in societies. This promotes reflection and action in favor of diversity.

While raising awareness about gender bias, online violence, and underrepresentation is an important first step, there are still many actions to be implemented. Beyond programs and projects, more comprehensive approaches are needed. In this sense, research should consider data with broader representation of gender variants, such as transgender, non-binary, etc. to help better understand how to manage increasing diversity.

Increasing the number of women in the digital sector could lead to an annual increase in the European Union's gross domestic product (GDP) of €16 billion. By continuing to address the gender disparities faced by women in this sector, we can create a more sustainable and equitable environment for all. This requires a collective action that includes states, private sector actors, civil social organizations and women collaborating, researching and developing gender-responsive solutions that integrate the gender dimension and contribute to development.



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