

Summaries of background papers, expert papers, and information papers

Background papers

Gendered nature of digital inequality: Evidence for policy considerations

Alison Gillwald, Executive Director, and Andrew Partridge, Research ICT Africa network

Summary of text:

Despite gender and digitalization being priority issues on the global agenda, there is a significant lack of gender-disaggregated data for evidence-based digital policy formulation, without which there is little way of tracking progress on the Sustainable Development Goals and their ICT sub-targets. Much of the data which does exist is poor in terms of accuracy and granularity, resulting in inaccurate data which may be even more harmful than an absence of data.

Despite a reduction in access-related gender inequalities as more people come online, women still access the Internet at a lower rate than men, and women users remain more likely to harness the Internet for social and communicative purposes and less so for 'productive' purposes, such as working from home, online business activities, platform work and human capital development. The Research ICT Africa After Access survey in 2018 found that when a small business is owned by a woman, it reduces the probability of the enterprise using the Internet by six percent. The limited data available indicates a similar pattern in the case of girls, who are less likely than boys to own a mobile phone, use the Internet or access information .

A lack of application of the standard definitions for ICT indicators and methodologies for ICT data collection developed by the UN agency responsible for the collection of ICT indicators, the International Telecommunications Union (ITU) and the need to conduct resource intensive demand side survey in order to be able to collect data in the predominantly

pre-paid mobile markets in global South, has contributed to the dearth of sex-disaggregated data globally. This is compounded by the fact that country data provided to the ITU by developing countries is often limited and outdated. The collection of both qualitative and quantitative research data is critical to effective policy formulation. Similarly, the heterogeneity of women across different country settings and demographics must be understood and accounted for to identify the precise and multiple points of policy intervention required.

Key recommendations:

- To increase Internet usage among poor women, States should create enabling environments for the private and public delivery of digital public goods through low-risk policy experimentation, the crowding-in of productive private and community resources, and low regulatory transaction cost models which utilize unused spectrum, particularly in rural areas, and in resource allocation to the creation of digital commons .
- Impacted people and communities must be actively included in all processes of policy formulation, regulation and governance to ensure more equitable digital and data outcomes.
- Policies intended at reducing digital inequality must be transversal to account for the cross-cutting nature of digitalization. New policy proposals must undergo gender impact assessments to ensure they do not reinforce and perpetuate existing inequalities.

- Policy interventions should positively discriminate in favour of those who are at the intersections of multiple inequalities and most marginalized from the digital economy and society. For example, subsidies and digital skills training programmes could be targeted towards women-owned microbusinesses.
- Global digital solidarity funding framework should be established to ensure the collection of digital statistics as public goods to inform evidence-based policy and global governance of digital public goods such as the Internet, data and cybersecurity.

Harnessing technology and innovation to achieve gender equity and empower all women and girls

Londa Schiebinger, John L. Hinds Professor of History of Science; Director, Gendered Innovations in Science, Health & Medicine, Engineering, and Environment, Stanford University

Summary of text:

Gender norms shape technologies, and technologies, in turn, shape gender and other social norms. Technology often reinforces vicious cycles where existing inequalities are amplified and perpetuated into the future. It is possible to break these cycles of inequality by integrating sex, gender, and intersectional analysis into technology research and design from its inception.

Gender distortions are built, sometime invisibly, into basic technologies. In mechanical engineering, design standards which are based on non-inclusive samples can have damaging material consequences. For example, current automotive technologies perpetuate a cycle of discrimination and injury to people who do not fit the profile of a mid-sized white male, with women 47% more likely to sustain serious injuries in automobile accidents than men. Historic and real-time bias built into AI, machine learning and robotics can similarly augment cycles of discrimination. For example, in Google Search, men are five times more likely than women to be offered ads for high-paying executive jobs, since the Google search algorithm returns advertisements for jobs based on the historic gender pay gap.

Sex, gender, and intersectional factors influence all stages of research. When the many axes of discrimination are considered and delineated from the outset, many harms can be avoided. In scientific disciplines, authors from minority groups tend to publish on research topics which reflect their social identities. This shows that the inclusion of women and minority groups in technology research and design is critical to ensuring the sector equitably serves society.

Technology can be leveraged to promote women's voice, agency, and participation. FemTech encompasses software, diagnostics, products, and services which use technology to support women's health. The myriad benefits of FemTech are gradually emerging, among them, improved treatments for women and greater gender equity in the healthcare system.

Key recommendations:

- Universities, industries, and peer-reviewed journals and conferences should implement ethics reviews of ongoing research and new technologies which encompass gender. Similarly, granting agencies should require applicants to explain how sex, gender, and intersectional analysis is relevant to their proposed research.
- Universities and research institutions should integrate knowledge of sex, gender, and intersectional analysis into core engineering and computer science curricula.
- An index for social equity and environmental sustainability should be developed for industry. While many industries have cultivated inclusive workforces, this must be expanded so that their products, services, and infrastructures are evaluated for social equity and environmental sustainability.
- Governmental and non-governmental organizations should address 'period poverty', including the exemption of these products from taxation and promoting the production and use of sustainable products.

Sub-theme 1: The gender gap in digital access and skills

What policies do we need to make the internet affordable to all?

Sonia Jorge, Executive Director, Global Digital Inclusion Partnership (GDIP), and Nathalia Foditsch, International Policy Consultant

Summary of text:

Binary definitions of online and offline are still used frequently at international and national levels. Such definitions of basic Internet are misleading. Access to the Internet depends not only on having meaningful connectivity, but also on having affordable access and a supportive social environment which facilitates women and men's full agency and abilities in their use of the Internet. The minimum threshold for meaningful connectivity alone requires sufficient Internet speed, the ability to connect with enough data at any time, and ownership of an appropriate device.

The gender gap in meaningful connectivity means that women are less likely to pursue education, schedule health appointments, or use online public services, among other barriers. Gaps in literacy and skills also sideline women from fully enjoying the range of opportunities provided by the Internet and digital services. The digital opportunity of rural women is particularly constrained, since they face both gender-based barriers as well as rural limitations.

As noted by the A4AI Cost of Exclusion Report: "Women already achieve incredible things in the digital economy. However, their experiences as content creators and entrepreneurs are more an exception than part of everyday life. Those who have been early leaders in their fields have been left vulnerable

to scams and abuse. Millions have been left behind without sufficient support to access the internet, know how it works, or realize their full potential in using it. If governments want to see a digital economy as a core engine to a post-Covid recovery, they must invest in gender-equitable foundations to include everyone."

Key recommendations:

- Governments should develop a Digital Strategy with gender-specific targets, which is time-bound, subject to continuous monitoring and evaluation and which engages women and gender experts in the processes of policy design.
- Governments should be intentional in creating policies and programs which facilitate access for women, including subsidizing smartphones and laptop devices, and incentivizing operators to establish differentiated pricing arrangements and reduced tariff data plans.
- Universal Access and Service Funds (USAF) and other permanent funds should be directed to projects aligned with closing the gender digital divide, such as digital skills training programs or community connectivity infrastructure projects. Almost 38 percent of low- and middle-income countries do not have a USAF, and when they do, they are largely under-utilized.

Gender and digital access gaps and barriers in Asia: But what about after access?

Helani Galpaya, Chief Executive Officer, and Ayesha Zainudeen, Senior Research Manager, LIRNEasia

Summary of text:

There is a consistent gender gap in technology adoption and use, across mobile phone ownership, Internet use, social media use, and digital skills, among other indicators. In several Asian countries, the key reason cited for women's digital exclusion is simply a lack of awareness of what the Internet is. Low levels of education and income, as well as gendered social norms, are also key to maintaining gender disparities.

Understanding the intrinsic role of gendered social norms in maintaining barriers to access requires context-specific understanding of the respective country or population to which it applies. In Pakistan, the gender disparity in access could be reflective of social norms which limit women's mobility, their role in household decisions, and their involvement in spending decisions. This can even be reflective of women's own conscious decisions to limit their use, in order to ensure safety and minimize additional disruptions in their daily lives. Conversely, qualitative research has shown that, according to social norms, women in Myanmar in fact play a central role in financial decisions in the household; however, due to affordability constraints in a newly liberalized economy, male household members are automatically prioritized since they are more likely to leave the house for work or study.

Access to a device and a connection alone are not sufficient to meaningfully transform the lives of women and girls. Ensuring women are aware of the range of possibilities for working, earning, and learning through technology is crucial to progress. A further prerequisite for women's economic

and social empowerment is the necessary digital knowledge, such as an understanding of how to set up and manage a social media business page or an online freelancing account. In an environment where services and demand are constantly evolving, the need for continuous upskilling and reskilling is particularly challenging for women, who experience greater time poverty. These constraints are compounded by illiteracy and confidence gaps, which place women at greater risk of digital threats.

Women without digital skills tend to lack the confidence required to use the Internet, with some restricting their mobile use to so-called 'application islands' due to the inability to adapt and apply skills to new applications. Often this is limited to social media. Women are also likely to rely on friends and family, who may have limited skills themselves, to teach them how to use mobile applications and services.

Key recommendations:

- There is a clear need to move beyond the focus on access and ensure that women are equipped with the knowledge, awareness and skills to leverage connectivity for their economic and social empowerment.
- Comparable gender-disaggregated data must be continually collected to monitor progress on primary indicators such as access and ownership, as well as on secondary level indicators such as digital skills. This work must encompass qualitative research for greater context-specific insight and take account of the special status of vulnerable groups of women to prevent further marginalization.

How to address stereotypes and practices limiting access to STEM-related education for women and girls

Milagros Sáinz Ibáñez, Director of the Gender & ICT Research Programme, Universitat Oberta de Catalunya (UOC)

Summary of text:

Paradoxically, contemporary research has identified that in more egalitarian countries, such as Norway or Finland, fewer women participate in STEM fields. Conversely, in countries where gender equality policies are less advanced, such as India, better levels of female participation in STEM fields can be observed. In the world's most developed countries, individuals tend to use self-expressive value systems of their occupational decisions in terms of motivation and interest. On the contrary, in countries with lower rates of equality, women justify their choice of STEM studies based on its ability to grant them economic autonomy.

The afore-mentioned pattern of underrepresentation in STEM has several implications, including the risk that technological products and services do not meet the needs and demands of women. There is also a tendency to make the contributions of women in scientific and technological fields invisible, while the contributions of men in these areas are highlighted. This impacts the way in which these contributions are taught in school and university contexts and the way women's contributions to an idea, or specific project, are valued in the workplace.

A complex array of factors (at different levels, i.e. environmental, social, school, and personal) shape women's underrepresentation in STEM fields. Societal stereotypes about the type of person who is expected to succeed in STEM career pathways, namely middle-class white males, discourage many young people who do not meet these attributes from studying STEM subjects. The belief that women are more competent in reading and languages, whereas men are more competent in science and technology seems to be endorsed by parents and teachers, who then shape children's perceptions of their own ability. Adolescents themselves assume these social beliefs in such a manner that they end up making these

beliefs a reality. Gender bias in learning materials is also thought to sustain gender differences in attainment, as well as the kind of classroom dynamics and teaching styles at play.

Key recommendations:

- Present interventions which seek to address stereotypes limiting girls' access to STEM education focus only on girls. Instead, girls' broader environment must be considered, including parents and teachers. It is also crucial to include boys and attempt to change their mindset.
- Schools must make unconscious bias training mandatory and train teachers to be able to actively work with students so that they can deploy positive and active coping strategies against sexist beliefs. Textbooks and didactic materials must be designed to help teachers make more visible women's contributions to STEM.
- Meetings should be facilitated between school-age girls and women in STEM with whom they can identify based on shared social and personal characteristics, such as a similar cultural background or ethnic group. Female teachers of STEM subjects should be made visible, especially for those students who are not in direct contact with female role models in STEM.
- Pre-conceptions about the lack of synergies between STEM and non-STEM disciplines should be challenged, and the social utility of STEM subjects should be emphasized, including its value in the fight against climate change, social injustice, and other current and future societal challenges. Innovative pedagogies in the teaching of STEM subjects must be promoted.
- Long-term, sustainable programs and initiatives should be promoted to raise girls' interest and participation in STEM.

Education in the digital age for women and girls: Recommendations from the Transforming Education Summit

The United Nations Educational, Scientific and Cultural Organization (UNESCO)

Summary of text:

Over the past 20 years, great advancements have been made in girls' and women's education. In middle- and high-income countries, girls outperform boys in reading at primary school, and in science at secondary school. Nevertheless, identity, background and ability continue to dictate educational opportunities. Regional inequalities are significant; in some countries the extreme exclusion of women and girls from educational contexts persists, while significant pockets of exclusion remain in others. The most marginalized learners face several layers of discrimination. In at least 20 countries, largely in sub-Saharan Africa, very few young girls in poor rural areas complete secondary school, while only 11 percent of the poorest girls in crisis-affected countries do so. The global shift to online learning and other forms of educational technology as a response to school closures during the COVID-19 pandemic has likely widened educational inequalities further. Multi-country research has suggested that boys are significantly more likely than girls to possess the hardware and digital skills needed to access learning opportunities through connected technologies.

With better planning and sensitization, the education sector's embrace of ed-tech during the pandemic could have helped 'un-gender' technology as 'male'. The uncompromising, rather than voluntary, move to online learning presented an opportune moment to help women and girls understand that they have the same right to use technology as boys. Unfortunately, evidence suggests that problematic gender stereotypes surrounding technology appear to have intensified. In the rushed attempt to keep learning opportunities intact following abrupt school closures, women and girls did not seem to receive special attention. While girls and women likely gained new levels of access to technology and improved their digital skills as a result of the shift to ed-tech, it is unlikely that this progress was sufficient to close gender gaps in skills and confidence.

Gender-responsive, rather than gender-blind or gender-neutral, approaches to digital learning are required to reconcile the deficits in technology access, skills, confidence and comfort for girls and women.

Key recommendations:

- Quality education must be provided as a public good and a human right. Universal access to broadband connectivity must be in place for teachers, students, schools, and other educational environments, and special efforts are needed to target women and girls with campaigns to expand access to and use of connected technology. Universal digital literacy for educational purposes must also be ensured, alongside digital content which is freely available, easy to access and use, and, where feasible, aligned with the formal curriculum. Formal education and other spaces of socialization and learning, such as community centres, libraries and museums, should be used as vehicles to 'de-gender' technology as 'male'.
- Gender equality should be at the heart of education sector plans, budgets, and policies. Gender disparities and their underlying factors must be identified at each stage of children's education, and budgets, strategies and commitments that eliminate harmful gender norms in pedagogy must be scaled up. Research on education technology must be financed and its impact, cost-effectiveness and equity implications assessed before it is applied to policies and programs.
- Platforms and tools must be designed to support rather than replace teachers. The capacity of teachers, counsellors and entire school communities should be scaled up to enable them to provide transformative education and career orientation, which deconstructs stereotypes and redresses gender gaps in digital literacy and STEM participation.

Universal and meaningful connectivity: Are the SDGs fit for purpose to report on progress for women and girls in technology? An approach for gender mainstreaming of the digital ecosystem

The International Telecommunication Union (ITU) / Broadband Commission

Summary of text:

At present, women are 25% less likely than men to have the basic knowledge required to access digital technology, four times less likely to know how to program, and 13 times less likely to file for a technology patent. Although girls and young women often outperform boys and young men in STEM education in developed countries, this has not corresponded to a narrowing of the gender gap in STEM leadership. Factors which inhibit women from progressing in technical fields include gendered social norms, and a lack of necessary infrastructure and funding, female mentors and role models, capacity building, and training.

Although policies and strategies aimed at bridging this gender disparity have been instituted by some governments, they are not ubiquitous. Gender is referenced in only half of national overarching ICT policies or Master Plans and over 40% of countries have no meaningful policies or programs to expand women's access to the Internet. In regions where there are fewer women involved in the policymaking process, the development of equitable gender policies is precarious.

Key recommendations:

- Efforts to increase network coverage, capacity and quality should be supported, particularly in underserved areas where a significant proportion of the population are women.

- Awareness campaigns, digital literacy programmes and formal education programmes should be leveraged to raise awareness of the threats that prevent women from accessing and using the Internet, and how they can be addressed or reduced. Awareness should also be raised of the potential benefits of women's access to and use of Internet-enabled content, applications, and services.
- The development of online content and services, including government services, which are accessible to women with limited literacy and digital skills should be supported. Women from these demographics should be included in the pilot and user testing stages of these services.
- To create a policy environment with a meaningful gender lens, policymakers in target regions should identify existing gender mainstreaming practices and any institutionalized coordination mechanisms in place. Projects should be aligned with the objectives of the respective region's national ICT policies, Master Plans or national strategic documents. Policymakers should consider leveraging the resources of institutions such as the national post office, which is likely to have offices throughout the country, to assist with logistical matters.

Sub-theme 2: Inclusive innovation ecosystems and digital transformation

Building gender-transformative innovation ecosystems supporting women's entrepreneurship

Patrice Braun, Adjunct Professor, Research & Innovation, Federation University Australia

Summary of text:

The information and knowledge transformation of the past two decades means that starting and operating a business in today's digital economy requires a level of digital entrepreneurship. During the Covid-19 pandemic, many enterprises were forced to shift their operations online to manage the demand for goods and services. Business model adaptation was particularly challenging for women entrepreneurs with enterprises in sectors traditionally associated with women, such as agriculture, tourism, food, and accommodation services, which were most severely affected by the economic downturn. E-commerce also proved challenging for women, who tend to hold lower levels of digital skills and have less free time to engage in online activities due to disproportionate household responsibilities. In the case of women-led informal, micro or small and medium-sized enterprises (MSME) in developing countries, pivoting to an e-commerce model was near impossible due to lack of digital literacy, stable Internet access, e-business skills, and e-payment capabilities, within both their own enterprises and their entrepreneurial ecosystems.

Research has shown that entrepreneurial ecosystems do not support female entrepreneurs to the extent they support male entrepreneurs. An inherent gender bias obstructs female entrepreneurs from equal access to ecosystem resources such as finance and markets, while weak governmental and private actor collaboration within ecosystems deters women entrepreneurs from accessing ecosystem pillars. As a result, many women entrepreneurs tend to 'go it alone'. Policies that take a holistic framework approach are pivotal to unlocking the potential of female entrepreneurs, whereby ecosystem actors

working closely together – with each actor making a unique contribution to the digital, entrepreneurial, regulatory, e-trade and training landscape – can achieve transformative innovation ecosystems.

Key recommendations:

- An inclusive systems-thinking and action research lens should be adopted to regularly evaluate women entrepreneurs' participation across all pillars of the gender-transformative innovation ecosystem. This should encompass the collection of sex-disaggregated data which addresses access to IT infrastructure, digital literacy skilling, resources, markets, financial support, and public procurement.
- A gender-transformative innovation ecosystem framework must be constructed to unlock the potential of women. This should embody holistic, gender-responsive supports to build women's entrepreneurial capacity and strengthen the digital talent-pipeline of women entrepreneurs. Solutions should be contextual and acknowledge women entrepreneurs as a heterogeneous group, located across widely differing geographic locations and innovation ecosystems, with widely varying resource, support, and educational needs.
- STEM programmes must be evaluated for impact and respect women's individual career choices. National education curricula, which are still saturated in print skills, must be transformed into 'digital' curricula. This could include the introduction of coding at kindergarten level to engage both female and male students in STEM at an early stage to prepare them for a digital career, workplace, and society.

Women, work, and digital platforms: Enabling better outcomes for women in the digital age

Sabina Dewan, President and Executive Director, JustJobs Network

Summary of text:

Over the last two decades the world has witnessed a proliferation of digital platforms and the emergence of an ecosystem of digital work. Against a backdrop of declining global female labour force participation rates, many policymakers wonder if this emerging world of online work will create more and potentially better labour market opportunities for women toward improving their participation rates.

The population of working age women is perhaps more heterogenous today than ever before. Women possess varying levels of education and skills; they come from a range of socio-economic and cultural backgrounds; they have different threshold conditions for labour force participation; and they engage with digital labour platforms in different ways. This heterogenous population of working age women is matched by an equally diverse universe of labour platforms. This paper examines women's experience with digital labour platforms along five dimensions of flexibility, autonomy, income, entitlements and labour protections, and representation. It looks at how women are faring in this emerging world of platform-mediated work, and what must happen to enable them to avail opportunities and see better outcomes.

Evidence suggests that online labour markets are at risk of replicating many of the same biases found offline. Women are drawn to the flexibility that platforms seemingly provide in when and where to work. Yet, this flexibility is frequently unrealized because women face a disproportionate burden of domestic and care work that fuels time poverty. When it comes to autonomy, despite being self-employed contract workers, platforms establish standards and norms; rating systems, and in many instances, set prices; all of these restrain autonomy. A lack of regulation means that, in many parts of the world,

gig work is not aligned to minimum wages. Since workers affiliated with platforms are considered to be self-employed, platforms are not obligated to provide welfare benefits. In the absence of government provision of entitlements, women engaging in work through digital platforms can be left without social security coverage, including maternity and health benefits. Finally, when workers are self-employed, and especially when they are home-based, the ability to associate and engage in collective action is diminished weakening women's collective voice.

Key recommendations:

- Harnessing the potential of digital platforms to improve labour market outcomes for women is contingent on addressing the same socio-cultural norms that have constrained women in the offline world for so long. Policymakers must be willing to highlight the need to address socio-cultural biases.
- There is a need to create an enabling ecosystem to support women's economic participation and employment, including the integration of safe transport options, lighting and toilets; investment in childcare and other time-saving measures; and developing women's human capital through equitable access to education, skills, and technology.
- Labor regulations and protections must be instituted for workers in the platform economy, including a minimum wage. Governments must move iteratively toward public provision of basic social security for all, with targeted efforts to ensure that women are registered to receive entitlements.
- More gender-disaggregated data must be collected on the incidence, characteristics, and experience of women engaging in digitally mediated work through platforms.

Innovation to tackle gender inequality: A back-to-basics roadmap

Anita Gurumurthy, Executive Director, and Nandini Chami, IT for Change

Summary of text:

Digital innovation ecosystems are situated in a corporate-led institutional framework and thereby reinforce socio-structural hierarchies, cement patriarchal gender power and perpetuate global injustice. To change the social gender order, it is necessary to approach digital technologies through a ‘public innovation ecosystem’ framework.

To support a public innovation ecosystem, the State should invest in connectivity infrastructure, as well as the platform, data and AI public goods necessary for social equity and inclusion. Technical protocols which enable the participation of less powerful actors in the economy should also receive investment, including public digital payments interface and public data exchange protocols.

To prevent capture of value propositions in digital innovation ecosystems, access-and-use conditions for innovation pools must be in place, as well as public oversight and scrutiny. Similarly, digital rights must be the basis for meaningful participation in digital society and its innovations. These rights needs to be contextualized in gendered terms, in full consideration of the unique socio-political factors which render women less powerful in the digital society.

Key recommendations:

- The Global Digital Compact should unequivocally embrace a human rights-, gender equality- and development justice-oriented approach. It must envision clear commitments through the Official

Development Assistance route for the financing of digital innovation ecosystems and institution development in the Global South to strengthen gender equality outcomes.

- The UN Technology Facilitation Mechanism should be channeled effectively to enable synergistic resource support and agile institutional coordination between UN agencies and national governments for a gender strategy development on digital public goods. The creation of a new global work programme similar to ‘STI for the SDGs’ will be productive in this regard.
- Protocols for gender aspirational design must guide the development of all digital public goods and infrastructure such as high-speed connectivity, public data pools and machine-readable data sets, public cloud infrastructure and public platform marketplaces.
- The digitalization and datafication of public systems and public services infrastructure in sectors such as education and health must be developed through public consultation and rule-of-law based systems.
- Local innovation hubs should be incentivized to stimulate women’s participation in the technology sector.
- Quotas and hiring targets in the private sector should be set and enforced by state agencies as part of the governance of market innovation systems.

Actions and solutions to facilitate women's careers in technology-driven work environments

Hilde G. Corneliusen, Research Professor, Leader for the Gender, Diversity and Technology research group, Head of Research for Technology and Society, Western Norway Research Institute (Vestlandsforskning)

Summary of text:

Research analysing why the gender gap in technology persists indicates a male-dominated culture of technology, which makes it more difficult for young women to envisage themselves in technology contexts. The 'ecosystem' which surrounds girls and women, including parents, school and employers, are also affected by these gender stereotypes. A Danish study found that while 70% of parents assumed that boys were more interested in information and technology (IT) than girls, only 1% of the parents imagined girls to be more interested in technology than boys. These attitudes affect the degree to which parents, and recruiters, actively encourage girls to participate in technology training and education.

A survey of young women which explored what had motivated them to study technology showed that exciting job opportunities were important, closely followed by a good salary and the importance of technology knowledge in solving societal challenges. Many of the positive drivers are similar between men and women; however, women place a greater emphasis on societal factors. A qualitative study found that few women receive adequate information about technology-related careers at school and that a minority of women who decide to study technology had been motivated through the school system.

A recruitment initiative in Norway was found to be effective in recruiting girls who had an existing interest in technology, since it provided the opportunity for girls to interact and be encouraged by women professionals in technology-related fields. This supported the girls' ability to envisage themselves in technology work. The recruitment

initiative was similarly found to encourage girls who had not experienced support for developing an interest in technology, since it compensated for a lack of such support at home or school. However, the study showed a tendency for schools to send only girls they already considered to be interested in technology, thus limiting the effect of such recruitment initiatives.

Key recommendations:

- The widespread assumption that girls and women are not interested in technology must be overturned. This assumption creates a self-perpetuating cycle, in which girls lack knowledge about technology, therefore do not express interest in the field, therefore are not encouraged to enter tech-arenas and continue to lack knowledge.
- In some countries, a strong public discourse exists which suggests that gender equality has already been realized, which implies that the continuous gender imbalance in STEM fields is a result of women's free choice. This post-feminist assumption is based on misunderstanding and ignorance of the continuous gender stereotypes which underpin gender inequality throughout the STEM field and must be overturned.
- Many women identify non-technological fields of interest as motivational for studying technology. The diversity of these interests should be recognized in educational institutions but also to support the future of work in fields such as the green transition, e-health, and artificial intelligence, which are in need of specialists with cross-disciplinary knowledge.

Preparing future generations of women for new jobs demands: skilling, re-skilling, digitalization and automation

The International Labour Organization (ILO)

Summary of text:

Globally, young women are twice as likely as young men not to be in employment, education or training. These gender gaps are even more pronounced when discrimination is compounded by intersecting factors such as disability, race and ethnicity, HIV status, SOGIESC and socio-economic status. Ensuring that current and future generations of women benefit from new or different job demands triggered by digitalization and automation requires closing digital gender divides as well as gender gaps in education, including technical and vocational education and training, and removing invisible barriers such as gender stereotypes, sticky floors and glass ceilings.

New technologies and digitalization can provide opportunities to increase women's access to decent employment, including through the facilitation of more flexible working arrangements and the potential reduction of certain occupational hazards. However, digital jobs, digital platforms and remote or teleworking working arrangements may come with risks of reinforcing gender roles and making online work a highly feminized alternative to office-based work. They may also limit women's opportunities to interact with others and remain visible in relation to career opportunities. Online work also carries an increased risk of exhaustion and burnout, a high degree of job instability and uncertainty, and the risk of gender-based violence and harassment enabled by information and communication technologies. Tackling these risks and preventing a deepening of structural gender-based discrimination and inequality requires a gender-transformative agenda.

Key recommendations:

- Equipping women with digital and technical skills is essential. Educational and vocational curricula should be updated to consider labor market trends. National training systems should offer upskilling targeted at young women, particularly those at risk of being displaced by machines or automated processes. The combination of training and on-the-job learning, including through quality apprenticeships, has proven to be successful in both developed and developing countries.
- Active labor market policies should be prioritized, including gender responsive employment policies, skills anticipation and development, to facilitate the transition to new occupations and jobs, or to changing demands within existing jobs. Such policies should pay particular attention to specific groups of women at risk of being left behind, such as women with disabilities, young women, racialized and indigenous women.
- Adequate social protection, including care policies and services which allow the redistribution of unpaid care work between women and men and between the family and the State, can reduce the current gender gap. Respecting rights at work, including women's rights to collective action, are also crucial to tackle discrimination in pay, safety and women's access to managerial and leadership positions.
- Social dialogue between employers' and workers' organizations can play a crucial role in minimizing the adverse impacts of digitalization and automation and maximizing the potential benefits of technological progress, including for advancing gender equality, equity and non-discrimination.

Sub-theme 3: Fostering Gender Transformative innovation and technology

A social justice framework for leveraging data science to advance gender equity

Lauren Klein, Winship Distinguished Research Professor and Associate Professor, Emory University, and Brandeis Marshall, Founder and CEO, DataedX Group

Summary of text:

In today's world, data is an instrument of power, with myriad applications ranging from medical research to response efforts in humanitarian crises. While corporations, governments, and other well-resourced institutions possess the ability to design and deploy data systems, those whose lives and livelihoods are most dependent on the output of these systems remain largely absent from the conversation. This unequal balance of data power can result in interrelated and intersectional harms, including discrimination and increased surveillance. It is possible to leverage data science to advance gender equity, but only if data science and research are ethically and intentionally envisioned from the start.

The unequal balance of power with respect to data science consistently emerges in decisions about what kind of data is collected, what research is undertaken based on that data and how the data is categorized. The interests of those with power, including corporations and governments, disproportionately influence the range of issues addressed via data science. For example, in the United States, women were wholly excluded from medical trials until 1993, due largely to gender bias, as well as concerns over fertility, reproduction and women's fluctuating hormonal levels. This has resulted in generations of medical research which reflects no meaningful sex differences in terms of prevalence of illness, response to treatment and severity of outcomes.

Key recommendations:

- The social, political and historical context surrounding any dataset must be acknowledged through documentation and other qualitative forms of information gathering. Attending to the context of any particular dataset leads not only to more accurate and more truthful data analysis, but also helps to ensure the efficacy and appropriateness of any intervention developed in response to that analysis. Similarly, the ways in which structural power impacts the creation of datasets and data systems must be acknowledged and accounted for.
- Impacted community members must be included as co-designers in any data science project. Participatory design processes such as these can help to ensure data-scientific research is directed towards the issues and opportunities desired by the communities themselves.
- Transparency should be codified through meaningful audits, impact assessment, and individual and collective reflexivity, with the goal of making clear the outcomes and impact of datasets to prevent digital harms. Institutions must be held accountable for the failures and harms of data systems through forceful legal, financial and technical consequences.
- The different forms of labor involved in data work must be credited and compensated. Many forms of data work, on which gender equity increasingly depends, take a psychological toll on researchers.

The gendered impacts of AI and frontier tech: Policies and safeguards to regulate new technologies, mitigate risks and protect rights

Eleonora Lamm, Advisor, Bioethics and Ethics of Science for Latin America, UNESCO Social and Human Sciences Sector; Gabriela Ramos, Assistant Director General, UNESCO Social and Human Sciences Sector; Elettra Ronchi, Adjunct Lecturer to Science Po, School of Public Affairs, Paris; and Mariagrazia Squicciarini, Chief of Executive Office and Director a.i., UNESCO Social and Human Sciences Sector

Summary of text

Artificial Intelligence (AI), as defined by UNESCO, are computer technologies which resemble processes associated with human intelligence, such as reasoning, learning and adaptation, sensory understanding, and interaction.

Recent rapid advances have highlighted the many opportunities of AI, as well as emphasized fundamental ethical issues of social and economic justice which must be addressed. In particular, there are significant challenges in ensuring that AI does not exacerbate societal biases, inequalities and divides which lead to discrimination against or exclusion of certain populations, notably minorities along identities of gender, race, ethnicity and religion. Such bias can be reflected or amplified in AI by simple statistical error or through conscious and unconscious assumptions about race, gender, or other ideological concepts and social stereotypes. However, present efforts to address the risks of bias in AI remain largely focused on computational factors, such as the statistical representativeness of datasets.

Despite the growing recognition of their significance as sources of AI bias, both human and systemic institutional and societal factors are still being overlooked. The pervasiveness of AI technology and the speed and scale of digital transformation mean that such issues may become impossible to fix if they are left unaddressed. To that end, the UNESCO Recommendation on the Ethics of AI, adopted at the 41st General Conference in 2021, provides a comprehensive framework to guide Member States in the formulation of policies and regulation, aimed at making AI ethical and inclusive by design.

The Recommendation includes an entire policy area dedicated to gender, which lays out a roadmap of system-wide concrete actions to ensure that AI developments do not leave behind women, the marginalized and the most vulnerable. It underlines the need for governments to put in place positive actions aimed at the full inclusion of girls and women in AI and to set up new education and training strategies which are gender-inclusive to mitigate the impact of labour market shifts triggered by AI development and deployment, both in terms of the numbers and profiles of jobs in industries, and in terms of skills requirements. Finally, the Recommendation calls for actions to ensure that AI technologies not only refrain from creating new gender divides, but that the opportunities offered by AI and automation are leveraged to help address existing ones.

Key recommendations:

- Member States should ensure that AI is made ethical and inclusive by design through system-wide actions.
- National digital policies should include a gender action plan to ensure existing gender stereotyping and discriminatory biases are not translated or amplified into AI systems and that women are not left out of the digital economy powered by AI.
- Member States should promote economic and regulatory incentives and policies which aim at balanced gender representation in all stages of an AI system life cycle, in AI research and development. Member States should encourage female entrepreneurship, and representation in AI companies' top management positions.

Driving digital financial transformation in support of SDG 5: Recent gains and remaining challenges

Yasmin Bin-Humam, Financial Sector Specialist, and Diana Dezso, Consultant, Consultative Group to Assist the Poor (CGAP)

Summary of text:

Digital financial inclusion can be defined as ‘digital access to and use of formal financial services by excluded and underserved populations’. Access to and use of digital financial services, which are designed to meet women’s needs and incentivized through policies which make them safe and affordable, leads to women’s active participation in the formal economy, increased GDP growth, higher labor force participation, and improved household bargaining power. Despite recent progress, three quarters of a billion women are still formally excluded from the financial system.

The gender gap in digital financial inclusion is maintained by several factors. These include existing gendered social norms which dictate that financial matters are the domain of men. These social norms may lead to the perception that women are incapable of making financial decisions and that it is inappropriate for women to undertake work outside the household. Gendered social norms also influence the type of products supplied by financial service providers, who generally perceive financial products as gender-blind or neutral. This can result in product terms, marketing methods, and distribution channels which do not meet women’s needs. Gendered legislation also serves as a barrier to women’s financial inclusion, whereby women’s ability to own, manage and control property, enter contracts and open accounts is restricted by law.

The gender gap in digital financial inclusion is also maintained by gender disparity in mobile phone ownership. Women cite mobile phone ownership and a lack of official identification documentation as key reasons for their lack of participation in the financial system. Barriers to obtaining identification are more common for married women. Limited digital skills and financial literacy similarly constrain women’s access to digital financial services. These factors also make

women more vulnerable to cyber fraud, SMS and voice phishing, identity theft and online harassment.

Key recommendations:

- In tandem with deepening of the digital payments ecosystem, payments of government social benefits to women should be digitized. A digitized social protection program should be reliable, accessible, flexible, secure and accountable and provide women with agency at every step. Together with this, policy frameworks should be established which encourage businesses to digitize wage payments and merchant payments, and digital remittances should be made more affordable. Enabling pervasive, gender-sensitive cash-in-cash-out networks will be crucial.
- Policies should be developed to encourage women’s access to identification documents, including where appropriate the provision of women-only registration counters, mobile registration services which bring enrollment closer to women’s homes and marketing campaigns which are tailored to women. Legal barriers to obtaining identification documentation should be removed and tiered, gender-sensitive know your customer requirements should be applied by financial service providers.
- Financial capability should be integrated into government cash transfer programs to reach women with timely and relevant training, while national strategies should address key aspects of consumer protection, risks and redress mechanisms.
- Policy makers should incentivize the collection, analysis and use of demand and supply side gender disaggregated data by financial service providers and legislators.

What mechanisms can ensure digital technologies favor inclusion and close gender gaps?

Elena Estavillo Flores, Chief Executive Officer, Centro-i para la Sociedad del Futuro

Summary of text:

The digital ecosystem has the capacity to accelerate the advancement of women and connect them with opportunities to improve their income, continue their education, access health services and participate politically. Despite general progress in digital uptake, emerging technologies have been shown to breed new dimensions of the gender digital divide.

Women engage in a narrower range of digital activities than men, particularly in the case of emerging technologies, such as big data, blockchain and the Internet of Things. Similarly, the participation of women as creators and decision makers in the field of digital technologies is very low. Women-led design and women's participation in investment, research, public policy design and business is paramount to the emergence of technology which responds to women's needs, aspirations, circumstances, preferences, and priorities.

Gender gaps persist across the digital ecosystem due to the failure to modify an underlying system of discrimination against women. Existing efforts to change this system have focused largely on its consequences and outputs, rather than on the drivers of discrimination. Gender perspectives remain largely absent from policy-making process and gender-disaggregated data which supports diagnosis, analysis, problem-solving and public policy evaluation is still lacking. A permanent solution to the gender digital divide requires a transformation in culture, which calls for a systemic approach.

Key recommendations:

- Gender perspectives should be applied to all processes of policy-making and technology design, including Internet governance, content moderation, algorithmic programming, research and innovation, policymaking and evaluation, and data processes, among others. Gender perspectives can be captured through the use of methodologies, questionnaires and guidelines. Stakeholder training, particularly in the case of regulators and authorities, is critical in ensuring the integration of gender perspectives. Gender-disaggregated data must be collected and utilised in all efforts to bridge the gender digital divide.
- A systemic approach must be employed to bridge the gender digital divide. Stakeholders must work collaboratively and strategies must acknowledge the cross-cutting factors which underpin patterns of gender inequality. The root causes of the gender digital divide should be addressed and the power imbalances between men and women interrupted.
- Disruptive shifts must be encouraged within technology companies, including the elimination of discrimination and gender pay gaps, and the promotion of diversity and inclusion to create workplaces which are safe for women. Digitalization should support labor flexibility and should not impede women's salary, job security, or career advancement.
- Financial resources must be directed to women-led ventures, inventions, research, and projects.
- A care economy, which redistributes social, private, and public responsibilities, must be cultivated to support women's participation in the labor market.

Embedding gender in technology development to ensure that innovation meet the needs of women and girls

The United Nations Children's Fund (UNICEF)

Summary of text:

Gender equality in innovation and technology should not concern the design of new tools, platforms or applications which serve the needs of girls. Rather, it should focus on the reimagining of how innovations in policy, management, finance, science and technology can be collectively approached and disrupted so that they become inclusive of all genders and increase awareness and availability of opportunities.

At present, gender-based discrimination reduces the average number of years girls spend at school by 16 percent, which amounts to an overall reduction in the global income of USD \$6 trillion. In industry, nearly half of all countries in the Gender Index prohibit women from entering certain professions.

The conservation and availability of data on women in the technology industry is scarce, and often based on the perception that women and girls face different levels of willingness and capacity to participate and benefit from technological innovations. This 'lack of interest' rationale is misleading, as it hides social and normative determinants which hinder women and girls' access and willingness to engage with the technology industry. When out of context data is shared by the media in relation to the gender digital divide, it can lead to misinterpretation and confusion. To overcome this confusion, it is necessary to investigate digital literacy and learning with a gender lens to understand what hinders girls' ability to access and use technological tools and services.

More data is required to understand the benefits of using technology in childhood and its connection to adolescent study and career choices. This data could similarly shed light on the transferability of skills to the professional world and how early-age connectivity affects women and girls' integration into the work force. Data is also required to enable better understanding of how a lack of female perspectives in the design and development of technological products impacts the overall user experience of women and girls.

Key recommendations:

- It is crucial to advance leadership opportunities for adolescent girls. Part of this effort should involve engaging boys and men as allies.
- A systemic multi-stakeholder approach, as well as sustainable investment, is required across the tech industry to ensure technology and innovation design and development meets the needs of women and girls. Gender lens criteria should be in place for investment in technological solutions, programmes and innovation policies, including efforts to capture women and girls' voices in the design and testing phases.
- The United Nations has a legitimate, relevant, and timely role to play in fostering systemic approaches, as well as accelerating innovative solutions with a gender lens, with the aim of increasing the market's trust in women-led solutions.

Sub-theme 4: Addressing online and technology-facilitated gender-based violence and discrimination and protecting the rights of women and girls online

The impacts of online gender-based violence and disinformation on women politicians in representative democracies

Dhanaraj Thakur, Research Director, and Asha Allen, Advocacy Director for Europe, Online Expression & Civic Space, Center for Democracy & Technology

Summary of text:

Women are under-represented in government at executive, national and local levels in almost all countries. Gendered disinformation and online gender-based violence (OGBV) are part of a larger problem of violence against women in politics, with both seeking to undermine the political efficacy of women in public spaces. OGBV targeted at women politicians is predominantly directed against them because they are women and less so because of their political views or policies. As with gender-based violence, where the perpetrator uses violence to control the woman, perpetrators of OGBV against women politicians are attempting to control how the public views them. A similar trend can be observed in the case of women journalists.

Gendered disinformation is a related problem. Gendered disinformation campaigns aim to undermine women political leaders by spreading false information about their qualifications, experience, and intelligence; sometimes making use of sexualized imagery as part of their tactics. These campaigns are predicated on existing discrimination against women in society and may characterize women candidates as not being qualified for a position, lacking the requisite knowledge or experience for a role; or as persons who are too emotional for the task. The goals of gendered disinformation can include maintaining the status quo of gender inequality or creating a more polarized electorate. These campaigns can make politically engaged women more likely to reconsider their ambitions and victims can face significant long-term effects, including physical and psychological damage.

Key recommendations:

- The United Nations should provide additional resourcing to facilitate and support the development of research into gendered disinformation, with the objective of determining its collective impact on the participation

of women, transgender, and non-binary individuals in public life. Addressing the challenges faced by women politicians requires intersectional analysis which takes account of multiple sources of oppression interacting simultaneously. UN Women should be provided with the requisite resources to support Member States to develop training on gendered disinformation.

- Policymakers must adopt a holistic perspective when developing responses to OGBV. Bolstering the existing legal framework or introducing new legislation is appropriate to address some forms of OGBV, while other instances require a co-regulatory approach, including improvements in content moderation mechanisms and due diligence from online platforms.
- It is vital to ensure that initiatives to combat OGBV and disinformation are proportionate and that they do not unintentionally infringe upon the rights of those they aim to protect, including their rights to freedom of expression and freedom of participation.
- Regulators should require technology companies, including social media platforms, to commission independent human rights impact assessments on incidents of OGBV and gendered disinformation, including number of incidents, reports, and resolution of cases, which are broken down by gender identity, sexual orientation, disability status, and other important demographic categories.
- Technology companies should explore ways to make more data about their platforms available to independent researchers in a manner which is secure and preserves privacy. This could enable researchers to better understand the trends and impacts of OGBV and gendered disinformation, as well as to evaluate potential solutions.

The effects of social media on girls: Keeping children safe, preventing abuse and cyber-bullying, and mental health issues

Nyama Gusona Celestina Marvel, Youth Envoy, ITU Generation Connect Africa Youth Group, and Ian Makamara, Youth Envoy, ITU Generation Connect Africa Youth Group

Summary of text:

Social media has transformed the relationship between citizens and governments and the way information can be shared across geographical boundaries. This has greatly facilitated women's rights movements, with platforms such as YouTube, Facebook and Twitter enabling activists to transmit events in real time and increase public engagement with women's rights issues. Similarly, social media has facilitated the creation of tools to tackle gender-based violence and has provided a platform for knowledge exchange around welfare and support services for victims.

In 2020, girls younger than nine years old spent an average of two hours online each day, with the majority of time spent consuming videos, especially on YouTube. This growth in Internet usage means girls and young women are increasingly exposed to stereotypes and perceived expectations related to their physical appearance, which can lead to poor body image and low self-esteem. Women and girls are also more vulnerable to non-consensual image or video sharing, rape or death threats via social media, online sexual harassment, stalking, gender-based cybercrime, and cyber flashing. Over half of girls aged 15-25 have experienced online abuse, with 20% leaving social media and a further 12% altering their online behavior as a result. Scholars have even suggested that greater use of social media may be responsible for the recent increase in suicide rates among adolescent girls. Existing initiatives to tackle social media-facilitated gender-based violence include victim helplines, awareness campaigns and incident reporting centers.

Key recommendations:

- Social media platforms should adopt international frameworks on human rights and privacy-by-design principles and make granular data on online gender-based violence available and comprehensible.
- Social media platforms should invest in content moderation and localization software to enable swift and accurate detection of incidents and make legal information and information related to mental health support services available to their users, with translations in local languages.
- Governments should establish frameworks which connect digital public goods, such as open-source software, open data and open AI models to supporting policies on data governance, data protection and cybersecurity. A strong legal framework to prevent and combat gender-based violence, online and offline, should be formulated and applied effectively.
- An operational framework should be established to support the mental health of social media users, including the provision of psychological counseling on online addiction, support to victims of online bullying and harassment, and the creation of awareness campaigns and accountability channels. Innovative methods of policy implementation should be leveraged, such as the use of gamification in efforts to educate children about online safety.

Freedom of expression and participation in digital spaces

Jan Moolman, Co-Manager, Women's Rights Programme; Hija Kamran, WRP and Gender IT Coordinator; Erika Smith, Take Back the Tech Campaign Coordinator; Association for Progressive Communication

Summary of text:

The role of Internet intermediaries in governing and regulating the Internet is being increasingly scrutinized. Poor responses to incidents of online gender-based violence are resulting in platform-based censorship and women's self-censorship, rather than recourse or redress for victims of harassment, particularly for those in non-English speaking countries. Feminist activists who denounce rights violations or engage in educational and advocacy work, especially regarding sexual rights, have their communications channels regularly targeted through social network reporting mechanisms, resulting in temporary or permanent account closure. In contrast, in cases women have reported threatening comments, they have been informed that such content does not contravene community standards. This suggests an inherent sexist bias among support staff and company policies.

States have responded to calls for action on gender-based violence with conservative, often moralistic, protectionist measures which bring tension around multiple rights. In many countries, the use of legislation to regulate social media has been used to stifle dissent and become a tool for intimidation which forces critical voices to be silent to avoid prosecution. In considering any restriction on these rights, States must consider the importance, nature and extent of any limitation proposed and opt for the least restrictive means to achieve that purpose.

Displays of women's naked bodies are frequently interpreted, both in company terms of service and by other users, from a moralist point of view which automatically sexualises the female body for the male heterosexual gaze. The censorship of women's representations of their own bodies denies their right to political, creative, sexual and other expression.

Key recommendations:

- Elaborate on and further develop a comprehensive definition of online gender-based violence which reflects both the continuum of violence and the common root causes, as well as the particular experiences of victims based on the unique specificities of digital technologies.
- States should adopt legislation which protects women's right to freedom from violence and offers means of swift redress for victims. Legislation must foreground rights to bodily autonomy, self-determination, freedom of expression and rights to participate in public debate, and should be designed through consultative processes.
- The Human Rights Council, in collaboration with the special procedure mandate holders and the Office of the High Commissioner for Human Rights, should initiate a multi-stakeholder consultative process to develop guidelines on gendered hate speech and disinformation, along the lines of the Rabat Plan of Action. As part of this, sex and gender should be recognized as protected characteristics.

Addressing Gaps and Limitations in Legal Frameworks and Law Enforcement on Technology-facilitated Gender-based Violence

Suzie Dunn, Assistant Professor, Dalhousie's Schulich School of Law

Summary of text:

Despite the widespread nature of online gender-based violence (OGBV), many victims struggle to access adequate support. Content moderation practices of social media platforms are not accessible or effective, and friends and family are often under-educated in how to respond in a supportive manner. There is a clear need for governments and law makers to respond to OGBV through the establishment and enforcement of appropriate criminal and civil laws. Some forms of OGBV are already prohibited by existing legislation, such as stalking or harassment. In other cases, legal frameworks need to be expanded and amended to ensure they account for the distinct specificities of online violence. For example, existing privacy laws may not be comprehensive enough to capture certain forms of online abuse, such as the dissemination of sexual deepfake images. Other regulation may be overly comprehensive or vague and inadvertently lead to content removal, undermining critical discussions including those around sexuality, gender and reproductive health.

Many victims of offline gender-based violence report being discredited when reporting incidents to police and experiencing inappropriate discriminatory treatment during legal proceedings. Addressing systemic bias in the legal system is critical to ensuring just legal outcomes for victims of OGBV. Some victims from marginalized communities may have legitimate distrust in the effectiveness of the criminal justice system, due to a range of factors including pervasive discrimination against their communities by legal authorities, historic and ongoing police brutality,

or the financial inaccessibility of legal remedies. Victims of OGBV such as these could benefit from access to alternative legal avenues, which do not require interaction with judicial authorities, such as administrative bodies or civil torts.

Key recommendations:

- Existing legislation must be reexamined to ensure it captures the specific nature of online gender-based violence. Any new legislation on OGBV should be grounded in a victim-centered, trauma informed approach which addresses the intersectional nature of OGBV.
- Addressing sexist and other discriminatory bias in the legal system is critical to ensuring a just response for all victims of OGBV. Governments must ensure that actors in the legal system have the appropriate technical knowledge to collect and understand evidence related to technology-based offences.
- In cases where personal information or intimate images have been distributed without consent, the swift removal of content is critical to limiting the associated harms. The introduction of fast-track legal processes, which circumvent lengthy court proceedings, would enable incidents such as these to be addressed without delay.
- To eliminate OGBV, a societal shift in online behavior is necessary. To better evaluate progress, governments must invest in research which focuses on understanding and tracking patterns of OGBV, and which measures the efficacy of existing prevention initiatives.

Interlinkages between women’s rights and digital technologies, civic space, data and privacy, and freedom of expression

The Office of the United Nations High Commissioner for Human Rights (OHCHR)

Summary of text:

Open, secure, affordable, and high-quality Internet access has opened space for women and girls, including those with diverse sexual orientation, gender identity or sex characteristics, to engage in new channels for influencing public debate and decision-making. Nevertheless, women and girls remain particularly vulnerable to threats and attacks in online spaces, especially in the case of those who do not conform to social norms which justify gender stereotypes and gender-based discrimination. In particular, women human rights defenders, female journalists and politicians who speak out on feminist issues, or who come from racial, ethnic, religious or minority groups, face abuse at higher rates and in different ways than men.

Surveillance technology, such as Pegasus spyware, and other tools enabling systematic monitoring of online and offline public spaces, has facilitated mass and targeted surveillance by governments, private actors and individuals, with disproportionate impacts on freedom of expression on women human rights defenders, activists, and victims of violence and abuse. Surveillance is particularly relevant for women given the recurrent use of private information and communications in attacks against them. Nearly every detail of women’s intimate lives is vulnerable to multiple forms of surveillance, from domestic violence to sexual objectification and reproduction.

In addition to surveillance, women and gender nonconforming people also face censorship. Online content moderation by social media companies and platforms involves a mix of human review and algorithms. The removal of content and imagery produced by women, especially those from minority groups, has been consistently reported.

Key recommendations:

- Governments must commit to expanding the online civic space for women and girls human rights activists. Efforts to eliminate OGBV must be carefully formulated so as not to create space for expanding censorship and surveillance. Regulations with overly broad definitions may inadvertently lead to content removal, ultimately undermining women's ability to use their voice. Legislation prohibiting ill-defined concepts, such as “obscenity” or “immorality”, may be used to limit critical discussions about sexuality, gender and sexual and reproductive rights.
- Human rights law provides a solid foundation for regulating online spaces. Governments, together with the private sector, should adhere to the UN Guiding Principles on Business and Human Rights in all their practices and systematically conduct human rights due diligence throughout the lifecycle of the AI systems they design, obtain or operate and incorporate a gendered lens.

Recommendations on Online and ICT-facilitated Violence Against Women and Girls

The United Nations Entity for Gender Equality and the Empowerment of Women (UN Women)

Summary of text:

The continual evolution and innovation of digital technologies facilitates existing forms of gender-based violence and breeds novel forms of online gender-based violence (OGBV) as well. The scale, speed, and ease of Internet communication combined with anonymity, pseudonymity, affordability, impunity and limited liability, coupled with the lack of preventive and response measures, facilitates the proliferation of gendered hate and harassment. Since the beginning of the COVID-19 pandemic, there has been a global increase in various forms of OGBV. In recent years, there has also been a growth in coordinated groups engaging in sexual harassment against women, including men's rights activists, incels (involuntary celibates), and other groups engaging in the 'manosphere', and there is also growing evidence of links to extremist groups.

For many years, States and private companies, including Internet intermediaries, civil society and women's rights organizations have worked to document, prevent and respond to OGBV. However, there is an absence of normative frameworks which have been explicitly developed to consider the unique contexts of technology-facilitated violations, with many countries struggling to keep pace with the rapid evolution of technology and emerging forms of OGBV. The lack of a common definition and comprehensive and accurate data collection, including standardized concepts, operational definitions and measures has led

to fragmented approaches and a lack of comparable and reliable data. As a result, there are significant knowledge gaps about the nature, prevalence, impacts and drivers of OGBV, and it is often underreported.

Key recommendations:

- States must recognize OGBV as a human rights violation and private companies must work proactively to consider how to apply guidelines to their existing platforms and ongoing upgrades. UN Agencies should support this process through guidance development.
- Efforts to prevent OGBV must engage men and boys with other partners efforts to change harmful attitudes, perceptions and behaviors at a broader societal level.
- Women and girls should be empowered to participate in the technology sector and to inform the design and use of safe online spaces. Private companies, including Internet intermediaries should develop technology which is gender-responsive by design in consultation with women's rights organizations.
- Women and girls who use online spaces should be able to access information on how to ensure their safety online, including information about existing safety protocols.