

# Making Innovation and Technology Work for Women

UN Women's work in innovation and technology

September 2017





The 2030 Agenda for Sustainable Development is anything but business as usual. We need not incremental change, but bold change. We need an earthquake that will tilt the system altogether, because little and incremental steps will not give us the world that we want.

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## Overview

World leaders from 193 nations adopted by consensus the 2030 Agenda for Sustainable Development, along with a set of 17 Sustainable Development Goals (SDGs) at the United Nations General Assembly in September 2015. The 2030 Agenda is extremely ambitious. Contrary to the Millennium Development Goals that aimed to address the fundamental needs of those at the bottom of the pyramid in developing countries, the 2030 agenda is universal. It has the ambition to apply to developed countries as much as to developing countries. It also has the ambition to reconcile the four dimensions of sustainable development: social, environmental, economic and political. Furthermore, it has the ambition to leave no one behind, irrespective of their socio-economic conditions, location, religious, ethnic or political affiliation.

The achievement of the ambitious Sustainable Development Goals (SDGs), notably gender equality and women's empowerment, requires transformative shifts, integrated approaches, and new solutions. Based on current trajectories, existing interventions will not suffice to achieve a Planet 50-50 by 2030. For example, it will be 95 years before there is parity in girls' lower secondary education for the poorest 20%<sup>1</sup>; it will be 50 years before there is gender parity in politics at the parliamentary levels<sup>2</sup>; and it will be 170 years before women worldwide will earn as much as men.<sup>3</sup>

Innovative approaches are central to delivering the SDGs for all. Innovations in policies, management, finance, science and technology that disrupt "business as usual" are increasingly being recognized as a precondition to accelerate the achievement of SDGs for all. From mobile banking ventures that facilitate women's entrepreneurship to e-learning platforms that take classrooms to individuals, social innovations have the potential to serve as a powerful tool to break trends and increase the awareness, access and availability of opportunities for marginalized groups.

However, history shows that innovation is not a certainty and does not automatically benefit all alike. Notably innovation does not benefit women and men equally. For example, medical research has long been blind to biological sex differences, treating women like men even though a range of factors such as body size, proportion of fat to muscle, and hormones, means that women's tolerance, side effects and benefits from drugs and treatments differ significantly from men.<sup>4</sup>

<sup>1</sup> Education For All Report, 2014

<sup>2</sup> World Economic Forum Global Gender Gap Report, 2015

<sup>3</sup> World Economic Forum Global Gender Gap Report, 2016

<sup>4</sup> Scientific American (September, 2017) It's not a women's issue.

Gender blind innovations will fail to reach 100% of its target customer base and could result in trillion of dollars lost to the global economy.

UN Women has identified a number of barriers that contribute towards creating and sustaining the gender gap in innovation and technology:

**1. Limited market awareness & investment in innovations that meet the needs of women.**

- Research bias
- Lack of gender-disaggregated data
- Constrained market demand
- Lack of affordable finance

**2. Gender-blind approach to innovation.**

- Lack of dedicated methodologies and tools
- Limited sharing of knowledge and practices

**3. Under-representation of women as innovators and entrepreneurs.**

- Gender-science stereotypes
- Biases in recruiting, promoting and evaluation processes
- Lack of access to flexible schedules and work-life policies
- Lack of role models for female innovators and entrepreneurs

**4. Perceived high risk, low reward profile of investing in innovations for women and girls, particularly from marginalized groups.**

Efforts by individual entities to address each barrier separately are unlikely to achieve transformative change. In order to address these barriers in an integrated manner and build coalitions for change, UN Women - the United Nations lead entity and global champion for gender equality - has prioritized innovation technology as one of the “drivers of change” within its new [Strategic Plan, 2018 – 2021](#) and established an Innovation Unit. Through a partnership approach and as articulated within its [Innovation Strategy](#), UN Women’s Innovation Unit focuses on:

1. Developing the market for innovations that advance gender equality and women’s empowerment;
2. Promoting a gender-responsive approach to the innovation cycle;
3. Promoting innovations created by women, for women; and
4. De-risking high impact innovations that benefit marginalized women.

This paper further details each of the barriers mentioned above and outlines the concrete action that UN Women and its partners take to address them.

## 1. Innovation Market for Women

Innovation, technology and entrepreneurship are engines for advancing gender equality and women’s empowerment by increasing women’s access to education and socio-economic opportunities. In turn, empowered women also have the potential to benefit these sectors by providing needed skills and talent, as well as new markets, which could unleash huge economic potential (Figure 1).<sup>5</sup> For instance, according to GSMA (2015), closing the gender gap in mobile phone ownership and usage could unlock an estimated \$170 billion in market opportunities for the mobile industry by 2020.<sup>6</sup> However, this potential is constrained by a number of barriers.

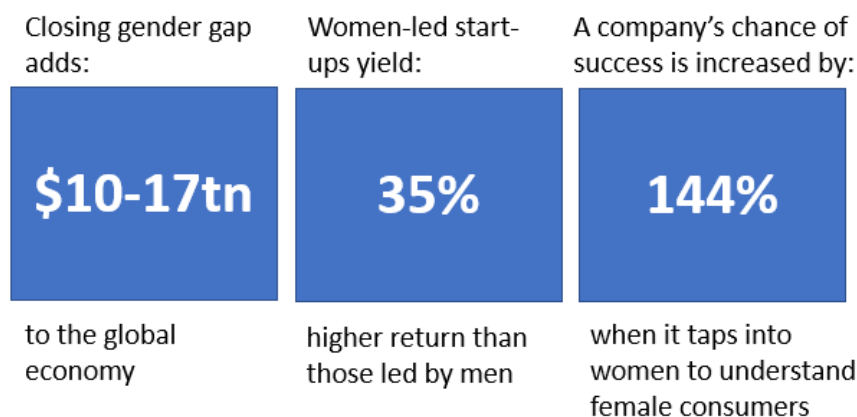


Figure 1 – The Business Case for Closing the Gender Gap<sup>7</sup>

### Barriers to a gender-responsive innovation market

- Lack of understanding about the unique needs of women – the research bias:** Innovation-based research and practices have not focused on gender differences.<sup>8</sup> This is particularly the case in the medical and engineering design fields where men are taken as the norm. Women are grossly under-represented in human clinical trials and medical studies often do not break out statistics for women if they are included.<sup>9</sup> This gender-bias in medical research results in incorrect diagnoses and poor treatment. For example, research in heart disease has relied on reference models that treat men as the norm, despite the fact that ischemic heart disease is the number one killer of U.S and European

<sup>5</sup> <https://solve.mit.edu/challenges/women-and-technology>

<sup>6</sup> GSMA (2015) Connected women: Bridging the gender gap: Mobile access and usage in low and middle-income countries.

<sup>7</sup> Source of Figure 1:

<https://solve.mit.edu/challenges/women-and-technology/solutions/1400>;

[http://www.huffingtonpost.com/entry/move-over-shark-tank-these-10-women-led-startups\\_us\\_58dc1071e4b04ba4a5e2502a](http://www.huffingtonpost.com/entry/move-over-shark-tank-these-10-women-led-startups_us_58dc1071e4b04ba4a5e2502a);

<https://hbr.org/2013/08/how-women-drive-innovation-and>

<sup>8</sup> <http://www.emeraldinsight.com/doi/pdfplus/10.1108/MD-07-2012-0533>

<sup>9</sup> Scientific American (September, 2017) It’s not a women’s issue.

women. As a result, women are often mis- and under-diagnosed.<sup>10</sup> Similarly, in the engineering field, women are seen as a deviation from the norm, which results in retrospective adaptation of many devices to women.<sup>11</sup> One example is the seatbelt for pregnant women. Initially, pregnant women were encouraged to use seatbelts, but little laboratory research in seatbelt design for pregnant women had been conducted. The traditional 3-point seatbelts turned out to be hazardous to the fetus on certain occasions even when mothers were not injured. This resulted in manufacturers realizing that this group had different needs and starting pregnant crash test dummies and computer simulations. These realizations and tests played a key role in increasing seatbelt safety for pregnant women.<sup>12</sup>

- **Lack of gender-disaggregated data:** Data on women's access and usage of innovation and technology is not widely available or tracked in many low- and middle-income countries. This data gap occurs at three levels: individual company databases, national government statistics, and international institutional data and statistics.<sup>13</sup> Gender-disaggregated data may be difficult to obtain in some contexts due to existing economic and social discriminations against women - for example, gender-disaggregated data on mobile phone ownership can be especially difficult to track in markets where men commonly register for their wives and daughters. However, the collection of only aggregated data tends to mask gender differences and makes it difficult to conduct gender differentiated market research and gender impact analysis. This contributes to gender-blind industry wide practices and national policies.
- **Constrained market demand for gender-responsive innovations:** In addition to the lack of gender disaggregated data, another reason for the under-appreciation of the size of the market for gender-responsive innovations is constrained demand. Today, most innovations are underlined by digital technologies and accessed through the internet by mobile devices. However, internet penetration rates are higher for men than women in all regions of the world today. The ITU's most recent estimate indicates that the global internet user gender gap has grown from 11% in 2013 to 12% in 2016. Over 1.7 billion women don't own mobile phones. Women are on average 14% less likely to own a mobile phone than men, which translates into 200 million fewer women than men owning mobile phones. When women do own mobile phones, they use phones less frequently and intensively than men, especially mobile internet. This digital gender gap is a result of the high costs of devices and data plans; limited digital literacy and confidence; discriminatory social norms and harassment concerns;

<sup>10</sup> <http://genderedinnovations.stanford.edu/case-studies/heart.html>

<sup>11</sup> <http://genderedinnovations.stanford.edu/case-studies/crash.html#tabs-2>

<sup>12</sup> Ibid.

<sup>13</sup> [https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/02/GSM0001\\_03232015\\_GSMAReport\\_NEWGRAYS-Web.pdf](https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/02/GSM0001_03232015_GSMAReport_NEWGRAYS-Web.pdf)

and the lack of relevant content, applications and services. This widening digital gender gap means that women are unable to demand the products and services that meet their needs.

- **Lack of affordable finance:** The under-appreciation of the market potential for innovations that address the needs of women makes it difficult for entrepreneurs to access affordable finance. This difficulty particularly affects women entrepreneurs. Worldwide, women owned formal SMEs have \$260 to \$320 billion in unmet financing needs worldwide.<sup>14</sup> In developing economies, women are 20 percent less likely than men to have an account at a formal financial institution and 17 percent less likely to have borrowed formally in the past year.<sup>15</sup>

### **Actions by UN Women to address these barriers**

- **Global Innovation Coalition for Change:** To foster the market awareness that removes the barriers to the advancement of women and girls in innovation, technology and entrepreneurship, and to drive industry-wide action to make innovation work better for young women and girls, UN Women is creating a Global Innovation Coalition for Change (GICC). The GICC is a dynamic partnership between UN Women and key representatives from the private sector, academic and not-for-profit institutions focused on developing the innovation market to work better for women and accelerate the achievement of gender equality and women's empowerment. Given the range of market barriers, UN Women believes that leveraging the full potential of innovation and technology to bring about such transformative change will require an enabling policy environment and a coalition of multi-stakeholder partnerships across industries and between the UN, the private sector, national governments and civil society. Leveraging the pooled expertise and resources brought by such partnerships, UN Women strives to improve the quality of its innovation initiatives and create opportunities to take successes to scale.

Specifically, the GICC will focus on the following actions:

1. Build market awareness of the potential for innovations that meet the needs of women and innovations that are developed by women;
2. Identify the key industry specific barriers to women and girl's advancement in innovation, technology and entrepreneurship;

<sup>14</sup> International Finance Corporation (2013) Small and medium enterprise finance: new findings, trends and G-20/Global partnership on financial inclusion progress. Washington DC, USA.

<sup>15</sup> <http://siteresources.worldbank.org/EXTGLOBALFIN/Resources/8519638-1332259343991/N9gender.pdf>

3. Work collaboratively to identify and select key actions to address these barriers and needs – at an industry wide level. Such actions may include sharing good practices, developing capacity and de-risking specific innovations through targeted support; and
4. Oversee the implementation of the Coalition’s actions to drive change.

These actions will feed into UN Women’s policy dialogues with Member States on how to promote an enabling environment to make innovations work for women.

The inaugural meeting of the GICC is scheduled to take place within the margins of the UN General Assembly on the 14th September 2017 in New York. UN Women welcomes the opportunity to discuss the interest of more like-minded partners to join GICC. As part of the GICC’s market awareness role, UN Women will host its first Global Innovation, Technology and Entrepreneurship Industry Forum 2017 on the same day, in partnership with SAP. The Forum, which acts as part of the advocacy arm of the GICC, is a one-day annual global conference where CEOs, social entrepreneurs, innovators and thought leaders will come together to share how innovation and technology can be used to advance gender equality and women’s economic empowerment around the world.

- **EQUALS:** UN Women has partnered with ITU and GSMA as part of the Access Coalition within the EQUALS partnership – a global movement that aims to close the gender digital divide so that women and girls are equal participants in the digital technology revolution. As part of the Access Coalition, UN Women will help to identify and implement high-impact initiatives that can be undertaken to increase access to and use of the internet for women, as well as to share knowledge and experiences of work in this area.
- **Big Data and Gender Equality:** UN Women recognizes the potential of leveraging big data to improve market research, project planning, design, monitoring and evaluation. UN Women is identifying strategic programmatic options to establish a programme of work around big data. UN Women will look at both “quick wins” and high impact projects, as well as longer-term strategies and potential advocacy or policy-oriented interventions. UN Women has partnered with UN Global Pulse, a special initiative of the Office of the Secretary-General, that uses big data to support the UN system innovate. UN Women and Global Pulse have drafted a first report on Gender Equality and Big Data: Making Gender Data Visible. Based on this report, several concept notes have been developed to focus on specific areas where big data can be used to improve our understanding of issues related to gender equality. UN



Women is currently exploring partnership with different private sector and academic institutions to further its work in this area.

- **Increasing access to finance:** UN Women is developing an accelerator venture fund to provide access to finance to women enterprises to invest in scalable innovations that accelerate gender equality.

## 2. A Gender Responsive Approach to the Innovation Cycle

One of the key steps to ensuring that a given innovation meets 100% of its target customer base is to integrate gender throughout the innovation cycle. For example, it is important to consider how gendered norms and needs influence the problem identification; whether women have been actively engaged throughout the process; and whether business models for scale explicitly consider adoption constraints faced by women.

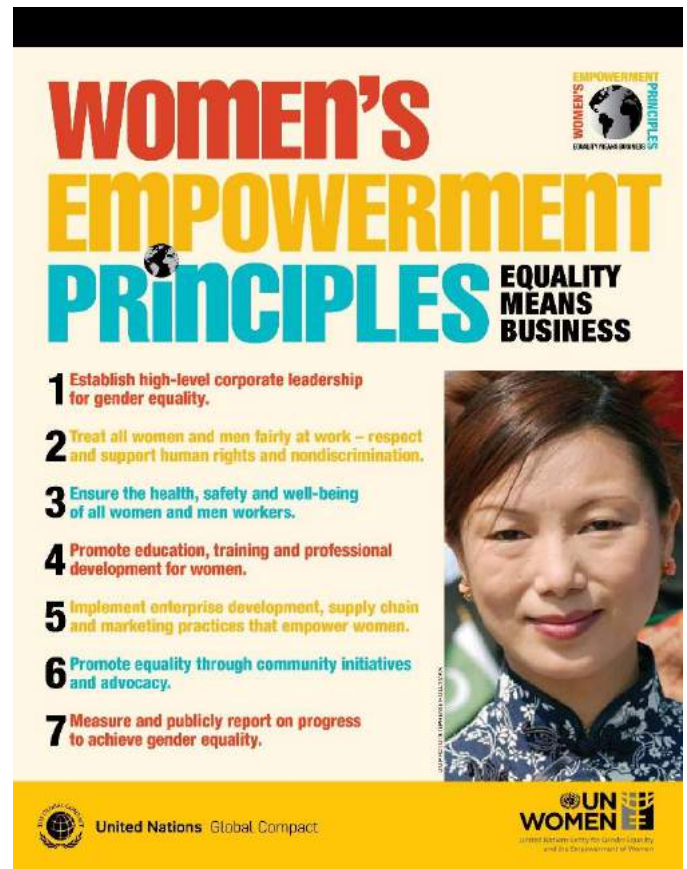
### Barriers to a gender-responsive approach to the innovation cycle

- **Lack of methodologies and tools to include gender throughout the innovation cycle:** Most gender analysis tools are generic and are not specifically targeted towards innovators and entrepreneurs. Hence, very few dedicated practical methodologies and tools exist for innovators and entrepreneurs to integrate gender consideration throughout the innovation cycle.
- **Limited sharing of knowledge and practices:** Similarly, there are limited opportunities and spaces for organizations to share experiences, knowledge and practices about opportunities and challenges towards a more gender-responsive innovation approach.

### Actions by UN Women to address these barriers

In addition to the actions taken to increase market awareness and investment in innovation that work for women, UN Women also focuses on the actions below to promote a gender-responsive approach to innovation:

- Developing principles, tools and methodologies:** UN Women in partnership with other UN agencies and industry partners is developing a dedicated set of gender innovation principles that private and public sector partners can use to promote gender-responsive innovation within their organizations. For the private sector, UN Women is building on the Women's Empowerment Principles (WEPs) – a seven step guide developed by UN Women in collaboration with the UN Global Compact, to enable business to empower women in the workplace, marketplace and community. To date, more than 1489 business leaders around the world have demonstrated leadership on gender equality through the WEPs, which offers a free gender gap analysis tool to help companies identify strengths, gaps, and opportunities to improve their performance on gender equality. UN Women has also partnered with the G-STIC, a global conference that aims to accelerate the development, dissemination and deployment of technological innovations that enable the achievement of the SDGs. UN Women is developing a methodology to enable G-STIC innovators to better identify and integrate gender considerations throughout their innovations.

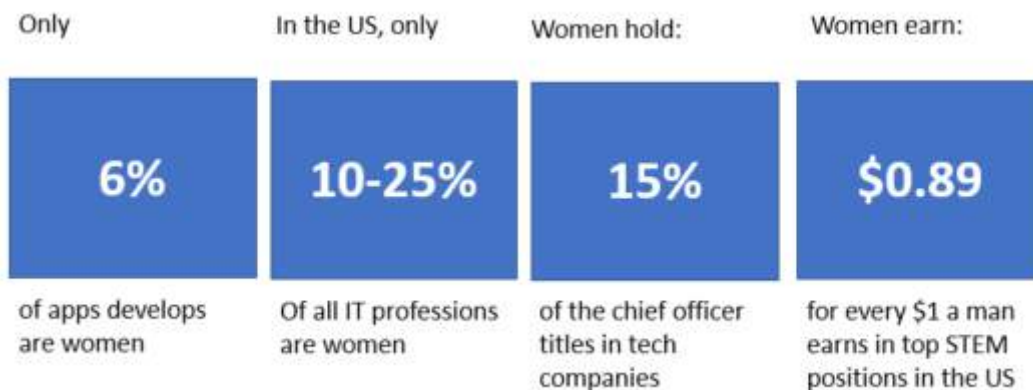


- Global Innovation Exchange Platform:** In order to promote knowledge exchange, UN Women has built a Gender Microsite on USAID's Global Innovation Exchange Platform. The Platform connects over 100 organizations from across government, business, academia and civil society and provides them with a global forum to collaborate, share and showcase gender responsive best practices, case studies, innovations and methodologies.

### 3. Women as Innovators and Entrepreneurs

Innovating for gender equality requires a rethink the way problems are defined, the way priorities are identified, who is engaged, how they are engaged, the way in which solutions are delivered, and the ways we learn. Since women best understand the challenges they face in their daily lives and the barriers they experience with regard to gender equality, they are in the best position to define innovative solutions. For example, while most off-grid solar lamps provide lighting in a fairly standard manner, a Norweign start-up, led by a female CEO designed a multi-functional solar lamp with a removeable light that can worned across the neck.<sup>16</sup> This innovative design provide light to mid-wives during childbirth, particularly in humanitarian contexts, where 60% of preventable maternal deaths take place.<sup>17</sup> The design also allows women to travel more safely with both hands available.

However, the innovation and technology industry currently suffers from a major under-representation of women (Figure 2). In 2014, only 18% of U.S based start-ups had at least one female founder, increasing from 9.5% in 2009.<sup>18</sup> Similarly, only 6% of app developers are women and while the computing industry’s rate of job creation in the US is now three times the US national average, based on current trends, women will hold only one in five computing jobs by 2025.<sup>19</sup> A growing number of disruptive business models are under-pinned by digital technologies and it is estimated that 90 percent of future jobs will require ICTs.<sup>20</sup> One of the main reasons for the under-representation of women as innovators and entrepreneurs is their under-representation in STEM and ICT-related fields. In 2011, only 0.4% of women planned to major in computer science, compared with 6.7% in 1983 (Figure 3).<sup>21</sup> Similarly, women make up only 12% of engineering students fields.<sup>22</sup>



<sup>16</sup> <http://bright-products.com/>

<sup>17</sup> [http://www.everywomaneverychild.org/wp-content/uploads/2015/02/15\\_revised\\_EWEC\\_Humanitarian150322RKMT-HD\\_11\\_2015-03-24.pdf](http://www.everywomaneverychild.org/wp-content/uploads/2015/02/15_revised_EWEC_Humanitarian150322RKMT-HD_11_2015-03-24.pdf)

<sup>18</sup> CrunchBase. <https://www.crunchbase.com/#/home/index>

<sup>19</sup> Accenture. Cracking the gender code

<sup>20</sup> <https://euobserver.com/opinion/132428>

<sup>21</sup> Sax, L.J et al. (2016). Anatomy of an enduring gender gap: The evolution of women's participation in computer science. The Journal of Higher Education.

<sup>22</sup> <http://www.ini.cmu.edu/news/2016/10/equalrespectblog.html>

Figure 2: The under-representation of women in innovation and technology

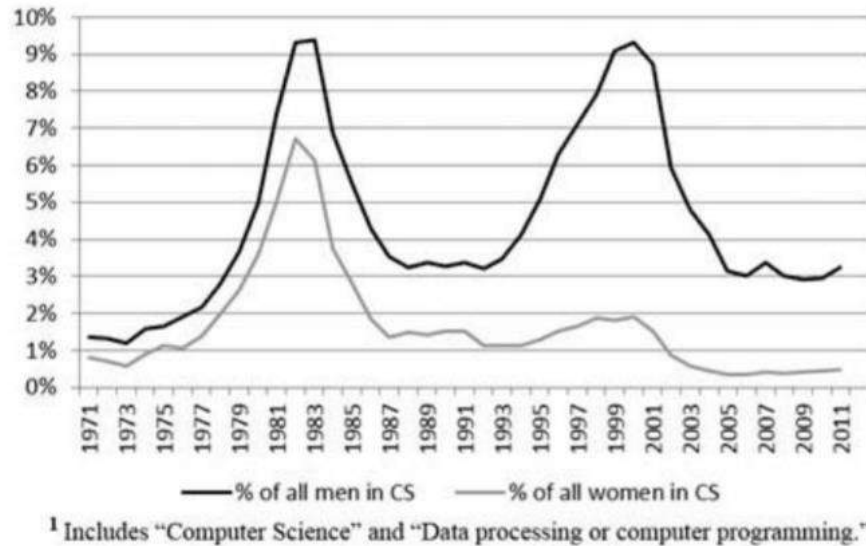


Figure 3: Proportion of entering students who plan to major in computer science (CS) by gender.<sup>23</sup>

## Barriers to women in STEM and ICTs

- Gender-science stereotypes:** Most people associate science and math fields with “male” and humanities and arts fields with “female”. Men are stereotypically considered as more competent than women in technology, engineering, and innovation. Such stereotypes can lower girls’ aspirations for science and engineering careers from an early age, as many young women and girls believe that they need to be exceptional to succeed in these “male” fields.<sup>24</sup> This creates even greater barriers for women who want to pursue leadership positions, as leadership behaviors that depend on the task-oriented “take charge” traits of men were categorized as “masculine”, and women are often regarded as not capable or not interested in reaching higher ranks. Furthermore, people often hold negative opinions of women in those “masculine” positions, like scientists or engineers: when a woman is clearly competent in a “masculine” job, she is considered less likable.<sup>25</sup>
- Biases in recruiting, promoting and evaluating processes:** Currently, the recruitment, promotion and evaluation in most innovation, technology and entrepreneurship businesses are either gender-blind or rely heavily on informal networks (online social networking, personal referrals, or word-of-mouth communication), prioritizing the status quo groups and putting women at a disadvantage.<sup>26</sup>

<sup>23</sup> Sax, L.J et al. (2016)

<sup>24</sup> <http://www.aauw.org/files/2013/02/Why-So-Few-Women-in-Science-Technology-Engineering-and-Mathematics.pdf>

<sup>25</sup> <http://www.aauw.org/files/2013/02/Why-So-Few-Women-in-Science-Technology-Engineering-and-Mathematics.pdf>

<sup>26</sup> [https://www.researchgate.net/publication/230271908\\_Race\\_Gender\\_and\\_the\\_Invisible\\_Hand\\_of\\_Social\\_Capital](https://www.researchgate.net/publication/230271908_Race_Gender_and_the_Invisible_Hand_of_Social_Capital)

Apart from the challenge for women to assume leadership roles in these sectors, the negative impact is also demonstrated by a higher quit rate among women, which is more than twice in the high-tech industry (41 percent for women VS 17 percent for men). Fifty-six percent of women working in science, engineering and technology sectors leave their organizations at the mid-level points (10-20 years) in their careers.<sup>27</sup>

- **Lack of access to flexible schedules and work-life policies:** As women are still the main caregivers of the family, difficulty to balance work and family responsibilities is another hindrance to innovative and entrepreneurial activities by women.<sup>28</sup> Flexible scheduling and favorable work-life policies are essential for retaining mid-level women. The reality, however, is that flexible work schedules are technically available, but managers (predominantly men) make accessing them difficult, either through their authority or through informal comments. Also, the informal norm of “relocation or relegation” — one must be willing to relocate or their work will be relegated to others — favors men and younger single employees without family concerns.
- **Lack of role models for female innovators and entrepreneurs:** As many as 40 percent of US women in science, engineering and technology jobs reported lacking role models - nearly half reported lacking mentors, and 84 percent reported lacking sponsors (someone who would help make them and their accomplishments visible with the right people at the right time within the organisation).<sup>29</sup> This makes it more difficult for women to access informal peer networks for advice, contacts and support, and to navigate “unwritten” company rules and norms that link with the recruiting, promoting and evaluating process mentioned above. This often reduces women’s sense of belonging in the organization: In one large-scale study, 30 percent of women in private-sector science, engineering and technology jobs said they felt extremely isolated at work.<sup>30</sup>

### Action by UN Women to address these barriers

- **Prioritizing education of girls and promoting girls in STEM:** UN Women in partnership with UNESCO and other UN agencies promotes girls in STEM and increases their access to 21<sup>st</sup> century skills, including coding. UN Women prioritizes education of girls and women as a key to empowerment, inclusive growth and social transformation.

<sup>27</sup> [https://www.ncwit.org/sites/default/files/resources/ncwit\\_women-in-it\\_2016-full-report\\_final-web06012016.pdf](https://www.ncwit.org/sites/default/files/resources/ncwit_women-in-it_2016-full-report_final-web06012016.pdf)

<sup>28</sup> <http://www.emeraldinsight.com/doi/pdfplus/10.1108/MD-07-2012-0533>

<sup>29</sup> [https://www.ncwit.org/sites/default/files/resources/ncwit\\_women-in-it\\_2016-full-report\\_final-web06012016.pdf](https://www.ncwit.org/sites/default/files/resources/ncwit_women-in-it_2016-full-report_final-web06012016.pdf)

<sup>30</sup> Ibid.

- **Promoting women in innovation incubators:** Increasing women’s economic empowerment is one of UN Women’s five strategic impact areas. UN Women has a portfolio of projects worldwide specifically aimed at promoting women entrepreneurship. UN Women is also partnering with UNOPS (United Nations Office for Project Services) Global Innovation Centers to promote women entrepreneurs and innovators by addressing the barriers they face, notably in accessing finance to scale.
- **Champion of Change:** Through UN Women’s [Empowerwomen.org platform](https://empowerwomen.org), UN Women has built a strong network of external champions to identify innovative solutions for gender equality. Globally we have been joined by 250+ Champions of Change from 60+ countries in four cohorts. This Champion of Change programme enables “ordinary-extraordinary” women and men to identify local challenges in their communities, receive capacity-building and coaching and then work with the Empower Women team and peers to conceptualize innovative solutions to these challenges. In an effort to “un-stereotype” gender norms, leverage on the power of role models, and to close the gender knowledge gap, UN Women initiated the #HerStory campaign, which showcases the stories of women leaders.
- **HeForShe IMPACT 10x10x10:** UN Women’s HeForShe IMPACT 10x10x10 initiative, which works with ten Heads of State, ten CEOs of major corporations and ten university presidents on game-changing gender equality commitments. Some of these commitments include expanding mobile phone access to underserved women, providing scholarships to women in STEM fields and teaching girls how to code computer software and apps.

## 4. De-risking high impact innovations that benefit marginalized women through direct investment

There is a perceived high risk, low reward profile for innovations that benefit women and girls notably from marginalized groups. Such innovations can be de-risked through public finance to provide a proof of concept and catalyze larger private investment. UN Women directly invests in a limited number of potentially high impact innovations that meet the needs of the most marginalized women and girls.

### Critical needs of the most marginalized women and girls

- **Lack of access to education and skills training:** Tens of millions of girls are unable to access to education around the world. According to the UNESCO 2016 Education for All Global Monitoring Report, 48 percent of out-of-school girls in the world are likely never to enroll in school, depriving them of the knowledge, skills and opportunities to find decent work and improve the quality of their lives. In addition, more than one third of the girls in primary school drop out of school at the secondary level. Girls face multiple barriers that cause them to drop out of school and limit their access to quality education: poverty, gender based discrimination, school related gender-based violence, early marriages and pregnancy, geographic isolation, unsuitable and unsafe learning environments, among others. But the mainstream school system does not cater to the needs of the girls and young women who have been left behind due to underlying structural barriers outside their control. At the same time, with innovative approaches, digital technologies, and social networks, the tools to enable universal access to quality education have never been more accessible.
- **Lack of access to information, markets and finance:** Women make up 43 percent of the agricultural labour force in developing countries and 59 percent in sub-Saharan Africa. Yet, women farmers face a number of key structural barriers that limit their access to land, information, infrastructure and markets. Only 20 percent of land owners are women and 5 percent of women have access to extension services.<sup>31</sup> Their limited access to finance makes it extremely difficult to invest in processing and post-harvesting equipment that would enable women farmers to avoid distress selling, receive higher prices and reduce post-harvest losses. One of the key reasons for their limited access to finance is the lack of data, which makes it impossible for women farmers to build a track record and credit profile.

<sup>31</sup> <http://www.unwomen.org/en/news/in-focus/commission-on-the-status-of-women-2012/facts-and-figures>

- **Violence against women and girls:** Violence against women and girls is one of the most systematic and widespread human rights violations in the world. It is also a major obstacle to ending gender inequality and discrimination globally as it hinders the abilities of women and girls to claim their other rights (economic, civil, political, etc). Violence against women and girls exists in varying degrees across all communities in the world. It can occur in private and public spaces, cuts across age, socio-economic status, educational and geographic boundaries and affects all societies. It is estimated that 35% of women have experienced violence at some point in their lives, mostly by an intimate partner.<sup>32</sup> Prevalence can be as high as 70% in some countries.<sup>33</sup>

These challenges faced by women are more acute for women living in humanitarian contexts.

### Direct Investments by UN Women

In order to maximize the chances of successful investments in innovation that solve key challenges faced by women, UN Women adopts a three-stage innovation cycle:

1. Co-identifying potential high impact innovations to achieve gender equality and women's empowerment;
2. Testing, prototyping and piloting, supported by rigorous M&E systems to facilitate adaptive management; and
3. Scaling up innovations to increase impact in the lives of women and girls.

This three-pronged approach creates a funnel that allows strong ideas to filter through the process and be scaled up.

- **Virtual Skills School:** The Virtual Skills School is UN Women's innovative e-learning portal to support different programmes, including closing the gender gap in climate-smart agriculture, women's entrepreneurship, and second chance education and vocational learning for women in fragile situations. It includes foundational learning materials on financial literacy and business development, and will link to e-learning platforms with high quality content on entrepreneurial skills, accelerated primary and secondary education and vocational skills, among others.
- **Buy from Women Enterprise Platform:** In Rwanda, UN Women, in partnership with the Government and the World Food Programme (WFP), is piloting the Buy From Women Enterprise Platform — a data-driven, enterprise platform that connects small holder farmers to the agricultural supply chain and provides them with critical information on weather, market prices and incoming opportunities via text

<sup>32</sup> WHO, *Global and Regional Estimates of Violence against Women* (2013).

<sup>33</sup> UN-Women, "Violence against women prevalence data: surveys by country" (2012)



messages. This helps farmers to predict their yields, and the data from the Platform have the potential to help unlock access to finance, enabling cooperatives to invest in labour and time-saving equipment. The programme also educates farmers on gender equality issues, ensuring women's equal participation in all areas of the supply chain, including in the front-line negotiations and decision-making.

- **Making Blockchain Technology Work for Women in Fragile Contexts:** As a technology that offers decentralized and secure online databases, records and money transfer systems, blockchain has the potential of assisting people in fragile contexts and improving financial inclusion for under-privileged groups, including the 2.5 billion people who currently lack access to banking. UN Women has partnered with Innovation Norway to assess the potential of leveraging blockchain technology to address day-to-day challenges faced by women in crisis-affected contexts. UN Women led a hackathon at the Katapult Future Fest in Oslo, where hackers developed innovative solutions for recording identification data and enabling secure money transfer for women entrepreneurs in humanitarian context. UN Women and partners plan on organizing a live test and simulation exercise to test blockchain solutions that have the potential to meet the needs of young women and girls. This event will take place within UN Women's blockchain lab approach to test ideas, solutions and product upgrades, before testing and deploying these in crisis-affected and developing country contexts.
- **Preventing sexual and gender-based violence in South African Higher Education Institutions:** In South Africa, the issue of sexual and gender-based violence (SGBV) in tertiary institutions has come under the spotlight in recent years, fueled by student protests demanding their schools take the problem seriously. However, the prevention of and response to SGBV at higher education institutions have, in many instances, been inadequate. UN Women, in partnership with the United Nations Population Fund and Higher Education and Training HIV/Aids Programme, is leveraging innovative mobile technology to address SGBV, especially among the youth. UN Women invites students from 26 universities and 51 technical and vocational education and training centres to participate in "Ideathons", where students design technology-driven solutions that can effectively address the problem of SGBV.

## Conclusion

Women face a multitude of barriers that results in the persistent and sometimes growing gender gaps. As a result, innovations are unlikely to be available on time and at scale to address the needs of women. Transformative results will require private and public sector partners to come together to address these barriers in an integrated manner. While the task looks daunting, being able to demonstrate progress in a given industry could have multiplier effects across other industries that will enable innovation and technology to break current trends and drive achievement of the Sustainable Development Goals.

Together we can be game-changers with the women and girls, men and boys of the world, we can make the 21st century one of irreversible progress—for women and all humanity.

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