Gender Digital Divide
Assessment: Uzbekistan

Analytical review «Gender Digital Divide: Uzbekistan»

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"Women's equal and meaningful participation in the digital society is seen as both integral to the realization of women's rights in the 21st century, as well as the realization of a just, inclusive and rights-based information society and to achieve global objectives around gender equality and women's empowerment by 2030."

UNWOMEN, Action Plan to Close the Digital Gender Gap
"In Uzbekistan, the nation begins with women."
One of the interviewees

CONTENTS

ABBREVIATIONS AND ACRONYMS

BPO – Business Process Outsourcing

GBV – Gender-based violence

GDD – Gender Digital Divide

GDDA – Gender Digital Divide Assessment

GDP – Gross Domestic Product

GDDI - Gender Digital Divide Index

GNI – Gross National Income

ICT – Information and Communications Technology

IFC – International Finance Corporation

ITU – International Telecommunication Union

KPI – Key performance indicator

LLMICs – Low- and Middle-income Countries

MITC – Ministry for Development of Information Technologies and Communications

MNO – Ministry of Education

SDGs – Sustainable Development Goals

STEM – Science, technology, engineering, and mathematics

UN CEDAW – UN Convention on the Elimination of All Forms of Discrimination Against Women

UNDESA – United Nations Department of Economic and Social Affairs

UNICEF – United Nations International Children's Emergency Fund

USAID – United States Agency for International Development

EXECUTIVE SUMMARY

What are the gaps?

The Gender Digital Divide Assessment (GDDA) for Uzbekistan shows that 83% of women use the internet daily. Both men and women use the internet, primarily at home, and they access it **predominantly through mobile connections.** That usage percentage, however, drops substantially in some of the nation's locations (e.g., Bakhmal, Jizzakh region), where only 21% of men and 11% of women enjoy fixed internet access.

In rural locations, only 11% of men and 7% of women use the internet in public places such as makhallya committees, internet cafes, coworking spaces and shopping centers with Wi-Fi. In urban locations, however, those rates increase significantly with 49% of men and 40% of women in Tashkent and the Tashkent region using the internet outside of either their home or their workplace.

Smartphone ownership nationwide is higher among women than men. That runs counter to the global average usage rate, which favors men by 15%. Throughout Uzbekistan, 87% of women and 83% of men own smartphones. In some locations, however, smartphone ownership is still relatively low — in Bakhmal, for example, where 52% of men and 55% of women own smartphones.

The GDDA identified four key factors that influence digital skills attainment:

1. **Gender:** Women's digital skills lag those of their men counterparts by nearly 24%. (specific gender gaps: basic digital skills – 23%, standard digital skills – 21%, advanced digital skills – 26%).
2. **Age:** Women older than 35 are nearly 10% less digitally skilled than women younger than 35.
3. **Income:** Those earning a higher income are 36% more likely to have gained advanced digital skills.
4. **Education:** Those attaining a higher education are 19% more likely to have developed advanced digital skills.

It is important to note that data show both men and women tend to stop developing their digital skills after marriage.

The quality of the user experience closely correlates with internet availability, the user's digital skills level, availability of desired content. The specific programs to address gaps in these areas is one of the main priorities for increasing the efficiency of using the Internet.

Underrepresented groups (women, the elderly, people with disabilities) and married people tend to use fewer digital financial services, such as Payme, Click or Apelsin, for their business' financial transactions Data show that use of these services increases as the levels of a user's income and education increase. The digital gender gap is most prevalent among those using the internet for business, for obtaining government services, for online gaming, and for paying for services. Rural locations indicate that they actively use the internet when paying for services or making other financial transactions, but to a lesser extent than urban residents – for business and government services.

The digital divide for people with disabilities is evident. The GDDA indicates that this population uses smartphones to access the internet 10% less than those without disabilities. **The basic digital skills gap in this vulnerable group is 32%.** Advanced skill levels such as programming and maintaining computers, however, are higher than those in the average population at 21% and 7% higher respectively.

Government and society are committed not only to increasing women's digital inclusion, but also to changing social norms as a result. For example, the study found that only 1% of women in Namangan City, Namangan region and Dekhkanabad, Kashkadarya region identified the following survey statement as a barrier to inclusion: «My family does not allow me to use the internet.»

However, the GDDA also showed that there are few women role models in society and in the tech sector. The largest private tech companies do not publish information about their management; women investors tend not to invest in technology projects. Interviews with stakeholders from the public sector and academia revealed that many of those stakeholders carry gender stereotypes, even if unconsciously.

Why are there gaps?

    a. Despite enormous progress in expanding coverage of both fixed and mobile internet across the entire country, **affordability** issues still leave many would-be users offline.

For most of the population, internet access is still unaffordable with **51% of women respondents indicating financial barriers as the biggest impediments to accessing the internet.** Respondents identified a lack of sufficient income as the most prevailing barrier in Shurchi, Surxondaryo region (74% of men, 82% of women) and Nurafshan, Tashkent region, (72% of men, 86% of women).

Both men and women cited the cost of accessing the internet and a lack of skills as two key barriers to their full use of the internet and other digital technologies. 51% of women respondents indicated the cost as a prevailing barrier. In the online survey, respondents identified additional

barriers such as lack of content in the Karakalpak language, lack of security of correspondence in instant messengers, and restrictions on social networks.

Insufficient connectivity infrastructure in public places in remote areas hinders people's use of the internet outside of home and work.

  b. Higher **digital skills attainment does not appear to be valued**, especially among older and lower-income populations.

The absence of a National Digital Literacy and Skills Competencies Framework prevents a consistent national approach to identifying and developing core skills in diverse communities, in the workplace and in the classroom. An effective framework would define core digital skills and provide a benchmark for individuals in society and in the workplace.

Existing digital skills development programs and projects exclusively target youth. The survey data, however, show that **needs are most significant among older age (over 35 years) brackets and people with disabilities.** In addition, women of all ages need more opportunities to obtain digital skills. **Most digital skills programs are based largely on the false assumption that people with disabilities always have access to devices other than smartphones.**

  c. **Social norms take time to change**

Harmful gender stereotypes strongly contribute to the widening gender digital divide and shall be addressed within the programs on improving women's access to digital skills and services. Gender stereotypes and cultural norms often hinder women's and girls' access to digital technologies and reduce their education and employment opportunities in ICT-related sectors. Experience shows that, left unaddressed, gender stereotypes hamper the effectiveness of targeted programs for women in STEM.

The analysis has also shown an insignificant correlation between gender and cyber violence. However, based on global trends in which online violence pervasively affects women, one can conclude that women do not fully share the information about harassment and violence against them. The United Nations' Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) **recommends developing and implementing a comprehensive strategy to eliminate gender stereotypes, including in the online domain**[1]. Associated tactics include promoting synergies among different stakeholders to raise awareness of the issue and to change social attitudes that normalize online gender-based violence. This will ensure the gender-responsive design of legislation, programs, applications, and social media, and enhance the contribution of women leaders and activists to the development of internet and social media standards.

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1 https://digitallibrary.un.org/record/3966403?ln=en

Uzbekistan's leadership has demonstrated its commitment to supporting and promoting gender equality, including programs such as the GAP project, organized by the Ministry for Development of Information Technologies and Communications (MICT). Government and development partners are launching more and more programs, which aim to attract girls to the IT profession through training, hackathons and support for startups. As a result, women's use of the internet and smartphones is becoming a more acceptable norm.

Social change takes time and requires the involvement of both women and men. However, there is a positive trend in changing attitudes. The UNDP report on *Negative Impact of Gender Stereotypes and Patriarchal Norms on Gender Equality in Uzbekistan shows that only 36% of men and 23% of women believe women are not suited to studying the sciences and entering technical professions such as engineering.* But a consistent **lack of women representation and gender-equality programs jeopardize women's participation in the economic and social aspects of life.** Without examples to follow, society in general and young women in particular will not understand all that is possible for girls and young women. Fostering a new generation of women leaders requires a sufficient array of career-oriented programs.

Recommendations to bridge gender digital divide

d. Improve access

Expand and improve the national network of public internet access points, prioritizing the least-connected locations. To overcome the problems of internet availability and affordability, the government, in partnership with the private sector, should continue to grow connectivity in community places such as IT centers and public libraries and promote these places as access points for the general population. **The government could prioritize less-connected regions, e.g., Bakhmal (Jizzakh region) and Dekhkanabat (Kashkadarya region).**

Address device affordability in partnership with the private sector. Considering the government's priority to develop business process outsourcing services, increasing affordability for devices such as laptops, computers and tablets is key to increasing ownership. Without these devices, the potential workforce for BPO services will be constrained. One of the possible solutions might be **a partnership with a PC/laptop manufacturer to launch the affordable device program "Computer in Every Home" to provide devices at-cost.**

e. Support digital skills and competencies

Develop a National Digital Literacy and Skills Competencies Framework. It is critical to prioritize the development of digital skills and literacy programs, particularly for smartphone access, that meet the needs of the older population and those with disabilities.

f. **Influence social norms change**

Create programs to promote IT women mentors and leaders. Uzbekistan women need more IT mentors and role models and more transparency from the largest tech companies. In addition, **training for public officials, leadership and civil society oriented to the gender digital divide and inclusion is important.**

Conduct a national awareness campaign that centers positive male testimonials to help change entrenched gender narratives. Changing social norms requires a long-term, multi-stakeholder commitment. Understanding and accounting for the broader cultural context when developing programs to address the gender digital divide are key. Fathers and husbands play a major role in decisions about women's social and economic activities. A national awareness campaign could help change attitudes toward women's roles. **The awareness campaign «I am proud of my (wife, sister, mother, and daughter)» may use testimonials from real men and deliver them through various media.**

CHAPTER 1. What the Gender Digital Divide is and Why it Matters

The gender digital divide (GDD) is the gap between men's and women's ability to access and use digital technologies for their benefit and contribute to and lead the development of digital technologies. Put another way, the gender digital divide is the difference between men's and women's digital inclusion.

In 2022, nearly two-thirds of the world's population had used the Internet and digital technologies to access social media, education, healthcare, jobs, financial services, civic engagement, government services and much more.[2] ITU estimates that 2.7 billion people remain unconnected and thus are being left out of work and educational opportunities and missing out on potentially life-saving information and services. In developing countries, evidence suggests that existing socioeconomic gaps are deepening as a result of this digital transformation, especially for women. Offline inequality follows women online. Women's unequal representation in the global digital economy reflects existing gender inequality and vulnerability in social, political, and economic systems.

The COVID-19 pandemic has resulted in a connectivity boost accelerated digital transformation across the globe, bringing many more people online and providing them with critical tools to continue their lives and livelihoods during a global crisis. At the same time, it also has laid bare the social and economic costs of exclusion from this digital transformation. Some numbers illustrate the depth of the Gender Digital Divide:

- Globally, an average of 62% of men use the Internet compared with 57% of women;[3]
- Gender gap between men and women using Fintech is 33%; [4]
- Only 2.3% of all venture capital funding goes to women startup founders; [5]
- Only 19% of women in least developed countries use the Internet compared to 86% in developed countries;[6]
- Only 27% of women in the landlocked developing countries use the Internet versus 38% of men.[7]

The COVID-19 pandemic has brought much more focused attention on the negative impacts of women's digital exclusion such as limited access to work and education, information and services,

2 https://www.itu.int/en/mediacentre/Pages/PR-2022-09-16-Internet-surge-slows.aspx
3 https://www.itu.int/dms_pub/itu-d/opb/ind/d-ind-global.01-2022-pdf-e.pdf
4 https://www.bis.org/publ/work931.htm
5 https://news.crunchbase.com/venture/venture-capital-female-gender-diversity/
6 https://www.itu.int/en/mediacentre/backgrounders/Pages/bridging-the-gender-divide.aspx
7 https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2021.pdf

opportunities for civic engagement, and many other opportunities[8]. Some key barriers for women's digital inclusion include affordability of the Internet and devices, lack of digital literacy and skills, social norms, and lack of legislation and policies. Bridging the divide starts from the understanding of social and economic benefits of women's full digital inclusion. In 2020 GSMA survey highlighted a number of **benefits of gender digital inclusion** for low- and middle-income countries:[9]

- 58% – 90% of women mobile device owners agreed that mobile helps them in their day-to-day work, studies or household chores;
- 54% – 91% of women mobile device owners agreed that mobile makes them feel safer;
- 53% – 94% of women mobile device owners agreed that mobile provides access to useful information that is otherwise hard to get.

Mobile devices can also provide women with access to information, services and life-enhancing opportunities, training and education materials, health and childcare information.

Benefits for society and the economy. According to A4AI, increasing the digital inclusion of women and girls only in 32 low and lower-middle income countries (LLMICs) could boost global GDP by approximately US$524 billion by 2025.[10] Connecting women to the Internet and digital services also has wider economic and social benefits. Gender equality and women's empowerment is key to achieving the Sustainable Development Goals (or SDGs), and in particular SDG 5 (Gender equality and the empowerment of all women and girls). The role of the Internet and ICTs as critical enablers have also been recognized in the SDGs. For instance, SGD Goal 5 includes a target to enhance the use of enabling technology, in particular ICT, to promote women's empowerment.

Benefits for businesses. In 2021 IFC highlighted that only the Southeast Asian[11] e-commerce market would gain an additional $280 billion and the African[12] e-commerce market – $14.5 billion between 2025 and 2030 if gender gaps were closed and women could sell and buy online.

Women are half of the potential market for businesses. Over the next five years, GSMA estimates that low- and middle-income countries could gain an estimated additional $140 billion in mobile industry revenue if operators could close the gender gaps in mobile ownership and mobile Internet usage by 2023.[13]

That is why achieving digital equity for women is more urgent now than ever before.

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8 https://www.undp.org/eurasia/publications/gender-equality-digitalization
9 https://www.gsma.com/r/gender-gap/
10 https://webfoundation.org/docs/2021/10/CoE-Report-English.pdf
11 https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/gender+at+ifc/resources/women-and-ecommerce-sea
12 https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/gender+at+ifc/resources/women-and-ecommerce-africa
13 https://www.gsma.com/r/gender-gap/

Section 1.1
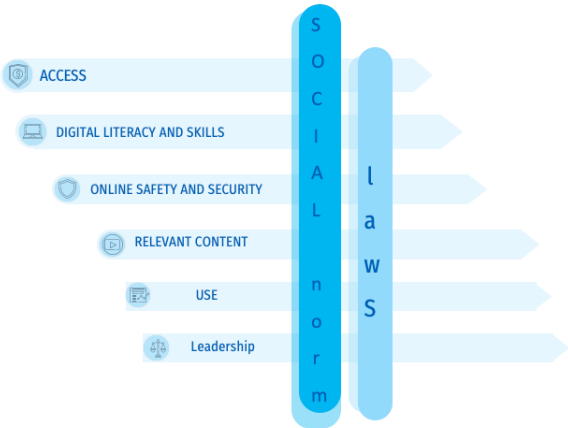# Gender Digital Divide Assessment Framework

The Gender Digital Divide Index[14] methodology was used and adopted for the Gender Digital Divide (GDD) assessment framework to analyze the collected data and provide sufficient policy recommendations to achieve the goal of reaching gender equality. This section describes the GDD assessment framework in Uzbekistan.

The GDD assessment framework used to analyze Uzbekistan's gender digital divide in this report is based on a theory of change model. This model measures a country's starting point (Foundations), inputs (Enablers) that contribute to reducing the gender digital divide, and the outcomes (Impacts) of such efforts. The categories, indicators, and weights are selected based on a literature review, analysis of gender and digital development indexes, and consultation with experts.

The assessment goal is to identify the current gaps and barriers to gender digital inclusion and provide key recommendations for government and international organizations.

The indicators capture both quantitative and qualitative data. Quantitative data is gathered from open sources for the latest available year as well as online and offline surveys. Qualitative scores are derived from publicly available information, such as government policies and other sources of data. The GDD contains indicators that are organized across three categories: Foundations, Enablers, and Impacts.

Figure 1: Adopted the GDDI Framework

ACCESS

DIGITAL LITERACY AND SKILLS

ONLINE SAFETY AND SECURITY

RELEVANT CONTENT

USE

Leadership

SOCIAL norm

laws

Source: Gender Digital Divide Index 2022[15]

Foundations: This category measures the starting point of the gender digital divide in a country. It captures the quality of digital infrastructure and includes Internet coverage, accessibility, affordability and online safety and security. The factors assessed under this category: Access (Availability, Device ownership, Affordability); Online Safety and Security

Enablers: This category measures inputs that reduce the gender digital divide. It captures progress through government policies and initiatives that promote gender digital inclusion, digital literacy and skills. This category includes gender-responsive policies and programs that support digital skills and address gender-based violence. The factors assessed under this category: Digital Skills and Literacy Programs, Relevant Content[16], Laws and Policies.

Impacts: This category measures the outcomes of efforts to reduce the gender digital divide from the starting point. It captures impact through equal access to digital services and information, use of digital services, and leadership. The category includes indicators that measure the gender gap in access to the Internet, mobile phone usage, and digital payments, as well as gender balance in decision-making in the public and private sectors. The factors assessed under this category: Use and Leadership.

Impacts: This category measures the outcomes of efforts to reduce the gender digital divide from the starting point. It captures impact through equal access to digital services and information, use of digital services, and leadership. The category includes indicators that measure the gender gap in access to the Internet, mobile phone usage, and digital payments, as well as gender balance in decision-making in the public and private sectors. The factors assessed under this category: Use and Leadership.

Cross-cutting themes: This category assesses the current situation of factors influencing all aspects of a woman's role during life in society. The factors assessed under this category: Social norms and Legislation and Policies.

Section 1.2
Factors for assessing the Gender Digital Divide

While the gender digital divide is a well-recognized issue among international organizations, there is still a lot of information and data missing on national levels. Countries and governments have not focused on the gender digital divide or its negative impact on their economic and social development.

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16 Relevant content can be defined as diverse online information that serves the interests and needs of all individuals and communities

According to the GDDI, the top five overall leaders came from different regions – Europe, Asia, North America, Latin America and Africa. They were all upper income or upper-middle income countries. These countries were strong on Access elements – Internet coverage and affordability. They all had strong programs to support women's inclusion in STEM education. The description of the factors is discussed below.

Foundations

Foundations looks at how well Uzbekistan is doing in putting in place the necessary infrastructure and environment for digital inclusion. It focuses on Access - including *availability* (Internet coverage, quality, digital devices) and *affordability* – and Online Safety and Security.

Access. Access to the Internet is at the foundation of every person's digital inclusion. Access has two key elements: *availability* and *affordability*. Together, availability and affordability determine whether a person has Access to the Internet and digital technologies. In many countries or specific regions within countries, the gender digital divide starts at this basic level of Access. Women's access may not be a priority. For example, in households where the cost of phones and Internet connections are expensive, social norms may influence decisions about who should own devices such as phones or computers.

Availability is complex and is composed of numerous elements, specifically, geographic coverage, quality and reliability of that coverage and access to digital devices. Geographic coverage refers to whether or not Internet coverage exists in a particular location and the type(s) (fixed and/or mobile) of coverage available. The quality and reliability of Internet coverage as well as meaningful connectivity determines how productively the Internet can be used. High-speed broadband with inexpensive data is increasingly important for development. More fundamentally, in some places, reliability can also be a question of whether or not electricity is reliably available. Finally, availability also refers to whether affordable, good quality digital devices can be easily purchased - desktop computers, laptops, tablets, smartphones and mobile phones.

According to GSMA 2022[17], globally the gender gap in smartphone ownership has reduced for the first time since 2017. However, women are still 15% less likely than men to own a smartphone. They are much less likely than men to purchase their own smartphone and have less autonomy and agency in smartphone acquisition. Although it is possible to access the Internet on a feature phone, Internet use is typically much richer, more regular and varied on a smartphone. Women are also more likely to access the Internet exclusively on a mobile handset in most of the countries surveyed by GSMA, which highlights the importance of both increasing mobile access for women, as well as reducing the mobile gender gap.

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[17] https://www.gsma.com/r/gender-gap/

Affordability refers to how much Internet connectivity, data and digital devices cost relative to local income. The affordability target developed by the Broadband Commission for Sustainable Development: by 2025, entry-level broadband services should be made affordable in low- and middle-income countries at less than 2% of monthly Gross National Income (GNI) per capita[18]. Policy choices by governments, and investment choices by telecommunications companies, have a direct impact on whether and where the Internet and devices are available and affordable.

> **Box#: India Case Study.** In India, one of the Internet Service Providers noticed that they had far fewer women customers than men. To change this, the company ran a pilot program that offered a 2 SIM-card plan. If the husband used one SIM card and the wife used the other, then any data added onto the husband's SIM card was automatically added to the wife's SIM for no extra charge. In the six months of the pilot, 30% of new customers chose this plan. Of those new customers, half were women, and for nearly a third of them it was their first time being connected. According to a survey, the husbands' appreciation of the value of having their wives connected also improved (from 54% to 86%). This is a powerful example of how the private sector can play a very important role in overcoming the gender digital divide.

Online Safety and Security. Online safety and security are crucial for women and girls' digital inclusion. Having the knowledge and skills to navigate online spaces safely is – unfortunately – increasingly important. It is important to give particular attention to this when assessing gender digital divides because it appears to be a greater issue for women and children than for men, on average. Women and children are more likely to be victims of online harassment, bullying and criminal activities such as trafficking. At the same time, concerns about safety can be used as an excuse to keep women offline or limit their access. These issues, which are all forms of online gender-based violence, have only begun to receive more attention and concern in recent years. There is still a lot of information and data that needs to be collected and studied to understand these issues and how to address them.

A research study called "Alternate Realities"[19] conducted in five countries in Africa found that out of 3,000 women aged 18 to 65, 36% reported experiencing sexual harassment online and 33% reported being the victims of repeated insults online. Much training needs to be done to help women and girls develop the skills they need to navigate online safety.

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18 https://www.broadbandcommission.org/advocacy-targets/2-affordability/, https://www.itu.int/itu-d/meetings/statistics/wp-content/uploads/sites/8/2022/04/UniversalMeaningfulDigitalConnectivityTargets2030.pdf
19 https://www.apc.org/en/pubs/alternate-realities-alternate-internets-african-feminist-research-feminist-Internet

Box#: Uganda Case Study. In Uganda, for example, a national advocacy organization created a game called "Digital SafeTea" ("tea" is slang for the latest news or information). Players are faced with a series of different scenarios that pose the kinds of digital threats that women face on a regular basis and teach them how to handle them. Of course, training can only do so much to help ensure women and girls' online safety and security. Many countries need to update and adopt laws and regulations to try to prevent and punish perpetrators.

Enablers Enablers assess how much Uzbekistan is focusing resources on reducing the gender digital divide. It captures progress by reviewing efforts to promote digital inclusion. In particular, Enablers looks at digital literacy and skills development and gender-relevant digital content.

Digital Skills and Literacy. Digital literacy and skills are key enablers for the full inclusion of an individual into modern society: this is especially true for women, who are often marginalized solely based on their gender. Even if access and online safety are addressed, a woman will not profit from such access which lacks the knowledge and abilities needed to utilize the Internet effectively. In this case, a woman will stay digitally excluded. Digital skills are increasingly necessary to successfully operate in the field of agriculture, manufacturing or use digital banking. While some women (especially younger ones) may be able to obtain their digital education from sources other than governmentally sponsored programs, for others it may be the only way to educate themselves.

The European Commission's "DigComp 2.2" is generally recognized as a good framework for understanding what digital competencies are required in modern life. There are five core "competence" areas in the DigComp framework.[20] In brief, these are:

- Information and data literacy, which looks at whether a person searches for and finds information online, understands and manages it.
- Communication and collaboration, which includes a person's ability to interact productively with others online and manage their identity.
- Digital content creation, which considers whether a person knows how to develop online content, including copyright, licensing and computer programming.
- Safety, which includes knowing how to protect devices and personal data from hackers.
- Increasingly, this also includes the knowledge and skills to stay safe from harassment, bullying and criminal abuse online.
- Finally, problem solving, which looks at a person's ability to understand and solve technical problems and use new technologies creatively.

20 https://publications.jrc.ec.europa.eu/repository/handle/JRC128415

Some studies have shown that women are more reluctant than men to experiment with and test out new technologies[21]. One explanation for this may be that because of family and household commitments, they may not have the time to prioritize learning new skills on new technologies.

To support digital literacy and skills, the government has to develop and use the Digital Literacy and Skills Competency Framework, implement it in its K-12 education programs and collect gender-disaggregated data.

Box#: Nepal Case Study. In Nepal, for example, after the launch of a new e-payment application, the company noticed that only 17% of their users were women, and most of them were inactive. The company saw this as a business opportunity. They launched a training program that reached around 10,000 women and girls aged 15-35. They used a mobile app-based program to teach the women financial knowledge and skills using videos, quizzes and short tasks. These were quick, easy-to-access on their own time, and taught the women how to make payments and receive money from others. The company prioritized training for women who owned and operated their own small businesses, especially in rural areas. As a result, over 20,000 shops now accept this e-payment system and around half of the active users are women. This is an example of how the private sector can be an important partner in addressing barriers to women's digital inclusion.

Relevant Content. Relevant content can be defined as diverse online information that serves the interests and needs of all individuals and communities. If people cannot easily find information online that is interesting or useful to their lives, they cannot or will not go online or use digital technologies. In other words, a person's digital access and skills are meaningful only if there is content relevant to them.

Box#: Mali Case Study. In Mali, for example, women living under the poverty line, including widows, may be turned out by their families. Often, they are poorly educated or illiterate. To reach these women with important health information and job opportunities, an organization developed a social networking app designed with low-literacy individuals in mind that used clear symbols to access information that was voiced in local languages. The app helped these women find work in their communities and improve household incomes. It also helped save expense and time lost traveling to health clinics for information. Creating relevant content must be designed with specific end-users in mind.

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21 https://eige.europa.eu/publications/gender-equality-index-2020-report/gendered-patterns-use-new-technologies

Impact The Impact category describes the extent to which countries are succeeding in eliminating the gender digital divide. It captures impact by looking at women's use of digital technologies and success in pursuing digital careers and leadership positions.

Use. Productive use of the Internet and digital technologies means women can benefit fully and equally with men from being online and using digital technologies. Use assesses the extent of gender gaps across indicators such as Internet and social media usage, mobile phone usage, frequency of usage, and digital payments. Use also includes skills and literacy level. GSMA research has found that women are often less confident in independently acquiring the digital skills required to use a mobile phone and are more concerned with the consequences of making mistakes. [22]

Box#: Albania Case Study. In Albania, the World Bank Group, jointly with several partners, is implementing the «Digital Jobs Albania» initiative to provide young Albanian women from 16 to 35 years old with more access to online work opportunities and connect them to the Global Economy. The program has three main educational focuses: digital marketing, graphic design and web development. The final aim is to «equip participants with the marketable skills needed to earn income on some of the top online freelancer websites such as Upwork, Fiverr, Freelancer and People per Hour.»[23]

Leadership. Evidence of women's full digital inclusion can be seen when they hold key decision-making positions across the public, private and academic sectors related to digital transformation. In the government, this may be at the head of a Ministry of ICT or telecommunications or data regulatory bodies, for example. In the private sector, women Executives and Directors at telecommunications and technology companies point towards women's digital inclusion. Women Professors in STEM fields at leading public and private universities and colleges also are evidence of women's digital inclusion. Having women in leadership positions is critical for providing mentoring and role-modeling for rising generations of younger women. Having gender equality experts and women-owned and civil society organizations working with gender inequality issues is crucial for developing gender-sensitive policies and equitable digital technologies and solutions.

Box#: Rwanda Case Study. Paula Ingabire, Minister of Information Communication Technology and Innovation took office in 2018; previously, she served as Head of the ICT Business Development Department of the Rwanda Development Board and Coordinator of the Kigali Innovation City Project. Minister Ingabire is an MIT graduate[24].

22 https://www.gsma.com/r/gender-gap/
23 https://www.digitaljobsalbania.com/
24 https://www.minict.gov.rw/about

Cross-cutting Factors

Laws and Policies. Understanding and addressing the gender digital divide requires looking at countries' laws, policies, and programs. For example, good policies in the telecommunications sector can encourage the private sector to invest in Internet coverage in places where it currently does not exist. Online safety is an issue that cannot be resolved without government action. And government support programs can target women for digital inclusion, enabling women to take advantage of opportunities offered by the digital labor market and education.[25]

Box#: Bangladesh Case Study. Bangladesh is a good example of how a government can create a sufficient legal framework to address the need of supporting women in ICT. In 2007, the Bangladeshi Prime Minister's Office's Access to Information (a2i) program began, which has a specialized program for gender equality. The program has four gender pillars: organization and staff; programmatic intervention; institutional behavioral change; partnerships. The first pillar is dedicated to supporting the a2i program – it ensures that it is gender-friendly (by promoting equal opportunities & gender-sensitive environment at work). Program intervention ensures that gender considerations are being integrated into designing, implementing and reporting. The institutional behavioral change pillar is designed to address government officials, to build their capacity and awareness to incorporate gender-sensitivity into the decision-making. That includes appointing the gender focal point from each ministry and including women in their digital innovation workflows. Finally, the partnerships pillar looks at the partners of the a2i program, including NGOs and private sector organizations to work jointly on further strategies for promoting gender empowerment.[26]

Social Norms. In every country, social norms affect women's and girls' digital inclusion. Social norms and gendered expectations on women's and girls' roles within the family and society influence their ability to access, use, and create digital technologies and participate in life online. For example, stereotypes about women's ability to understand digital technologies can affect their confidence and willingness to try. Concerns about the appropriateness of women's access to and use of online information can constrain their ability to engage in the digital economy and online society. According to GSMA, "lack of family approval of mobile ownership is not a top barrier in most countries, but in markets where it is relevant, it tends to disproportionately or exclusively affect women." [27]

25 https://www.undp.org/eurasia/publications/gender-equality-digitalization
26 https://egov4women.unescapsdd.org/files/documents/country-overviews-bangladesh.pdf
27 https://www.gsma.com/r/gender-gap/

The prevailing assumption is that unpaid childcare and household work is solely the responsibility of women, even if they have a full-time job, creating additional barriers for women for personal and career development and limiting their opportunity to yield the benefits of digital transformation.

The factors vary from place to place within countries, and their impact is context specific. Together, all these factors may have differential impact, depending on a person's age, level of education, where they live – in an urban or a rural setting – and, of course, gender.

Box#: Kenya Case Study. The study «The long-run poverty and gender impacts of mobile money» conducted by Suri and Jack in 2016 in Kenya shows how access to and the use of mobile money lifted 194,000 households, or 2% of Kenyan households, out of poverty. The results of the study were more pronounced for female-headed families. According to the article, «financial inclusion helped [women] to graduate from subsistence agriculture and to reduce their reliance on multiple part-time occupations. This could be because mobile money allows women to directly access remittances and/or have more agency. It could also be that because women tend not to be the primary earner in the household, they may have been more constrained before the advent of mobile money.»[28][29]

28 https://www.jefftk.com/suri2016.pdf
29 https://www.jefftk.com/suri2016.pdf

CHAPTER 2.

Gender Digital Divide in Uzbekistan

BOX 1: Gender Digital Divide Assessment Methodology

In offline and online study: Reached more than 9,657 men and women whose average age was 28 (online) and 37.7 (offline); 49% of online and 50% offline respondents were women.

The Gender Digital Divide Assessment in Uzbekistan conducted as a part of a joint project of UNDP and the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan "Advancing Digital Transformation in Uzbekistan" which is conducted in partnership with ITU and aims to strengthen the capacity of the Government of Uzbekistan to promote inclusive digital transformation.

This report outlines major findings of the UNDP Gender Digital Divide Assessment (GDDA), which was conducted from July to December 2022. The assessment utilized desk research, expert interviews, and an online and offline survey as the primary data collection tools.

The study, desk research and two types of sociological surveys were conducted:

1. Desk research followed the GDD assessment methodology and included the analysis of regulations, current government's and donors' initiatives and available data.
2. Online Survey: The average age of respondents to the online survey (total sample of 8,607 respondents) was 28 years old, and 49% of respondents were women. The smallest number of respondents live in the Syrdarya region (150 respondents), and the largest number in Tashkent (1,893 respondents).
3. Offline Survey: In an interview format, the offline survey targeted a gender-balanced sample of respondents (1,050) in six regions of Uzbekistan (Surkhandarya, Kashkadarya, Jizzakh, Syrdarya, Namangan and Tashkent regions) and in Tashkent. The average age of respondents was 37.7; 50% of respondents were women.

The Government of Uzbekistan recognizes the problem of the gender gap and is making efforts to address it. The Development Strategy of New Uzbekistan for 2022-2026 aims to ensure gender equality in all spheres of life, including digitalization; the government has adopted more than 20 normative legal acts aimed at comprehensive support of women and at increasing their role

in government and society[30]. In 2021, the Commission for Gender Equality of the Republic of Uzbekistan was established, and the National Gender Equality Strategy in Uzbekistan until 2030[31] was adopted.

"The Government of Uzbekistan has set ambitious goals to expand and improve the country's internet connectivity infrastructure and provide the entire population with the knowledge and skills needed to prosper in the digital age."[32] However, the assessment indicates widespread barriers to gender inclusion that prevent women and girls from realizing their full potential.

Uzbekistan's Digital Strategy, "Digital Uzbekistan 2030," prioritizes digital connectivity infrastructure development, with the goal of providing secure, high-quality broadband, affordable internet to all citizens, including coverage of all "social facilities" (schools, universities, government IT centers, hospitals, health centers, and mahallas).[33]

Section 2.1 Foundations

Access

Since 2018, the Government of Uzbekistan has built out at least 10,000 kilometers per year of fiber optic lines and had reached a total of 118,000 kilometers as of January 2022. Thus, backbone and middle-mile digital infrastructure is increasingly in place.[34] According to ITU data, one out of every five had fixed broadband subscriptions in 2021, compared with one out of 10 people in 2017[35]. The proportion of households with internet access (fixed or mobile) at home expanded from 80% in 2017 to 95% in 2021.[36] GSMA reported that the number of mobile connections in Uzbekistan increased by 2 million (+7.2 %) between 2021 and 2022.[37]

As described below, the assessment identified significant progress in providing internet access—fixed and mobile—across Uzbekistan. Given its availability and affordability, mobile internet serves as the primary means to connect, with only minor gender gaps observed. There remains, however, a lack of access to fixed internet in many households, as the cost of that service is still unaffordable for some.

Availability. The study highlighted a lack of access to fixed internet for many respondents. Online survey respondents confirmed the availability of fixed internet at home (42% of men, 36% of women). For offline survey respondents, 34% of men and 36% of women enjoyed the availability of

30 https://lex.uz/ru/docs/5841077
31 https://lex.uz/ru/docs/5466725
32 https://www.usaid.gov/sites/default/files/documents/USAID_UzbekistanDECA.pdf
33 The Ministry of Information Technologies and Communications (MITC) is responsible for achieving the Digital Uzbekistan Strategy goals and targets.
34 https://diplomatmagazine.eu/2022/04/24/uzbekistan-on-the-path-of-digitalization-achievements-and-plans/.
35 source: https://datahub.itu.int/data/?e=UZB&i=19303&c=KAZ
36 https://datahub.itu.int/data/?e=UZB&i=12047
37 https://data.gsmaintelligence.com/

fixed internet at home. In some remote locations, the gender gap concerning fixed internet access is quite high. In Dekhkanabad (Kashkadarya region), 54% of men and only 33% of women have fixed internet at home, while in Khovos (Sirdaryo region), more women (79%) and fewer men (55%) confirmed they have fixed internet at home. Almost one-third of men (30%) and 13% of women in Namangan city (Namangan region), do not have Internet at home.

Do you have internet service at home?					
Locations	Gender	Yes, fixed Internet	Yes, mobile Internet	No	I do not know
Online survey	M	42%	30%	13%	5%
	F	36%	33%	15%	3%
Offline survey	M	34%	52%	12%	2%
	F	36%	52%	4%	7%

Mobile Internet is a main means for connection. Across all regions, the mobile Internet is a predominant way for connection, though data vary for some respondents in offline locations. Thus, in Khovos (Sirdaryo Region) 42% of men and only 6% of women access the internet through a mobile device, while in Nurafshan (Tashkent region) 98% of men and 99% women connect that way.

What type of connection do you most often use to access the internet?					
Locations	Gender	Yes, fixed Internet	Yes, mobile Internet	ADSL	I do not know
Online survey	M	38%	43%	14%	4%
	F	32%	46%	14%	8%
Offline survey	M	23%	72%	3%	1%
	F	22%	67%	3%	5%

The assessment indicated that a significant portion of the population is familiar with the internet and use it daily (see section "USE"). T*he study showed that both men and women primarily use the internet at home.* That is why access to the internet at home is critical for quality and inclusive use. At the same time, answers from the offline survey showed that the percentage of Internet use outside home and work (makhallya committees, Internet cafes, coworking centers, and shopping centers with Wi-Fi) is significantly higher in urban locations (for example, in Tashkent and Tashkent region, these figures correspond to 49% of men and 40% women). In remote areas, users do not access the internet in public places, most likely due to the undeveloped Internet infrastructure. Conversely, in public places in urban areas such as Tashkent, connectivity is relatively high.

In most of the regions, up to 90% of respondents use some kind of Internet connection at home, a ratio that corresponds with ITU data[38].

Affordability. The costs of Internet packages in Uzbekistan have been relatively stable since 2018, according to the ITU's standard "baskets" of services, although the pandemic does appear — at least temporarily — to have driven up high-consumption mobile data package prices. *In 2021 Uzbekistan reached the Broadband Commission for Sustainable Development global target of less than 2% of GNI per capita for higher-consumption mobile data*[39], but still less above fixed broadband packages. However, according to USAID DECA Uzbekistan, the Internet is perceived as not easily affordable. During the COVID-19 pandemic, the shift to online learning compelled families to prioritize home Internet connectivity. The 80,000 Soum (7.45 USD)/month plan that UzMobile provided was well-liked. However, complaints about reliability and quality were common."[40]

Table 1: Average cost of internet

AVERAGE COST OF INTERNET as % of GNI per capita	2017	2020	2021
Fixed broadband basket	2.5	2.3	2.1
Mobile data and voice basket (high consumption)	2.9 (2018)	3.5	1.1
Mobile data and voice basket (low consumption)	1.6 (2018)	1.7	1.1
Data-only mobile broadband basket	16	2.3	1.1
Mobile cellular basket	1.4	1.1	1.0

Source: ITU, 2021[41]

Respondents in all regions selected the cost of services and devices as the main barrier to accessing the Internet. Cost constituted a dominant barrier everywhere, except for Namangan (9% of men, 1% of women), and the most prevailing in Shurchi (Surxondaryo region), (74% of men, 82% of women) and in Nurafshan (Tashkent region) where 72% of men and 86% of women indicated as much. *For the majority of respondents, the cost of accessing the Internet still exceeds their financial capabilities and is a bigger barrier for women. It is worth mentioning that in the pre-pandemic period, the major reason for not having Internet access was "no need to have it," while the cost of devices and the cost of services were the other two most popular answers[42].*

Device ownership and use. Based on the assessment, almost all regions have a high percentage of individual mobile phone ownership. *Smartphone ownership among women is higher than among*

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38 https://datahub.itu.int/data/?e=UZB&i=12047
39 https://www.broadbandcommission.org/advocacy-targets/2-affordability/
40 https://www.usaid.gov/sites/default/files/documents/USAID_UzbekistanDECA.pdf
41 https://datahub.itu.int
42 https://datahub.itu.int/data/?i=100000&e=UZB

men, which runs counter to the global average gap of 15%[43] in favor of men. Respondents in the online survey confirmed that 87% of women and 83% of men own smartphones. Similarly, in the offline survey, 84% of women and 80% of men use smartphones, though, in 2020, only 72% of people owned mobile (cellular or feature) or smartphones.[44]

Do you own a mobile phone?					
Locations	Gender	No	Yes, regular mobile phone	Yes, smartphone	Yes, both
Online survey	M	4%	3%	83%	10%
	F	4%	4%	87%	5%
Offline survey	M	7%	11%	80%	2%
	F	2%	13%	84%	0.5%

However, in some locations, smartphone ownership remains low. In Bakhmal (Jizzakh region), for example, 52% of men and 55% of women report owing a smartphone). In Khovos (Sirdaryo Region), almost one in five (19) men do not have a mobile phone at all; 64% of them identified cost as the key barrier.

Personal computers (PC) and other device penetration is quite low across the country. However, 14% fewer women than men report owning a laptop or PC.

Which devices do you own?					
Locations	Gender	Laptop	Tablet	Smart TV	PC
Online survey	M	63%	23%	29%	29%
	F	54%	23%	26%	25%
Offline survey	M	29%	6%	19%	25%
	F	30%	4%	13%	22%

In terms of PC ownership, in the Surkhandarya region, only 13% of respondents own one. Meanwhile, four regions show a relatively high percentage of personal computer ownership, including 39% of respondents in the city of Tashkent, Syrdarya and Khorezm regions and 40% in Navoi region. In the Navoi region, less than half of the respondents (46%) own a laptop.

Regional leaders in this indicator were Jizzakh region and the city of Tashkent (72% and 76%, respectively). In terms of tablet ownership among the regions, Syrdarya and Namangan regions are the leaders with each at 33%. At 11% ownership, the Tashkent region registered the lowest rate. In Surkhandarya region, a little less than one-fifth of respondents (18%) own a smart TV, while respondents in both Andijan and Bukhara regions indicated a 46% ownership rate.

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43 https://www.gsma.com/r/gender-gap/
44 https://datahub.itu.int/data/?e=UZB&i=20719&c=KAZ)

A relatively high penetration of Smart TVs was driven by the active promotion campaigns and special price offerings supported by local manufacturer Artel.[45] This approach can be used to support the penetration of other devices such as PCs and laptops.

The assessment showed that women and men use smartphones as a key means of accessing the internet. Other devices are also used for connection, but there is a gender gap, which corresponds to the level of device ownership.

What do you use to access the internet?						
Locations	Gender	Smart TV	PC	Tablet	Laptop	Smartphone
Online survey	M	36%	27%	24%	61%	82%
	F	39%	29%	23%	63%	90%
Offline survey	M	19%	25%	6%	31%	80%
	F	18%	23%	6%	31%	83%

People with disabilities. People with disabilities own even fewer other devices than smartphones.

What device do you own? (share of respondents in %)

Persons with disabilities ● Persons without disabilites
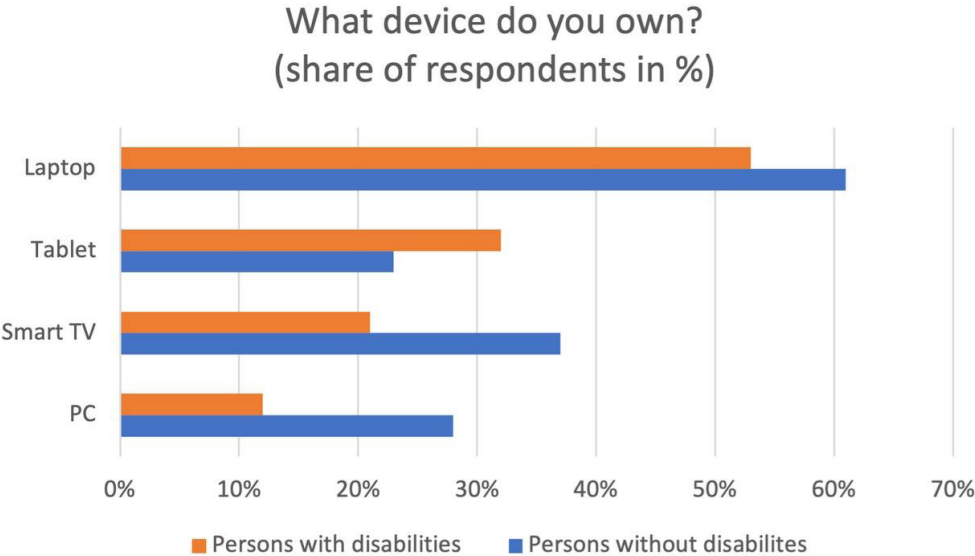
The Government of Uzbekistan has made progress in reaching gender parity in mobile Internet coverage and smartphone ownership. However, fixed Internet remains inaccessible to many households because of the high cost and a lack of availability in some locations. Since mobile

45 https://www.gazeta.uz/ru/2019/09/14/artel/

Internet is not suited enough for productive Internet use such as taking online classes or operating an online storefront people need fixed internet access, which offers higher speed, reliability and data flow. The low penetration of laptops and computers also hinders more efficient use of the Internet.

Online Safety and Security

The number of Internet and social media users, including women, is growing in Uzbekistan, meaning more and more users are exposed to online violence. The number of social media users in Uzbekistan increased 35% from 2021 to 2022, reaching 4.25 million people by January 2022 (about 18.3% of the population, but not necessarily unique individuals).[46] Current estimates for the number of Facebook users are 1.55 million, with 32.9% of them being women.[47] Instagram has an estimated 4.8 million users with 34% women users (a 5.8% growth from 2021).[48] About 120 influencer accounts have more than 500,000 followers, with the top 10 influencers logging 1 million to 3 million followers. The research has not identified any policies regarding gender-based violence (GBV) online, cyberbullying or online violence, and there is no systematic approach from the government to address this problem.

Given the population's growing online presence, safety is a critical challenge. Naturally, animosity and conflict on the Internet, compounded by a sense of anonymity, can result in negative, even dangerous, online interactions, including cyberbullying[49], stalking or other forms of violence. When considering a lack of relevant legislation and the nature of cultural norms and traditions (see section SOCIAL NORMS),[50] safety concerns are legitimate. However, these concerns, which do not appear to be systematically addressed, may serve as an excuse for keeping women and girls offline.

Survey respondents indicated that safety was not one of the barriers they identified as keeping them from accessing the internet. Potential reasons for this may include the following: a) the use of messengers such as Telegram as the main source of communication and the reason for Internet use; b) a lack of overall understanding of a danger the Internet may entail, as the realization of that only comes with more intensive use and adoption.

The analysis has also shown an insignificant correlation between gender and cyberviolence[51], suggesting that safety concerns are not a problem faced exclusively by women. Therefore, as of this writing, these issues should be addressed not only through a safety lens but also through a

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46 DataReportal – Global Digital Insights, 2022. https://datareportal.com/reports/digital-2022-uzbekistan
47 Ibid
48 Ibid. The estimated number of LinkedIn and Twitter users are below 300,000 and 55,000, respectively
49 https://www.unicef.org/end-violence/how-to-stop-cyberbullying
50 https://www.redalyc.org/journal/279/27962050021/html/
51 The respondents received a question about cyberviolence and explanation with the meaning: Cyber violence is harm through electronic forms of communication and contact. The main forms of cyber violence are harassment, intimidation, blackmail using the Internet, the publication and distribution of harassing and compromising messages, pictures and videos, as well as acting on the Internet under someone else's name against his/her will.

social norms perspective. However, a small positive correlation between cyberviolence and age was identified. At the same time, it is unlikely that older people are being targeted for bullying more often; they may respond more emotionally to it.

As the country goes through a period of dynamic digital transformation and internet use has become ubiquitous throughout all population groups, it is essential to develop regulations and policies for and to raise awareness of cyberviolence, thereby providing women and girls with relevant information about the available means of protection and safety. Recently developed ITU Child Online Protection Guidelines52 for policymakers, ICT industry, parents, educators and children could be one of the sources and starting points for reviewing or developing relevant national policies and fostering awareness on cyber hygiene.

Section 2.2 Enablers

Digital Skills and Literacy

Large gender imbalances persist in tertiary education and drive inequality in the country. In 2021, 20% of men older than 25 had attained higher education in Uzbekistan. For women, this number was lower: 13%[53]. Women representation in STEM is low as well. The share of women studying pedagogy and liberal arts (philology, culture and arts) is 68%, while in engineering (IT, energy and mechanical engineer) and legal disciplines, their share is still as low as 24%.[54]

As discussed above, the Digital Uzbekistan Strategy prioritizes digital literacy for the population; however, according to ITU data, Uzbekistan's digital literacy on basic competence measurements was also low in 2020: 15%[55], with a universality target for 2030 of 70% or more[56].

The survey conducted for this report illustrates this data: While most people in all regions indicated they could copy and paste documents, about 67% of women and 73% of men reported that they know how to send emails with attachments. The gender gap is even greater for programming skills: only about 20% of men and 10% of women indicated programming experience.

While the results for basic skills do not differ significantly geographically, Samarkand and Surkhandarya regions demonstrated high results among men and women for advanced skills such as programming. Given that such an unusual spike in skills across the two regions is highly unlikely, the issue must be investigated from the standpoint of a potential data collection failure. In Shurchi

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52 https://www.itu-cop-guidelines.com
53 The Republic of Uzbekistan's State Committee for Statistics/Gender Statistics/Education https://gender.stat.uz/ru/dopolnitel-nye-pokazateli/2021-05-06-12-04-25
54 https://documents1.worldbank.org/curated/en/933471650320792872/pdf/Toward-a-Prosperous-and-Inclusive-Future-The-Second-Systematic-Country-Diagnostic-for-Uzbekistan.pdf
55 https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx
56 https://www.itu.int/itu-d/meetings/statistics/wp-content/uploads/sites/8/2022/04/UniversalMeaningfulDigitalConnectivityTargets2030.pdf

(Surxondaryo region) and Dekhkanabat (Kashkadarya region), the digital skills across all levels (basic, standard and advanced) are quite low for men and women. Specifically, in Dekhkanabat (Kashkadarya region) none of the respondents had performed any of the advanced digital skills for the three weeks prior to the survey. Namangan city (Namangan region) is the only location where 22% of men and 6% of women reported that they hadn't performed any of the digital skills for that same three-week period.

Region	Gender	Digital Skills: Basic, %	Digital Skills: Standard, %	Digital Skills: Advanced, %
Online survey				
Tashkent City	M	83	73	28
	W	63	56	10
Tashkent region	M	74	63	21
	W	47	52	10
Andijan region	M	56	30	11
	W	50	24	6
Bukhara region	M	79	61	20
	W	58	44	14
Jizzakh region	M	48	42	9
	W	26	24	4
Kashkadarya region	M	65	62	30
	W	41	44	15
Navoi region	M	73	62	25
	W	52	46	13
Namangan region	M	75	51	29
	W	63	42	24
Samarkand region	M	63	39	28
	W	64	50	45
Sukhandarya region	M	81	70	58
	W	67	61	52
Syrdarya region	M	70	50	9
	W	65	38	8
Fergana region	M	60	47	22
	W	50	40	12
Khorezm region	M	75	64	23
	W	50	42	19

Region	Gender	Digital Skills: Basic, %	Digital Skills: Standard, %	Digital Skills: Advanced, %
Offline survey				
Namangan city, Namangan region	M	52	41	21
	W	54	16	6
Shurchi, Surxondaryo Region	M	7	1	0
	W	5	16	1
Dekhkanabat, Kashkadarya region	M	9	3	0
	W	11	4	0
Nurafshan, Tashkent region	M	8	9	1
	W	11	9	0
Bakhmal, Jizzakh region	M	20	11	7
	W	9	7	3
Khavos, Sirdaryo Region	M	31	25	3
	W	21	8	0

The assessment identified four main factors that influence digital skills attainment.

1. **Gender:** Women's digital skills lag those of their male counterparts by nearly 24%. (specific gender gaps: basic digital skills – 23%, standard digital skills – 21%, advanced digital skills – 26%).
2. **Age:** Women older than 35 are nearly 10% less digitally skilled than women younger than 35.
3. **Income:** Those earning a higher income are 36% more likely to have gained advanced digital skills.
4. **Education:** Those attaining a higher education are 19% more likely to have developed advanced digital skills.

Women with higher education attainment were 46% more likely to be digitally skilled than women with no education. *Additionally, the analysis showed that both men and women tend to stop developing their skills after they get married;* however, in the rapidly changing, ever-increasing digital world, that trend places couples at risk of falling behind in their digital aptitude.

People with disabilities. On average, people with disabilities have fewer basic digital skills. The overall gap in this underrepresented group is 32%. However, advanced skills such as programming (21% higher) and maintaining computers (7% higher) are higher than for the average population.

Digital skills
(share of respondents in %)

Legend: ■ Persons without disabilites ■ Persons with disabilities
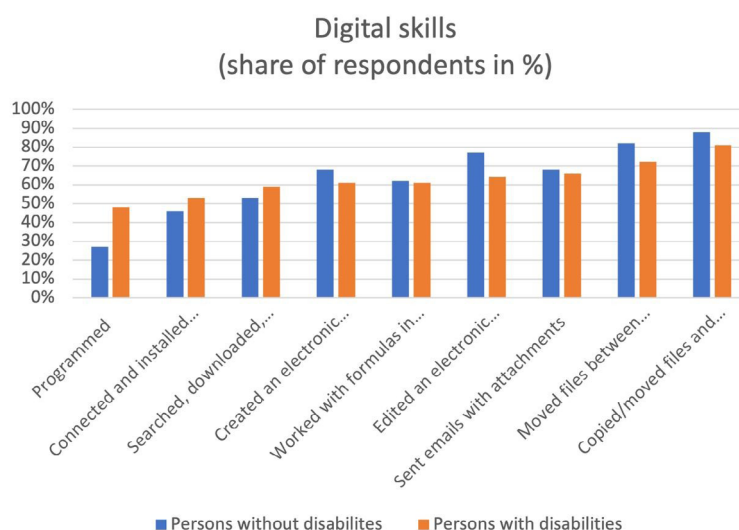
While there are digital skills training programs[57] that address the question of IT education for low-income households, they tend to target youth, leaving the digital gap or the elderly population unaccounted for. Additionally, digital skills programs targeting people with disabilities are largely based on the assumption that those individuals have access to devices other than smartphones, which is not necessarily the case (see section ACCESS). As a result, skills gained from these programs may not be applicable day-to-day for these people.

There is a systemic issue of Uzbekistan lacking a National Digital Skills and Literacy Competence Framework for citizens comparable to the EU's[58]. The Framework would not only help identify critical, fundamental digital skills necessary for individuals to thrive in society and at work, but also provide a systematic approach to benchmarking, monitoring, and reporting on core skills performance. The absence of such a Framework hinders the data-driven decision-making process and makes it difficult to find a clear path to the problem and its solutions.

At the moment, Uzbekistan has a number of digital literacy and skills programs targeting women. The programs and organizations presented below have been selected according to two main criteria: catering to women and being IT-focused. Therefore, some organizations may occasionally have IT training, but do not make it a central focus so they have not been selected for the analysis. The following programs meet both these criteria:

- Tumaris Tech: With support from USAID, this is a program launched in 2020 by IT Park Uzbekistan, a governmental organization functioning under the Ministry for Development of Information Technologies and Communications (MITC). Initially, the program comprised a three-

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57 https://www.gazeta.uz/ru/2022/08/15/it-education/
58 https://www.usaid.gov/sites/default/files/documents/USAID_UzbekistanDECA.pdf

tier structure: educational courses, an incubation program and courses for business angels. As of this writing, incubation and acceleration programs have become the primary focus, and Tumaris Tech has become an international program, distributed throughout the Central Asian region. There are no age limitations for the program, although at the moment, the median age seems to be around 30. Due to the nature of the program, participants already have some capacity for digital skills. Women can participate in Tumaris Tech programs online. Earlier this summer, Tumaris Tech won the WSIS 2022 Award in the «Capacity Building» category.

- GAP is a "women's club" newly formed by the MITC in partnership with IT Park Uzbekistan. This project includes a number of key tasks: to support women in IT, to increase their digital skills and to provide them an opportunity to study and work in the IT industry. According to the press release (in Russian[59]), GAP will be later transformed into a networking platform, which will allow women to network and create joint ventures. GAP does target women of all ages indiscriminately, but no information regarding a required online or offline presence has been released.

- IT Women Uz is a project organized by IT Park Uzbekistan, the Ministry of ITC, Ministry for Support of the Mahalla and Family, Tashkent University for Information Technologies, Amity and INHA universities. It aims to «attract women to the field of information and communication technologies,» with the primary goal of providing women training and employment opportunities in IT. While the project offers computer literacy classes in IT centers (which belong to IT Park) around the country, they do not last long. The third cohort, for example, lasted only two weeks.[60]

- TechBika was a project co-organized by IT Park Uzbekistan, the Ministry of ITC, and Horezm khokimiyat (regional authority). Its goal was to train 1,000 girls and women of Khorezm in ICT technologies and programming. The target audience for the project was girls and women up to 30 years old who met the following criteria: They were either school or university students, those who were unable to enter a university, or those from low-income households[61].

- Technovation Girls Uzbekistan: While Technovation Girls is not necessarily a program per se, it is, nonetheless, a thriving community that deserves a spot on this list. Technovation Girls is an international competition designed explicitly for girls (ages 8-18) to "become tech entrepreneurs and leaders"[62] by developing their skills in coding mobile apps to solve real-life problems. In Uzbekistan, the competition has taken place since, and the community is thriving, attracting both mentors and sponsors. Since the competition arrived in country, one of the teams reached the finals in Silicon Valley, and one became the best junior team in the Asian region.

59 https://mitc.uz/ru/news/4031
60 https://it-park.uz/en/itpark/news/the-third-wave-of-the-project-itwomen-uz-starts
61 https://it-park.uz/ru/itpark/news/v-horezme-sostoyalos-nagrazhdenie-samyh-aktivnyh-uchastnic-proekta-techbika
62 https://www.technovation.org/about/

- One Million Uzbek Coders[63] is a project co-organized by the Uzbek government and the government of the United Arab Emirates to implement the distance learning methodology of the Udacity platform in schools within the framework of the «One million Uzbek coders» project. It had four pathways: data analysis, android development, front-end development, and full-stack development. The total number of students enrolled in the «One Million Uzbek Coders» program exceeded 2.5 million. Of these students, more than 1.55 million received certificates as participants, and 1.17 million received certificates of successful completion of the training course.

- IT women Karakalpakstan is a program launched by USAID in May 2022. The program targets rural women and girls in the Republic of Karakalpakstan. It aims to provide training in crucial ICT skills that will empower women to access a broad range of employment and entrepreneurship opportunities.[64] As of September 2022, 60 women and girls had completed their training, and a number of them had found employment in less than a month[65].

- Multiple universities administer various other initiatives, an incubation center for women at Tashkent University of Information Technologies, for example. INHA University conducts a once-a-year course on digital literacy for women (it is open to everyone, not only students at the university). Amity University also offers courses for young women (18-25) in full-stack development,[66] although the conditions for these courses are quite strict: participants have IELTS of 7 or above and are required to have their own laptops, which immediately eliminates many potential students from eligibility.

63 https://udacitygovernment.zendesk.com/hc/en-us/categories/360005725052-One-Million-Uzbek-Coders
64 https://www.usaid.gov/uzbekistan/press-releases/may-27-2022-usaid-launches-it-women-karakalpakstan-training#:~:text=IT%20Women%20%E2%80%93%20Karakalpakstan%20is%20a,mentorship%20support%20throughout%20the%20program.
65 https://www.spot.uz/ru/2022/09/17/it-women/
66 https://it-park.uz/ru/itpark/news/besplatnye-intensivnye-kursy-dlya-devushek-po-web-fullstack

Table 2: Illustrative table of some educational programs

Name of the initiative	Educational component	Networking	International support	Governmental support	Resources provided
Tumaris Tech	Incubation program for startups, hackathons	Yes	Yes, the program is supported by USAID and going regionally	Yes, implemented by IT Park Uzbekistan	Mentors and trackers
Gap	N/A	Yes	N/A	Organized by the Ministry of ICT	N/A
IT Women Uz	Yes, IT related trainings	N/A	N/A	Yes – organized by IT Park, MICT and other partners	Employment support, access to the physical infrastructure within the network of IT Park Uzbekistan
Technovation Girls Uzbekistan	Mentoring during the preparation stage	Yes	Yes, this is the branch of the international competition	N/A	Mentoring support
University-based educational programs	Incubation programs and courses	No	Yes, universities have international partners	Not direct; some universities work with IT Park Uzbekistan	Physical infrastructure, mentoring
IT Women — Karakalpakstan	Yes, educational courses	No	Yes, the project is being implemented by USAID	Yes, has support of IT Park Uzbekistan	Training courses (IT Academy, associated with IT Park Uzbekistan), access to the physical infrastructure within the network of IT Park Uzbekistan

Source: The GDDA research team

The absence of a National Digital Literacy and Skills Competencies Framework prevents a consistent national approach to identifying and developing core skills in diverse communities, in the workplace and in the classroom. While great projects have been created and developed, and indeed more are coming, they exclusively target youth, thus overlooking the digital gaps among the elderly population and those with disabilities. There is also a general problem of not providing women of all ages an opportunity to learn programming skills, as most programs lack this area of focus.

Relevant Content

Globally, a lack of relevant content is another reason women are less engaged online[67]. Relevant content for women may vary from health apps — period trackers, for example, or apps that help teenage girls understand their human anatomy — to educational computer programs designed to combat challenges women are more likely to encounter.

While these apps and computer programs exist in the Russian language in Uzbekistan, there is insufficient content available in the Uzbek, Tajik and Karakalpak languages. The survey results have proved this theory: Respondents identified a lack of content in the Uzbek and Karakalpak languages as a barrier to accessing the internet, although respondents identified that obstacle as less significant than was seen as less a threat than the hurdles of high cost or low skills development.

The private sector, civil society and academia aim to tackle the problem many women find accessing the internet, although in a broader scope, which doesn't specifically target women, but rather their community as a whole. According to the USAID DECA Uzbekistan report, most of the national-language (Uzbek) content is entertainment-based as opposed to educational content, which is sorely needed in Uzbek, Tajik and Karakalpak. As a result, a number of public figures, business leaders, and organizations have launched programs that produce content in Uzbek. For instance, Uzbek companies started the MFaktor channel to advertise business material in Uzbek.[68]

However, some educational content is available through programs funded by various international donors. In 2021, for example, the OSCE Project coordinator in Uzbekistan developed a two-week training course for young women managers[69], in women gained knowledge in marketing, business and financial management.

There is a market demand for relevant content in Uzbek and other languages, which is going unmet and should be accounted for.

Section 2.3 Impact

Use

According to government data as of July 1, 2021, there were 27.5 million mobile subscribers in Uzbekistan, 90 percent of whom were individual users.[70] This is an almost 9% increase over the number of mobile internet subscribers just one year prior. The data do not indicate how many mobile users are subscribing to broadband services.

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67 https://unesdoc.unesco.org/ark:/48223/pf0000367416
68 https://www.usaid.gov/sites/default/files/documents/USAID_UzbekistanDECA.pdf
69 https://www.osce.org/project-coordinator-in-uzbekistan/490544
70 "Number of Mobile Subscribers in Uzbekistan Exceeds 27.5 Million." UzDaily.uz. September 6, 2021.
   https://uzdaily.uz/en/post/67864

Figure 2: Percentage of the population using the internet in urban and rural areas, by gender

Percentage of the population using the internet in
urban and rural areas, by gender, 2020
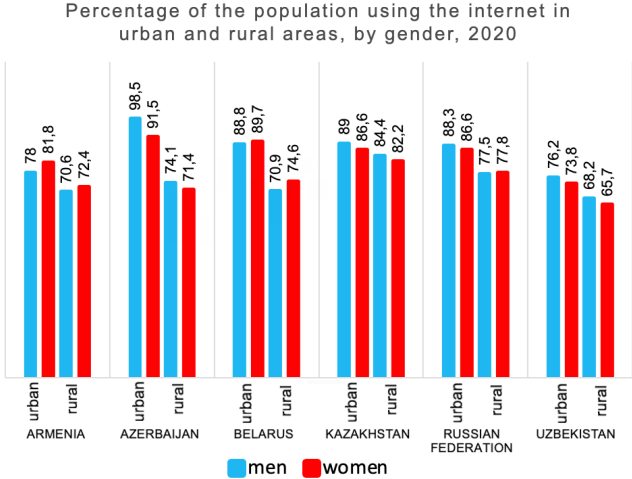
Source: ITU, 2020

It is clear, however, that these users who frequently use the internet gravitate to a number of popular services such as the messenger platform, Telegram,[71] or the Russian-owned social network Odnoklassniki.[72] Most of users are youth.[73]

While online financial services are available in the country (PayMe, Click, etc.), they are not as widespread due to the overall low bank account ownership. According to the World Bank's most recent Global Findex Database 2021[74], only 44% of adults in Uzbekistan have bank accounts, and only 39% are women.

Many other use cases requiring a strong internet connection are either under development or are already in use — Medtech[75] or edtech projects, for example.

Knowledge about the internet and frequency of its use. The offline survey showed that respondents in Nurafshan city (Tashkent region) are the most knowledgeable (90%) when it comes to the Internet. The most informed women with regard to the internet live in Namangan city (Namangan region), where 93% of women respondents reported knowledge about the internet. In Bakhmal (Jizzakh region) that ratio falls to 51%. Also, in Bakhmal (Jizzakh region), 35% of women and 32% of men have heard about the internet but have never used it. The largest gender gaps between men and women appear in Dekhkanabad (Kashkadarya region) and Bakhmal (Jizzakh region). In both Namangan city (Namangan region) and Khovos (Sirdaryo region), more women than men

71 https://review.uz/post/uzbekistan-v-socialnx-setyax
72 https://nuz.uz/obschestvo/1221959-nazvany-samye-populyarnye-u-uzbekistanczev-soczseti.html
73 https://senat.uz/ru/lists/view/3932
74 https://www.worldbank.org/en/publication/globalfindex/Report
75 https://mininnovation.uz/ru/news/2175

reported knowledge about the internet. In Khovos (Sirdaryo region), 23% of men do not use the internet because they believe it useless. *These numbers correlate with the percentage of smartphone ownership. As mobile internet and smartphones are the primary means to go online across the country, a lack of smartphone ownership leads to less knowledge and less internet use.*

How familiar are you with the internet?					
Region	Gender	I know it well and use it	I have only heard about the internet, but have not used it	I Haven't heard of the it	I don't use it, I don't need it
Namangan city, Namangan region	M	83%	13%	0%	4%
	F	94%	6%	0%	0%
Shurchi, Surxondaryo Region	M	95%	3%	0%	3%
	F	90%	5%	0%	5%
Dekhkanabad, Kashkadarya region	M	93%	3%	0%	4%
	F	85%	7%	0%	8%
Nurafshon, Tashkent region	M	95%	4%	0%	1%
	F	93%	4%	0%	3%
Baxmal, Jizzakh region	M	59%	32%	7%	3%
	F	51%	35%	7%	8%
Hovos, Sirdaryo Region	M	75%	3%	0%	23%
	F	89%	3%	1%	7%

According to the online survey, women use the internet on a daily basis more than men (83% versus 81%). The offline survey, however, revealed the converse with men reporting daily internet use more often than women. In Tashkent city, most of the respondents use the internet every day (96%). In the Surkhandarya region, only 30% of respondents access the internet at that frequency. The majority of offline respondents use the internet every day with exceptions in Bakhmal (Jizzakh region), where 24% of women use the internet just several times a week.

How often do you use the internet?					
Locations	Gender	Once a month	Once a week	Few times a week	Daily
Online survey	M	1%	3%	15%	81%
	F	1%	2%	10%	83%
Offline survey	M	0%	1%	6%	93%
	F	0%	0%	13%	87%

Quality of use. In all regions, the primary purpose for internet use among both men and women is to communicate with others, the secondary purpose is online search. All underrepresented groups (women, elderly people, people with disabilities) and married people tend to use fewer digital services (Payme, Click, Apelsin, etc.) for financial transactions. The use of these services increases with higher levels of income and education.

The largest gender gap appears respondents using the internet for business, online gaming, accessing government services and paying for services. In all offline locations, respondents reported actively using the internet to make personal financial transactions. Internet use for that purpose was higher among respondents living in urban areas. In Dekhkanabad (Kashkadarya region), for example, none of the respondents confirmed use of internet for business and none of the women respondents reported using the internet to access government services, but 66% of men and 52% of women said they use the internet to pay for services (Payme, Click, etc.). Both men and women respondents identified Instagram and Telegram as their preferred social media platform and messenger respectively.

Region	Gender gap in internet use for business (as a percentage)	Gender gap in internet use for government services (as a percentage)	Gender gap in internet use for online gaming (as a percentage)	Gender gap in internet use for paying for services (Payme, Click, etc.) (as a percentage)
Tashkent City	54	31	62	16
Tashkent region	50	31	88	19
Andijan region	73	45	68	-30
Bukhara region	27	31	54	13
Jizzakh region	0	59	56	34
Kashkadarya region	38	40	59	17
Navoi region	80	50	71	31
Namangan region	0	-50	19	0
Samarkand region	22	-7	- 76	9
Sukhandarya region	40	56	14	29
Syrdarya region	38	22	47	7
Fergana region	67	69	50	56
Khorezm region	92	39	87	29
Remote locations	44	50	46	30

Main barriers for use. Both men and women cited the cost of Internet services and devices, along with a lack of skills, as key barriers keeping them from making full use of the internet and other digital technologies. Internet access remains unaffordable for many with 51% of women

respondents identifying cost as the biggest obstacle to accessing the internet. Respondents in both Shurchi (Surxondaryo region) (74% of men, 82% of women) and Nurafshan (Tashkent region) (72% of men, 86% of women) identified a lack of income as the most common barrier. At the same time, respondents in Dekhkanabad (Kashkadarya region) and Nurafshan (Tashkent region) also identified infrastructure and security as barriers. In Dekhkanabad (Kashkadarya region), respondents highlighted a lack of content in the Uzbek language as a barrier. In the online survey, respondents named additional barriers, such as a lack of content in the Karakalpak language, the lack of privacy and security of correspondence in instant messengers, and legal prohibitions on social networks.

The quality of users' online experience is closely tied to internet availability, the level of their digital skills and the availability of relevant content. Gains in these areas will increase internet usage and render a quality, more productive user experience.

Leadership

The country's current leadership demonstrates a clear commitment to supporting and promoting gender equality; however, there is much to be done to ensure equal representation and the presence of strong female role models.

At a meeting commemorating the 27th anniversary of the adoption of the Constitution, Uzbekistan's president said that "The role of women in identifying and timely solving social problems, and strengthening the effectiveness of management is great. Therefore, we will continue the policy of increasing the role and status of women in society, appointing them to responsible positions even more actively."[76]

First Deputy Minister for MITC Oleg Pekos, during his speech at an IT center for advanced training of women, said, "It is essential for our republic to pay special attention to the education of women, including in the field of IT; after all, if we train one man, we get one good worker. But by teaching girls, we get an educated new generation. We would like to see more women in our team every year, since at the moment their percentage is only 33%."[77]

The recent appointment of Kamola Sabirova as the gender advisor to the Minister for MITC clearly demonstrates that the government recognizes not only the need to promote women to leadership positions but also the demand for the proper representation among the governmental officials.

Women, however, still lack representation at the decision-making and management levels in all sectors, meaning that women have not reached the 30% ratio necessary to influence decision-making. The ratio between women and men in management in Uzbekistan is 27% and 73% respectively.

76 https://kun.uz/ru/news/2019/12/08/mirziyoyev-vyskazal-svoye-mneniye-na-schet-gendernogo-ravenstva
77 https://yuz.uz/ru/news/strana-stiraet-genderne-ramki-v-sfere-it

Women's participation in the management of private enterprises is among the lowest in Central Asia, and women entrepreneurs are often not taken seriously[78]. In this context, it is estimated that the digital gender divide caused Uzbekistan to lose approximately US$8 billion in GDP in the last decade, a dramatic increase from 2020, when that cost was estimated at approximately US$755 million. [79]

A lack of publicly available information regarding women in leadership roles makes it difficult to assess women's participation in business leadership. While it should be noted that there are some women public figures in the ICT sphere, most of them reside on the startup end of the ecosystem. No data regarding women investors for any stage ventures was uncovered. It should be noted that IT Park does not collect gender-disaggregated data about its residents, nor is such information made public by the Ministry of Innovation. As a result, there is a lack of data about women startup founders or women employed by startups or tech companies for ICT positions such as women data scientists, developers and testers.

The assessment did not identify career programs that nurture women leaders in the private sector. International donors and organizations have been increasingly active in the country, providing support and feedback to various initiatives. While some of these entities may not have a gender mandate in the country per se, such as the Organization for Security and Co-operation in Europe, they do, however, support gender-related projects, such as Coozin[80]. The USAID is incredibly active in the country, in terms of the number of projects and policies supported. Other notable organizations are European Bank for Reconstruction and Development, the Asian Development Bank, the International Telecommunication Union and World Bank.

It should be noted, however, that despite the progress mentioned above, the number of women in ICT leadership across both public and private sectors remains low. Some companies choose not to publicly identify employees and employee teams. This lack of visibility can negatively affect women's progress in leadership positions.

Uzbekistan's leadership has demonstrated its commitment to supporting and promoting gender equality, including programs such as the GAP project, organized by the MICT. Government and development partners are launching more and more programs aimed at attracting girls to the IT profession through training, hackathons, and support for startups.

At the same time, the assessment showed few women role models in society and in the technology field, particularly as that applies to the private sector. The largest private tech companies do not publish information about their management; women investors do not invest in technology projects. A lack of female representation and programs to support women leadership leave girls and young women with no female role models or space to develop as women leaders of a new generation.

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78 World Bank, "Second Systematic Country Diagnostic for Uzbekistan", April 2022. P. 90; USAID, ibid., pp. 25-26.
79 A4AI report "Costs of Exclusion Report", October 2021. https://a4ai.org/research/costs-of-exclusion-report/
80 https://coozin.uz/

Section 2.4 Cross-cutting Factors

Laws and Policies

This chapter of the report will look at the legal system of Uzbekistan through a prism of gender analysis, with a focus on documents related to digital development and digital skills. While it must be noted that the government is already taking significant steps to support the cause of women's empowerment, more can be done to achieve women's full digital inclusion.

The main challenge that should be addressed within the framework of documents discussed below is the overall structurization of gender-related documents and, respectively, efforts of various governmental bodies.

The policy and normative documents presented below are the most current, available versions as of the writing (August 2022) and include strategies that have not yet reached their conclusion.

- In 2020, the country adopted the Digital Uzbekistan 2030 Strategy, which features five areas of focus: Digital Infrastructure, E-government, Digital Economy, National IT Sector and IT Education. While the document identifies priorities, it lacks a section dedicated to gender or any mention of gender-specific policies, programs or KPIs.

  The chapter of the strategy dedicated to the National IT Sector does cover startups but does not focus on supporting female-owned businesses or programs that could have supported them and which would not only promote IT skills and IT-related entrepreneurship, but also help foster women role models.

  While the document dedicates a chapter to education, it misses the opportunity to address the severe underrepresentation of the female population in STEM education in general and in IT-related fields in particular.

  The document has brought a number of benefits to the IT community of Uzbekistan and provided the framework for future developments, though there remains a need to infuse gender into the Digital Strategy, thereby increasing women's participation in the policy and regulation development process and promoting measures to achieve gender equality in ICT/tech sector leadership.

- In 2021, Uzbekistan officials adopted the "Strategy of Achieving Gender Equality in the Republic of Uzbekistan Until 2030"[81]. The existence of this document does not imply that the question of gender equality has never been addressed. In fact, it is quite the opposite. As this recorded in the beginning of this chapter, the government has already taken significant steps to ensure

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81 https://lex.uz/ru/docs/5466725?otherlang=4

that the question of gender equality is taken seriously. The Strategy serves as a framework to demonstrate the current (as of 2021) achievements and to propose and implement further steps to move gender equality forward.

The document undoubtedly presents fundamental ideas for the overall development of gender equality in the country (including the changing of how society as a whole views women). For the purpose of this report, however, a few concrete abstracts are the most interesting.

First, the strategy promotes the idea of "widely involving women in scientific activities, supporting software development, innovative development […] based on modern information and communication technologies." This notion is highly relevant for bridging the gender digital divide by supporting women inclusion in the ICT sector.

Second, the strategy points at the education system, as it calls "to establish the practice of gender examination of existing and future school textbooks, educational materials and other publications in accordance with the principle of non-discrimination on the basis of gender." Naturally, social and cultural norms play a significant role in the perception of gender. The fact that it has been acknowledged at the strategic level, along with a clear call to action, demonstrates the high level of commitment among governmental bodies.

This document is a perfect example of legislative measures approved in support of women. In so far as some additional measures explicitly tackle the gender digital divide, it will serve as a prime example to follow.

- While "New Uzbekistan development strategy for 2022-2026" clearly outlines the country's priorities, it does little to account for gender inclusion.

One of the strategy's key directions is "conducting a fair social policy, developing human capital," which suggests broader support for gender-related policies. Goal 69, for example is gender-specific: "Support women and girls, ensure their active participation in the society." While that does not specifically address either digital skills or digital development among women and girls, it does state more broadly the imperative of "continuing the policy of ensuring gender equality, increasing the socio-political activity of women, implementation reforms to support them."

Thus, the same general recommendation could be made here: it is necessary to devote more attention to gender issues, and specifically to those issues as they relate to digital transformation. More comprehensive recommendations are provided below.

- The Presidential Decree "Further strengthening guarantees of women's labor rights and related measures to support business activity" is a gender-specific legal document dedicated to supporting women's activities.

While the title of the document highlights the fact that the document is dedicated to women's business activities, it almost wholly neglects the digital component of establishing a business venture. The decree does mention the idea of establishing "Women's Entrepreneurship Centers", part of whose purpose is to foster the "formation of women's skills in [...] use of modern information technologies."[82]

- The State Committee has begun working in accordance with the 2022 Presidential decree "On the organization of the activities of the State committee of the family and women." [83]While the Committee waws formed relatively recently, its report[84] covering March to May 2022 suggests that a lot has been done to promote gender equality and women's leadership in the country. In 2022, the Committee organized round tables and competitions for women and youth and developed measures to increase the activity of women in the public sector.

- The establishment of the "Iron notebook", "Women's notebook" and "Youth notebook" to identify and support disadvantaged families and persons in need, including women and girls, particularly during the COVID-19 pandemic, provided financial assistance for women, including access to loans with favorable terms that they can use to start their own businesses[85].

- Uzbekistan's current legislation in the field of gender is ranks 135th in the world, according to the World Bank's 2022 Women, Business and the Law report[86]. One of Uzbekistan's lowest scores aligns with the indicator assessing inequities in women's compensation, which may be improved by "mandating equal remuneration for work of equal value, allowing women to work in jobs deemed dangerous in the same way as men, and allowing women to work in an industrial job in the same way as men."[87] Based on stakeholder interviews, pay equity for women is highly relevant for the ICT sector as well. As long as these compensation gaps exists, women may find it more difficult to pursue a career in this sector, a consequence of which may be fewer women role models for the next generation of women professionals.

- Uzbekistan ranks 56th in the world with regard to gender equality and as determined by the UNDP Gender Inequality Index 2022. (Denmark ranks first, Yemen last.) Uzbekistan's ranking is relatively high in the Central Asia region, where only Kazakhstan ranks higher at 41st. Tajikistan and Kyrgyzstan rank 68th and 87th[88] respectively.

Within the online and offline framework, issues of legislation and regulation were not explored. Nevertheless, in the online survey, when instructed to name "the barriers that prevent you from fully

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82 https://lex.uz/ru/docs/4230938?otherlang=4
83 https://lex.uz/en/docs/5884829?otherlang=4
84 http://www.wcu.uz/oz/lists/view/60
85 https://lex.uz/ru/docs/5932671
86 https://wbl.worldbank.org/en/wbl
87 https://wbl.worldbank.org/content/dam/documents/wbl/2022/snapshots/Uzbekistan.pdf
88 https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII

using the internet and digital technologies," some respondents indicated Uzbekistan's legislative prohibitions regarding social media platforms. It is possible that government restrictions surrounding the TikTok, Twitter and VKontakte platforms have undermined user trust and online activity.

The review of the policies reinforces the importance of integrating gender perspectives into digital innovation, strategies and policies. Additionally, the general database of gender-related documents and gender-disaggregate data collection and analysis is insufficient, suggesting a lack of coordination among stakeholders on the regulation and measurement of gender digital inclusion.

Social Norms

Generally speaking, given the legislation that is both approved and under development, Uzbekistan is moving closer to its goal of achieving gender equality in all areas. The problem, however, is that, despite existing laws, a number of barriers regarding discriminatory gender stereotypes and patriarchal norms are firmly rooted in society. Uprooting these norms — and thereby eliminating these barriers — will require changes in how women and particularly men view roles and relations between them. Without that social evolution, which can be slow to materialize, fully implementing new legislation will prove difficult.

These barriers explain the persistent inequality between women and men in terms of accessing property, finding representation among managers in the workplace, earning power, career opportunities and more.

In Uzbekistan, women tend to marry at a younger age than men (the average age for women is 22.3; for men, 26.5.) However, women also tend to attain less education than men or to marry while still pursuing their education. These observations are supported by the following table.

Table 3: The number of marriages in Uzbekistan according to education levels among brides and grooms.

	Bride	Groom
Below secondary special education	87 614	34 727
Secondary special education	169 561	213 382
Incomplete university level degree	35 017	17 946
University level education	13 019	39 156

Source: The State Committee of the Republic of Uzbekistan[89]

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89 https://gender.stat.uz/en/main-indicators/demography

The UNDP report on Negative Impact of Gender Stereotypes and Patriarchal Norms on Gender Equality in Uzbekistan showed that:

- 70% of respondents support the stereotype that *Women should spend more time with family, run the household and care for their children.*
- 61% of men agree that *only a man can be a successful entrepreneurial*
- 36% of men and 23% of women believe *women are inept in the fields of science engineering*

USAID DECA states, "Even where girls are included, they tend to be funneled toward data entry or graphic design and away from higher-paying skills such as coding or IT systems management."[90] This was confirmed during GDD Assessment team interviews with universities and government representatives.

Many stakeholders during interviews emphasized the role of fathers and husbands in making decisions about a woman's occupation. Universities noted that providing courses outside school hours, such as summer break, may reduce the opportunity for girls to participate due to family restrictions. All stakeholders emphasized the need to work with men to change gender stereotypes and norms.

The prevailing assumption is that unpaid childcare and household work are the sole responsibility of women, even if they have a full-time job. That only creates additional barriers for women with regard to personal and career development. Women spend about 5.27 hours daily on unpaid childcare and housework, while men only spend 2.15 hours[91].

In spite of those gender assumptions, few survey respondents indicated from a list of barriers that, «My family does not allow me to use the Internet.» A mere 1% of women in Namangan city (Namangan region) and Dekhkanabad (Kashkadarya region), indicated as much, which suggest that domestic use of the internet and smartphones is an acceptable norm exempt from gender restrictions.

While the scope of this report does not allow a full exploration of the many social stereotypes throughout modern-day Uzbekistan, it is worth mentioning that that society is changing in this regard, especially in urban areas. Things that were not possible for young women in the past are possible now and, presumably, will be even more so in the future.

Acknowledging that social norms and stereotypes take time to evolve, it is crucial to develop an inclusive and empowering environment for women, to elevate and embrace women role models, and to provide opportunities for girls and young women to grow in the areas of education, employment and entrepreneurship.

90 https://www.usaid.gov/sites/default/files/documents/USAID_UzbekistanDECA.pdf
91 https://gender.stat.uz/ru/dopolnitel-nye-pokazateli/ekonomicheskie-resursam

CHAPTER 3.
Key recommendations for bridging gender digital divide in Uzbekistan

- Foundations: Access

Support initiatives to connect and promote community centers with free Wi-Fi, especially in remote locations where access to high-quality fixed Internet is limited

Based on the current survey, almost all regions have a high percentage of individual mobile phone ownership and mobile internet connectivity. However, the study shows that despite improvements in the availability of fixed internet access, many people still use mobile internet at home because fixed Internet remains expensive and is not available everywhere. In light of this, this report recommends prioritizing infrastructure projects in those regions where the need is greatest. As the study shows, the cost of internet access remains an obstacle to many people across the country, particularly women.

To overcome the problems of availability and accessibility, it is proposed to grow connectivity in community spaces such as IT centers and public libraries and to promote these places as access points for the general population. These public places can also be equipped with publicly accessible computers, thereby offering the public an opportunity to connect to Wi-Fi at no charge. Some public sites may also provide space reserved exclusively for women. This will help women connect while minimizing possible interference from family members. ITU could support these activities.

- Foundations: Online Safety and Security

Support formulation of GBV online legal concept and create innovative approach to preventing GBV online through education component in school curriculum and online awareness

Liability for cyber violence: This report recommends preparing a GBV online policy, which would provide legal framework adoption to address today's concerns around gender-based online violence, including legal norms and definitions about different forms of cyber violence. The report also recommends developing and administering training for judges and enforcement agencies to ensure their ability to enforce online GBV laws and norms. When developing this kind of legislation, one may look to similar efforts in Sweden[92] and South Africa[93]. The government could also cooperate with UNICEF to develop a policy that promotes child safety

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[92] https://nathatshjalpen.se/en/a/harassment/
[93] https://www.gov.za/sites/default/files/gcis_document/202106/44651gon324.pdf

online.[94] ITU Child Online Protection guidelines for policymakers[95] offer a user-friendly, flexible framework that supports the development of targeted and effective measures for child online protection at the national level. Guidelines for industry[96] provide a useful framework for casting a business vision and accounting for related responsibilities regarding child protection.

To create a culture of ethical online behavior, this report proposes working with Ministry of Education (MNO) to develop and include in school curricula 1) a lesson on cyber ethics and cyber hygiene (workbooks, games, trainings and guidelines for children, teachers and parents are available at the ITU Child Online Protection website[97]), as well as a resource depository for teachers and parents (e.g., https://www.trendmicro.com/Internet-safety/); 2) a Digital Citizenship for Families with Kids (online course)[98] to simultaneously involve children and parents in the process of understanding technologies, including their benefits and risks. A course can show the role technologies plays in the lives of boys and girls and portray girls who, through their use of technology, solve life's challenges and live successful, fulfilling lives. This approach will involve different age groups in the educational process and will help counter social norms around girls' education and their use technology. Such a course could potentially be with Khan Academy or a digital platform.

- Enabler: Digital skills and literacy

Support the development of the National Digital Literacy and Skills Competency Framework. Develop digital skills and literacy programs that meet the needs of the older population and people with disabilities and are designed for those using smartphones as their primary access device

Develop National Digital Literacy and Skills Competency Framework: As part of the digital transformation reforms, the government of Uzbekistan has placed great emphasis on training IT personnel and including girls in the profession. As discussed in Chapter 2, Uzbekistan does not have a National Digital Literacy and Skills Competency Framework. The gender-responsive Framework would help identify critical digital skills that will empower individuals to thrive in society and in the workplace. Such a Framework would also provide a systematic approach to benchmarking, monitoring, and reporting on core skills performance. The Framework would facilitate a consistent national approach to identifying and developing core skills in diverse communities, at work, and in educational contexts. Digital Skills Toolkit[99] could be used as a step-by-step guide for developing a national digital skills strategy.

Training programs for target groups: This report recommends developing initiatives to increase inclusivity of different segments of the population: 1) Given the high level of smartphone penetration, develop training programs that target those age 35 or older, particularly women and people with

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94 https://www.unicef.org/documents/child-safety-online
95 https://www.itu-cop-guidelines.com/policymakers
96 https://www.itu-cop-guidelines.com/industry
97 https://www.itu-cop-guidelines.com
98 https://www.commonsense.org/education/family-resources
99 https://www.itu.int/en/ITU-D/Digital-Inclusion/Youth-and-Children/Pages/Digital-Skills-Toolkit.aspx

disabilities, on the use of smartphones in everyday, financial and economic activities, as well as on ICT-accessibility features of the smartphones; 2) launch a Digital Citizenship for Families with Kids as part of the educational program; 3) train civil society organizations so that they understand and, with the right resources, are equipped to conduct digital literacy trainings for their beneficiaries.

Digital skills and literacy training should also be integrated into vocational training for women, including in traditional entrepreneurship programs.

- Enabler: Relevant Content

Support digital inclusion through the development of relevant content in local languages, civil society and influencers engagement

The government of Uzbekistan and development partners actively support the creation of content in the Uzbek language. Nevertheless, there remains a shortage of publicly accessible educational content regarding the digital transformation, delivered in national languages. This report recommends supporting media and civil society to generate interesting, digital and women-related content: 1) Announce a competition for best science and technology coverage by journalists to raise awareness of digital technologies and their relation to women; 2) conduct trainings for independent civil society and media to introduce the concepts of gender digital divide and targeted, gender-specific content aimed at bringing more women/girls online by overcoming social stigmas (e.g., around health topics); 3) support female bloggers, content creators and startups from the femtech and beautytech sectors.

- Impact: Leadership

Strengthen positive motivation for women and girls to engage in digital transformation from everyday needs to professional development, a career in the ICT sector, and tech entrepreneurship through leadership

To engage more women in IT sector jobs and prepare a pipeline of strong «women in technology» leaders, Uzbekistan's women need more mentoring and role models from IT and more transparency from its largest tech companies. In this regard, the government, private sector and donors should launch: 1) Mentoring programs that match successful women with young female professionals; 2) introduce school career programs in which successful women will share with students (boys and girls) about their career paths. This approach will provide an opportunity to create role models for girls and to form boys' perspectives on equal and active roles of women in society. 3) design and execute a national awareness campaign around women role models by promoting women's success stories with regard to events, contests, conferences, podcasts and telegram; 4) develop an initiative urging public and private organizations to promote women and publish information about those

efforts; 5) support Uzbek women investors through education and training, knowledge exchange and networking activities with global peers; 6) train government and private sector leaders and civil society organizations so that they understand the gender digital divide, its impact on the economy and society and an effective approach to bridging that gap. These activities could be conducted annually on the International Girls in ICT Day and the International Women's Day celebrations.

- Cross-cutting: Laws and Policies

Systematize gender-related laws, regulations and government initiatives to ensure coordination of stakeholders, resources and results measurement. Ensure relevant data collection and disaggregation, and gender analysis as the basis for ensuring that the development of strategies, policies and action plans address gender inequalities and meet women's and men's differing needs.

While the government of Uzbekistan has introduced numerous regulations and initiatives to support and empower women in digital transformation, most of these initiatives lack critical institutional elements for their success. In particular, they (1) are not accompanied by roadmaps and KPIs, (2) they do not have a list of responsible implementers and (3) they are being developed with limited consultation from the broader stakeholder community such as civil society and the private sector.

To address the coordination and resource management challenges, this report recommends creating a working group under the MITC that includes representatives of the private sector, civil society, women's rights organizations and gender experts, academia, and development partners. The role of the Working Group would be to analyze and revise the existing regulation, ensure availability of resources for implementation of gender programs, coordinate stakeholder engagement and measure the results of program implementation. Such a working group would formulate proposals for the development of additional programs, create roadmaps, monitor performance, and collect and analyze the necessary data.

The study also revealed important data gaps that relate to gender digital divides, including approaches to their regular collection, disaggregation and analysis. These gaps negatively affect the monitoring, evaluation and decision-making related to government programs that aim to address gender gaps. Uzbekistan's standing in various international indices also suffers. The government of Uzbekistan might consider choosing a set of international indices (such as ITU, GSMA, GDDI, UNDESA) that include indicators measuring elements of the gender digital divide and build regular data collection into government programs that would feed data into relevant indicators of these international indices. The Center for Research in the Digital Economy can lead this work. This will simultaneously improve the government's ability to measure progress and outcomes on its gender gap programs while improving the country's standing in international indices.

- Cross-cutting: Social norms

Change social norms by involving more men in discussion and awareness raising

Changing social norms requires long-term, multi-stakeholder commitment. Understanding and taking into consideration the broader cultural context when developing programs to address the gender digital divide is key. This assessment showed that marriage is a critical dividing line in the gender digital divide. After marriage, women are expected to take on roles that discourage or interfere with their ability to participate fully in the digital society and economy. The patriarch of the family plays a major role in decisions about women's social and economic activities.

Raise awareness together with men: This report recommends a national awareness campaign featuring testimonials from "real" men, delivered through multiple media channels and a website highlighting women's stories, along with educational and business programs. The campaign's goal would be to elevate stories about the success of women in the digital world and to illustrate the supportive role men can play in that success. The working title of the campaign could be «I am proud of my (wife, sister, mother, and daughter).»

Information campaigns against harassment and violence online: UN CEDAW recommends developing and implementing a comprehensive strategy to eliminate gender stereotypes, particularly as they manifest in online activity[100]. Such a strategy would promote synergies among different stakeholders as they raise awareness around the issue, change social attitudes that normalize online gender-based violence, ensure the gender-responsive design of legislation, programs, applications and social media, and enhance the contributions of women leaders and activists to the development of internet and social media standards. It is necessary to join forces with other anti-violence advocates, allied movements, and community-based organizations in order to reach more people and deliver a deeper impact on public opinion.

Specifically, this report recommends constituting an Online Violence Awareness Month (e.g., "I am Digital")[101], which would employ tactics such as a social media campaign to promote online safety. In addition to awareness-raising measures that help prevent women from falling victim to online violence, campaigns and related activities should also aim to change attitudes that normalize these forms of violence.

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100 https://digitallibrary.un.org/record/3966403?ln=en
101 https://wethinkdigital.fb.com/pc/en-us/iamdigital/

ANNEX 1: Gender Digital Gaps

Area	Men, %	Women, %	Gap, %
Fixed Internet at home	42	36	14
Mobile Internet at home	30	33	- 10*
Smartphones ownership	83	87	- 5
PC ownership	29	25	14
Daily use of Internet	81	83	- 2
Digital skills: basic	69	54	23
Digital skills: standard	55	43	21
Digital skills: advanced	24	18	26

* Numbers with (-) sign highlighted the gender gap in favor of women, meaning that in this indicator more women than men users/owners

ANNEX 2:
Methodology and Research Process

In offline and online study: Reached more than 9,657 men and women whose average age was 28 (online) and 37.7 (offline); 49% of online and 50% offline respondents were women.

The Gender Digital Divide Assessment in Uzbekistan conducted as a part of a joint project of UNDP and the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan "Advancing Digital Transformation in Uzbekistan" which is conducted in partnership with ITU and aims to strengthen the capacity of the Government of Uzbekistan to promote inclusive digital transformation.

This report outlines major findings of the UNDP Gender Digital Divide Assessment (GDDA), which was conducted from July to December 2022. The assessment utilized desk research, expert interviews, and an online and offline survey as the primary data collection tools.

The study, desk research and two types of sociological surveys were conducted:

1. Desk research followed the GDD assessment methodology and included the analysis of regulations, current government's and donors' initiatives and available data.
2. Online Survey: The average age of respondents to the online survey (total sample of 8,607 respondents) was 28 years old, and 49% of respondents were women. The smallest number of

respondents live in the Syrdarya region (150 respondents), and the largest number in Tashkent (1,893 respondents).

3. Offline Survey: In an interview format, the offline survey targeted a gender-balanced sample of respondents (1,050) in six regions of Uzbekistan (Surkhandarya, Kashkadarya, Jizzakh, Syrdarya, Namangan and Tashkent regions) and in Tashkent. The average age of respondents was 37.7; 50% of respondents were women.

The sociological surveys used a sequential mixed approach consisting of two main components: first, a quantitative survey using the Google Forms platform; second, it was followed by an in-depth field interview, during which qualitative data was obtained to illustrate, confirm, clarify and deepen key findings in addition to a quantitative survey. An online survey was conducted from August to September 2022 through distribution in social networks, telegram channels and thematic groups. Informed consent was an ongoing process throughout the study. Respondents were reminded prior to each interview and online survey that they could opt out at any time they wished.

The respondents were also said that they have the following rights:

- Take time with the answers, so that it does not affect the quality of the survey;
- Refuse to participate as it will not affect them in any way;
- Refuse to answer certain questions they do not have information about or do not want to answer;
- Exit the interview/online survey at any time.
- Additionally, the participants were told about the following procedures:
- That all offline interview forms will be kept in a locked location and completely anonymous;
- That no names will be used in the report and presentation of results so that each participant remains anonymous.

Before collecting quantitative and qualitative data, the team of interviewers and supervisors went through a thorough training, and all online research tools were pre-tested and tested in the field on a selection of more than 100 pilot respondents.

The identities of respondents are protected. Names of the respondents and their contact information do not appear in the database and report. No names or other identifying information were collected other than basic demographic information (e.g., age, gender, location).

The questionnaires included the following blocks of quantitative and qualitative data:

- socio-demographic data (age, gender, region, urban/rural, family status, education, employment, income level);
- Internet access;

- access to digital devices (mobile devices, computers) in 7 regions of the country, as well as in Tashkent;
- free (independent) access to the Internet and digital devices;
- frequency of use of the Internet and digital devices;
- purposes of using the Internet and digital devices;
- level of digital skills of men and women;
- obstacles to the use of the Internet and digital devices;
- services that respondents use on a mobile device, computer (for example: basic services such communication or more advanced services such as using online banking, digital public services, etc.);
- availability and use.

Limitations: This study did not analyze women's economic activities and participation, women's representation in the ICT sector, women's employment and entrepreneurship activities.

Gender Gap Calculation

The gender gaps for this report are calculated using the following formula:

Gender gap in ownership/use/digital skills = Men owner/user (% of men respondents) – Women owner/user (% of men respondents)/ Men owner/user (% of men respondents)

Respondent profile
Gender

In terms of the proportion of women among the total number of respondents, the leader is Navoi region, where 71% of respondents are women, and in Surkhandarya region only 31% of respondents are.

Age pyramid

Age	Men	Women
16-25	19%	15%
26-35	32%	35%
26-45	26%	24%
46-60	17%	17%
60+	6%	9%

Family Status

Marrier men	47%
Married women	49%

Khovos (Sirdaryo Region) and Dekhkanabad (Kashkadarya region) have the largest number of married respondents compared to other regions (87% each), followed by Surkhandarya region with 73% of respondents were married.

Urban/Rural

Urban	81%
Rural	19%

Urban men	Urban women	Rural men	Rural women
64%	70%	36%	30%

Occupation

Among the online respondents, mostly working or studying men and women, only 1% of pensioners and 11% of temporarily unemployed women and 6% of temporarily unemployed men. Among the offline respondents, mostly entrepreneurs and labor migrants (39% and 10%), only 1% of pensioners and with a high level of temporarily unemployed – 23%.

Online survey
Block 1: Socio-demographic characteristics

1. What's your gender?

- Male
- Female

2. Your age: _____ years

3. What region do you currently live in?

- Andijan region - specify the city/district of your residence
- Bukhara region - indicate the city / district of your residence
- Jizzakh region - indicate the city/district of your residence
- Kashkadarya region - indicate the city/district of your residence
- Navoi region - indicate the city/district of your residence
- Namangan region - indicate the city/district of your residence

- Samarkand region - indicate the city / district of your residence
- Surkhandarya region - indicate the city/district of your residence
- Syrdarya region - indicate the city/district of your residence
- Tashkent region - indicate the city / district of your residence
- Fergana region - indicate the city / district of your residence
- Khorezm region - indicate the city / district of your residence
- Republic of Karakalpakstan - indicate the city/district of your residence
- Tashkent city - indicate the area of your residence

4. Please indicate the type of locality where you live:

- In the city
- In a kishlak (village)

5. Your level of education:

- General secondary (school 9/11 years old)
- Special secondary (college, lyceum)
- Undergraduate
- Master
- Doctorate
- Other (please specify)

6. Family status

- Married
- Not married

7. Read and say which answer best describes your current main occupation (only one answer)

- I study and do not work
- I study and work
- Temporarily unemployed
- Working part-time or self-employed
- I work full time
- Entrepreneur
- Labor migrant
- Other (please specify)

8. Your income level:

- Less than 1 million sum
- 1-3 million sum
- 3-5 million sum
- 5-7 million sum
- Over 7 million sum

Block 2: Internet and digital technologies

9. Do you own a cell phone?
10. Not
- Yes, feature phone
    - Why not a smartphone?
        - Expensive
        - I don't know how to use
        - I don't need him
- Yes, smartphone
- Yes, both devices (smartphone and feature phone)

11. Which of the following do you have? (multiple answers can be selected)

- A laptop
- Tablet
- Smart TV
- A computer

12. How often do you use the Internet?

- Daily
- Several times a week, but not every day
- Rarely (once a week)
- Once a month

13. What type of connection do you most often use to access the Internet?

- Fixed, optical fiber
- Fixed, via telephone line (ADSL)
- Mobile Internet (for example, USB modem)
- Don't know

14. Do you have the internet at home?

- Yes, fixed internet
- Yes, mobile internet
- Not
- I don't know if another family member is doing it

15. How much money per month do you spend on home internet?

- _____ sum

16.   How much money per month do you spend on mobile internet?

- _____ sum

17. Where do you use the Internet? (multiple answers can be selected)

- Home
- At work
- From neighbors or relatives
- In an Internet cafe, coworking center or computer club
- In cafes, shopping malls or other public places with Wi-Fi
- In the mahalla committee
- Elsewhere (please specify)

18. What do you use to access the Internet? (multiple answers can be selected)

- Smartphone
- A laptop
- Tablet
- A computer
- Smart TV
- Another device (please specify)

19. For what purposes do you use the Internet? (Choose all the answers that apply to you)

- For communication
- To search for information
- To watch movies and videos
- To take online lessons or courses

- For online games
- For online shopping
- To pay for services (Payme, Click, Orange, etc.)
- To receive/send money transfers
- For business purposes (e-commerce, etc.)
- For freelance
- During work/study
- For public services (my.gov.uz)
- To participate in the online discussion of bills
- Other (please specify)

20. What social networks do you use? (multiple answers can be selected)

- Instagram
- Facebook
- Odnoklassniki
- In contact with
- Twitter
- LinkedIn
- Tik tok
- Other (please specify)
- None of the above

21. What messengers do you use? (multiple answers can be selected)

- Telegram
- whatsapp
- Viber
- WeChat
- Other (please specify)
- None of the above

22. How many hours a day do you have electricity at home? Please indicate the number of hours.
_____ hours

23. During the last three months, please indicate what activities you performed on the computer (multiple answers can be selected)

- Copied/moved files and folders
- Moved files between computer and other devices

- Sent emails with attachments
- Edited an electronic document (for example, in Word)
- Worked with formulas in spreadsheets (for example, in Excel)
- Made an electronic presentation (for example, in PowerPoint)
- Searched, downloaded, installed and configured software
- Connected and installed new peripherals to the PC
- Programmer
- None of the above

24. Please name the barriers that prevent you from fully using the Internet and digital technologies: (multiple answers can be selected)

- Financial (the cost of a smartphone, gadgets, wired Internet, mobile Internet)
- Infrastructure (lack of coverage, poor connection, unstable power supply)
- Security (cyber violence, harmful content, internet fraud)
- Lack of skills (I do not know how to fully use a smartphone or the Internet on a smartphone)
- My family does not allow me to use the Internet
- Little content in Uzbek
- Other (please specify)
- Nothing prevents

25. Have you experienced cyber violence?

Cyber violence is harmful through electronic forms of communication and contact. The main forms of cyber violence are harassment, intimidation, blackmail using the Internet, the publication and distribution of harassing and compromising messages, pictures and videos, as well as acting on the Internet under someone else's name against his/her will.

- Yes
- Not
- Not sure)

Block 1: Socio-demographic characteristics

1. Gender:

- Male
- Female

2. Age: _____ years

3. Please indicate the type of locality where you live:

- In the city
- In a kishlak (village)

4. Your level of education:

- General secondary (school 9/11 years old)
- Special secondary (college, lyceum)
- Undergraduate
- Master's degree
- Doctorate
- Other (please specify)

5. Family status

- Married
- Not married

6. Please indicate your current main occupation.

_____

[INTERVIEWER! Record the respondent's answer and tick the box below]

• I study and do not work	• self-employed
• I study and work	• I work full time
• Temporarily unemployed	• Entrepreneur
• I work part time	• Labor migrant

7. Your income level:

- Less than 1 million sum
- 1-3 million sum
- 3-5 million sum
- 5-7 million sum
- Over 7 million sum

Block 2: Internet and digital technologies

8. Do you own a cell phone?

- Not
- Yes, feature phone
  - Why not a smartphone?
    - Expensive
    - I don't know how to use
    - I don't need him
- Yes, smartphone
- Yes, both devices (smartphone and feature phone)

9. Which of the following do you have? (multiple answers can be selected)

- A laptop
- Tablet
- Smart TV
- A computer

10. How well are you familiar with the Internet?

- I know well what the Internet is and use
- Only heard about the Internet, but did not use GO TO QUESTION 20
- Haven't heard what the Internet is GO TO QUESTION 20
- I don't use it, I don't need it SKIP TO QUESTION 20

11.   How often do you use the Internet?

- Daily
- Several times a week, but not every day
- Rarely (once a week)
- Once a month

12. What type of connection do you most often use to access the Internet?

- Fixed, optical fiber
- Fixed, via telephone line (ADSL)
- Mobile Internet
- Don't know

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- Yes, mobile internet
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14.   Where do you use the Internet? (multiple answers can be selected)

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- In the mahalla committee
- In cafes, shopping centers or other public places with Wi-Fi access

15. What do you use to access the Internet? (multiple answers can be selected)

- Smartphone
- A laptop
- Tablet
- A computer
- Smart TV

16. For what purposes do you use the Internet?
(I will now tell you the goals, and you please answer yes or no)

- For communication
- To search for information
- To watch movies and videos
- To take online lessons or courses
- For online games
- For online shopping

- To pay for services (Payme, Click, Orange, etc.)
- To receive or send money transfers
- For business (for example, to sell goods or services through an online store)
- For freelance
- During work/study
- For public services (my.gov.uz)
- To participate in the online discussion of bills
- Other (please specify)

17. Please indicate which social networks do you use?
_____

18. Please indicate which messengers do you use?
_____

19.　　How much money per month do you spend on home and mobile internet?

- Home internet _____ sum
- Mobile internet _____ sum

20. How many hours a day do you have electricity at home? Please indicate the number of hours.
_____ hours

21. During the last three months, please indicate what activities you performed on the computer. (multiple answers can be selected)

- Copied/moved files and folders
- Moved files between computer and other devices
- Sent emails with attachments
- Edited an electronic document (for example, in Word)
- Worked with formulas in spreadsheets (for example, in Excel)
- Made an electronic presentation (for example, in PowerPoint)
- Searched, downloaded, installed and configured software
- Connected and installed new peripherals to the PC
- Programmer
- None of the above

22. Please name the barriers that prevent you from fully using the Internet and digital technologies:

I will name the barriers, and you please answer yes or no.

1. Financial
      1. The high cost of a smartphone or computer
      2. The high cost of the Internet

2. Infrastructure
      1. Unstable power supply
      2. Poor connection/internet quality

3. Security
      1. There is a lot of harmful content on the Internet
      2. Fear of scams and other online threats

4. Lack of skills
      1. I can't use my smartphone
      2. I can't use a computer
      3. I can't use the Internet

5. Other barriers
      1. My family does not allow me to use the Internet
      2. There is little content in Uzbek on the Internet
      3. Not enough time on the Internet

6. I don't need internet

7. Other (please specify)