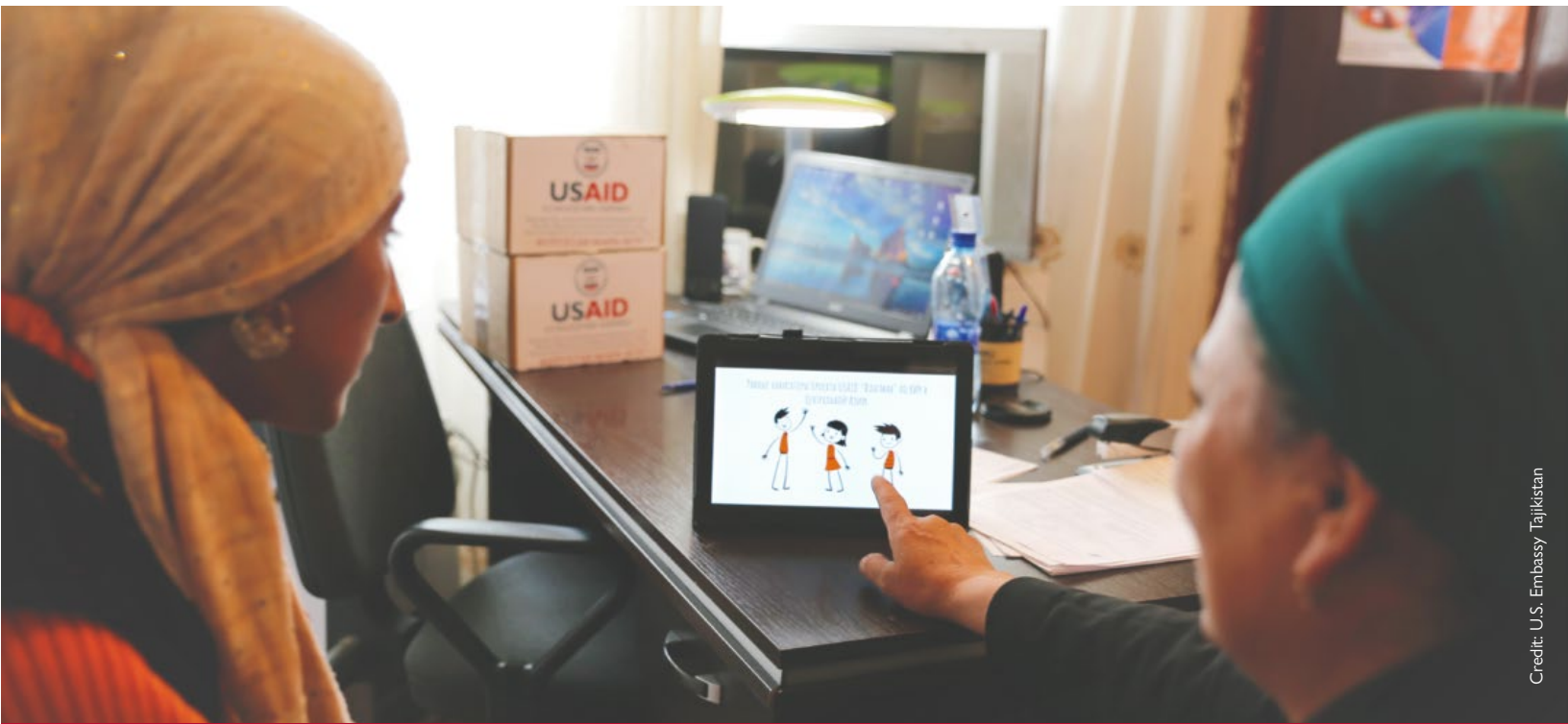




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DIGITAL ECOSYSTEM COUNTRY ASSESSMENT (DECA)

Tajikistan

FEBRUARY 2023



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February 2023

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ACRONYMS

ADB	Asian Development Bank
BPO	Business process outsourcing
BRI	Belt and Road Initiative
CDCS	Country Development Cooperation Strategy (USAID)
CERT	Computer emergency response team
CETC	PRC Electronics Technology Group Corporation
CII	Critical information infrastructure
CIPI	Civil Initiative on Policy of Internet
CDO	Chief development officer
CIO	Chief information officer
CS	Communication Service
CSIRT	Cyber security incident response team
CSO	Civil society organizations
CTO	Chief technology officer
DDoS	Directed denial of service
DECA	Digital Ecosystem Country Assessment
DFC	U.S. International Development Finance Corporation
DFS	Digital financial service(s)
DHIS2	District Health Information System 2
DO	Development objective
EBRD	European Bank for Reconstruction and Development
EHR	Electronic health record
ETICA	Eliminating TB in Central Asia Activity
EU	European Union
FDI	Foreign direct investment
FEZ	Free economic zone
FGI	Future Growth Initiative

GBAO	Gorno-Badakhshan Autonomous Province (Oblast)
GB	Gigabyte
Gbps	Gigabits per second
GBV	Gender-based violence
GDDI	Global Gender Digital Divide Index
GDP	Gross domestic product
GUP	State unitary enterprise
HMHB	Healthy Mother Healthy Baby
HMIS	Healthcare management information system
ICT	Information and communications technology
IDF	Innovation Development Fund
IFC	International Finance Corporation
IR	Intermediate result
ISP	Internet service provider
IT	Information technology
ITU	International Telecommunication Union
IXP	Internet exchange point
KII	Key Informant Interview
km	Kilometer
Mbps	Megabits per seconds
MNO	Mobile network operator
MoHSSP	Ministry of Health and Social Protection of Population
MSMEs	Micro, small, and medium-sized businesses
NASME	National Association of Small and Medium Enterprises
NCC	National Certification Center
NFEA	National Female Entrepreneurs Association of Tajikistan
NGN	Next-generation network
NGO	Nongovernmental organization

NUPT	National Union of People with Disabilities of Tajikistan
OSCE	Organization for Security and Cooperation in Europe
POC	Point of contact
POS	Point-of-sale
PPD	Public-private dialogue
PRC	People's Republic of China
SaaS	Software-as-a-service
SMEs	Small and medium-sized enterprises
SOE	State-owned enterprise
STEM	Science, technology, engineering, and mathematics
TAE	Frankfurt-Shanghai Trans-Asia Europe cable
TB	Tuberculosis
TTT	Tehrik-e Taliban Tajikistan
TEGBV	Technology-enabled gender-based violence
TVET	Technical and vocational education and training
TVWS	TV white space
UCTC	Unified Communications Transit Center
UNDP	United Nations Development Program
UNICEF	United Nations International Children's Emergency Fund
UPR	Universal Periodic Review ³
USAF	Universal Service and Access Fund
USAID	United States Agency for International Development
VAT	Value-added tax
VEP	Vehicle entry permit
VR	Virtual reality
WHO	World Health Organization
WTO	World Trade Organization

Executive Summary

BACKGROUND

The U.S. Agency for International Development's (USAID's) [Digital Strategy](#) was launched in April 2020 to achieve and sustain open, secure, and inclusive digital ecosystems that contribute to broad-based, measurable development and humanitarian assistance outcomes through the responsible use of digital technology.

The Digital Ecosystem Country Assessment (DECA), a flagship initiative of the Digital Strategy, informs the development, design, and implementation of USAID's strategies, projects, and activities. The DECA looks at three pillars of a nation's digital ecosystem: (1) digital infrastructure and adoption; (2) digital society, rights, and governance; and (3) digital economy. The DECA aims to inform how USAID/Tajikistan can understand, work with, and strengthen the country's digital ecosystem. The section below outlines how DECA findings and recommendations can directly support USAID/Tajikistan's Development Objectives (DOs). The DECA does not evaluate existing programs, but rather assesses Tajikistan's digital ecosystem and identifies how USAID/Tajikistan's current or future programming can build upon or strengthen that ecosystem. DECA findings and recommendations are mapped to USAID/Tajikistan's Results Framework.

The USAID/ Tajikistan 2022–2025 Strategic Framework includes two strategic priorities:

1. Strengthening inclusive economic growth
2. Increasing human capital

As part of the transition to a new bilateral Mission, the Strategic Framework lays the necessary programmatic and physical footprint for a future five-year USAID Country Development Cooperation Strategy (CDCS). The DECA findings and recommendations can help inform planning for and integration of digital-related priorities in the next CDCS.

Tajikistan faces both challenges and opportunities for developing the open, secure, inclusive digital ecosystem that can serve as the foundation for the country's long-term social and economic development. Two decades ago, Tajikistan was Central Asia's regional champion in rolling out advanced digital connectivity. Since then, policy choices on regulating and taxing the telecommunications sector have disincentivized the private sector from investing in the new technologies and equipment that would expand coverage and improve quality and efficiency. As a result, Tajikistan is now far behind most of its neighbors in providing universal, affordable, and reliable broadband to its people.

The government recognizes the importance of strengthening competition in the domestic telecom market to spur investment and development in infrastructure in its *2030 National Development Strategy*. However, reforms needed to realize this vision have not yet been adopted.

There is a general culture of fear and distrust around the use of digital technologies. Distrust is in part due to concerns around extremism, but it is compounded by hesitancy to express oneself online; self-censorship is

common. Additionally, though digital financial services often represent early integration of digital technologies into people's everyday lives, lack of trust in the financial system has slowed uptake.

Investment in digital literacy and skills training across all societal levels could help alleviate some of this distrust. Integration of digital literacy more intentionally throughout the education system, paired with increased Internet access and devices for classroom instruction, especially, would have a broad impact. As of 2021, fewer than twenty percent of schools were connected to the Internet.¹ Limited or no connectivity to the Internet, outdated curricula, and teachers requiring increased support and professional development affects even higher education programs focused specifically on information and communications technology (ICT). As a result, Tajikistan is not producing the pipeline of advanced ICT-skilled professionals the country needs for meaningful digital economy development.

The government's late-2019 *Concept on Digital Economy* acknowledges the above education needs, while also expressing a vision to make the regulatory changes necessary to support entrepreneurship, e-commerce, and other aspects of the digital economy. Currently, licensing requirements, regulatory structures, and tax burdens hurt all businesses, including e-commerce, cross-border trade and logistics companies, and tech startups. Yet, an entrepreneurship culture and the innovation ecosystem required to translate business ideas into reality are beginning to emerge.

With more than 36 percent of Tajikistan's population under 14 years old,² a focused program of reforms and investments by the government, with support from international donors, private sector, and other actors, can position the country to harness the development potential of digital technologies growing well into the future. The following Key Findings and Priority Recommendations outline how USAID/Tajikistan can support such efforts.

KEY FINDINGS

Tajikistan lacks the legal, institutional, technical, and human capacity to effectively defend its cyberspace, making it one of the most vulnerable countries globally to external and internal cyber threats. One of the most critical challenges for Tajikistan's digital ecosystem development is the cross-cutting issue of cybersecurity. By all measurements, cybersecurity in both the public and private sectors in Tajikistan is very weak. Key institutional frameworks and systems are missing. Infrastructure is unprotected. Human capacity is low.

Gender digital divides are deep, pervasive, and rooted in social norms. Women face special barriers to digital inclusion. Constraining social norms are following them online. These social norms inform and affect all factors related to girls' and women's digital inclusion, including access to Internet and devices, ability to use digital technologies effectively, or taking advantage of skills and educational opportunities related to ICT. Perhaps most importantly, these norms negatively impact girls' and women's interest in and trust of digital technologies.

Citizens, businesses, civil society, and media all lack adequate data privacy and cyber hygiene literacy. While more people are coming online, their knowledge of associated risks is limited. Publicly available data about the extent of those risks—i.e., data breaches, fraud, blackmail, harassment, hate speech, mis/dis-information, and exploitation—are limited or non-existent. No public or private entity seems to be formally

1 UNICEF, 2022, "Education Case Study Tajikistan: Expanding digital learning opportunities and connectivity for all learners," [https://www.unicef.org/media/125736/file/Expanding%20digital%20learning%20opportunities%20and%20connectivity%20for%20all%20learners%20\(Tajikistan\).pdf](https://www.unicef.org/media/125736/file/Expanding%20digital%20learning%20opportunities%20and%20connectivity%20for%20all%20learners%20(Tajikistan).pdf).

2 Agency on Statistics, 2022, "Population of the Republic of Tajikistan," <https://stat.tj/storage//1.01.2022.pdf>.

tracking these risks. Internet users generally are equally ignorant of how their rights translate online or how to exercise them.

The small domestic market size, current regulatory environment, and lack of affordable financing options discourage tech entrepreneurship. An entrepreneurial culture is not yet widespread, but evidence shows its budding growth. Fear of having ideas stolen, mistrust of any available legal recourse, and high taxes discourage the growth of the private sector, including tech startups. While there have been efforts, in the past and more recently, to create information technology (IT) parks with preferential tax regimes, these efforts are still in progress.

Digital startups struggle to access affordable financing. Traditional banks do not offer reasonable terms. Venture capital and angel investment are not in the market; tech entrepreneurs must rely on their own networks of friends and family for financial support. The framework for a broader startup support ecosystem—incubators and accelerators, networking, and mentoring—exists, but would benefit from additional investment or resources, as well as increased coordination and collaboration between the government, the international donor community, and private and nonprofit actors.

Holistic support for the education system would help create the skilled workforce needed to drive digital transformation. The persistent shortage of skilled ICT professionals in the market is a challenge and contributes to the country’s cybersecurity vulnerabilities. Tajikistan’s young population, though, presents an opportunity to educate the workforce of tomorrow. To overcome the existing skills gap and embrace this opportunity, significant and rapid investments are required to update educational infrastructure, curricula, and to support teacher and professional development. The private sector and international donors are stepping up with classes and trainings for higher-grade secondary school students to help raise awareness of the opportunities in an ICT career and develop a pipeline of interest. FinTech companies in particular are training young people to meet specific business demands. While these approaches are helping, they are limited in their reach and impact.

This report makes 10 recommendations for USAID/Tajikistan.

The top-five recommendations for USAID/Tajikistan are:

1. Strengthen the government’s cybersecurity capacity
2. Prioritize bridging the gender digital divide
3. Bolster data privacy, protection, and cyber hygiene at all societal levels
4. Support development of a tech startup ecosystem
5. Reshape the approach to ICT workforce development

ROADMAP FOR THE REPORT

Section 1 provides background on the DECA framework and goals. It includes a summary of USAID/Tajikistan's priorities, connecting them with digital solutions.

Section 2 presents the key findings about Tajikistan's digital ecosystem. This section is organized into three sub-sections by DECA pillar: digital infrastructure and adoption; digital society, rights, and governance; and digital economy.

Section 3 provides recommendations on how USAID/Tajikistan can leverage and support the digital ecosystem to achieve improved development outcomes.



Navigation tip: the navigation bar in the footer throughout this report helps you move between sections. Dark blue text will indicate the current section you are in.

The DECA: A How-To Guide for USAID/Tajikistan

HOW CAN I USE THIS REPORT TO SUPPORT MY WORK?

The Digital Ecosystem Country Assessment (DECA) is intended to inform how USAID/Tajikistan programming can leverage and strengthen the country's digital ecosystem. To maximize utility and impact, this section outlines how the DECA findings and each resulting recommendation can directly support USAID/Tajikistan's development objectives (DOs). *The DECA does not evaluate or suggest modifications to existing programs, but rather assesses Tajikistan's digital ecosystem and identifies how USAID/Tajikistan's future programming can leverage or strengthen that ecosystem.*

HOW CAN I USE THIS GUIDE?

- DECA findings and recommendations are mapped to USAID/Tajikistan's Results Framework.
- Identify the priority development objective(s) and intermediate results (IRs) that relate to your work; not all sub-IRs are included, only those with clear linkages to the DECA.
- Read the "DECA Linkage" column to understand how supporting and/or leveraging the digital ecosystem can help achieve the given sub-IR.
- Review the indicated finding section(s) to improve your technical and contextual understanding.
- Review the indicated recommendation(s) for ideas about how to integrate it into future programming.
 - » Table 1 provides a high-level overview of each recommendation.
 - » Recommendations may align with multiple sub-IRs; planning and implementation should be coordinated across technical teams because activities that leverage and support the digital ecosystem are often cross-cutting.

TABLE 1: DECA Findings and Recommendations Linked to the USAID/Tajikistan Results Framework

INTERMEDIATE RESULT (IR)	DECA LINKAGE(S)	DECA FINDING(S)	DECA RECOMMENDATION(S)
DEVELOPMENT OBJECTIVE (DO) 1: INCLUSIVE ECONOMIC GROWTH STRENGTHENED			
IR 1.1: Private sector expanded	Healthy conditions for ICT businesses can contribute to boosting national economic growth and increasing competitiveness and investment attractiveness. Digital entrepreneurship is also a critical area for national innovation breakthroughs.	<ul style="list-style-type: none"> • High taxation on the telecommunications sector disincentivize private sector investment in expanding coverage or improving quality and resilience and increases prices. • Demand for digital financial services (DFS) faces cultural and infrastructure challenges. • Strengthening the infrastructure and enabling environment for parcel delivery and increasing digital literacy will help speed up e-commerce development. • The lack of affordable financing options limits the ability of tech startups to grow. • Tajikistan's support ecosystem for startups is nascent and requires more resources and greater coordination. 	<p>2. Facilitate public and private sector collaboration and investment in the ICT sector to expand connectivity infrastructure, access to equipment, and last-mile service delivery.</p> <p>8. Support the development of a tech startup ecosystem to encourage greater entrepreneurship, spur innovation, and facilitate broader ICT sector growth.</p> <p>9. Increase trust in and the uptake of digital financial services and payments.</p>
IR 1.2: Natural resource management improved	Digital technologies can help improve management of natural resources and increase transparency and accountability concerning responsible use of natural resources.	<ul style="list-style-type: none"> • Effective sector digitization requires a strategic, sectoral vision, organizational structures, and increased digital capacity. • Reliance on donor-financing for digital transformation leads to fragmented implementation and lacks sustainability. 	<p>7. Support realization of the government's digital transformation agenda.</p>

INTERMEDIATE RESULT (IR)	DECA LINKAGE(S)	DECA FINDING(S)	DECA RECOMMENDATION(S)
<p>IR 1.3 and IR 2.3: Responsive and accountable governance advanced</p>	<p>Secure, user-centered online platforms for provision of government services and engagement with citizens can reduce costs and improve transparency and efficiency.</p>	<ul style="list-style-type: none"> • The government has committed to increasing access to affordable internet and increasing market competition; however, policies and regulations often contradict this—increasing prices and negatively affecting internet quality. • High taxation on the telecommunications sector disincentivize private sector investment in expanding coverage or improving quality and resilience and further increase prices. • Tajikistan lacks the legal, institutional, technical, and human capacity to effectively defend its cyberspace, making it one of the most vulnerable countries globally to external and internal cyber threats. • Digital government transformation efforts are visible and having an impact, but they would benefit from an agency overseeing and coordinating digitalization. • Effective sector digitization requires a strategic, sectoral vision, organizational structures, and increased digital capacity. • Digital identity and interoperability are missing elements of Tajikistan's digital foundation. 	<p>1. Strengthen the government's cybersecurity capacity.</p> <p>7. Support realization of the government's digital transformation agenda.</p>

INTERMEDIATE RESULT (IR)	DECA LINKAGE(S)	DECA FINDING(S)	DECA RECOMMENDATION(S)
DO 2: HUMAN CAPITAL INCREASED			
IR 2.1: Education system strengthened	Training and upskilling the existing workforce are enablers of sustainable socio-economic development. A higher-skilled domestic ICT workforce is a key prerequisite for national digital transformation.	<ul style="list-style-type: none"> • Poor school infrastructure and capacity, insufficient online content and training courses in Tajik, and technophobia are barriers to achieving general digital literacy and greater adoption. • Gender digital divides are deep, pervasive, and rooted in social norms. • Media literacy and awareness of online risks (such as financial crimes, harassment, hate speech, child exploitation, and trafficking) are relatively low, even as citizens are increasingly going online for news and information. • Though there are initiatives to build awareness and train youth for ICT careers, holistic support for the broader education system would help create the skilled workforce needed to drive digital transformation. 	<p>4. Help grow digital adoption by improving digital literacy education and expanding digital content in local languages.</p> <p>10. Reshape the approach to ICT workforce development.</p>
IR 2.2: Use of health and nutrition services increased	<ul style="list-style-type: none"> • Digital platforms, services, and mHealth tools can improve quality and coverage of health and nutrition services and help better target beneficiaries 	<ul style="list-style-type: none"> • The eHealth landscape is nascent. Several platforms exist that collect and process health-related data. However, they are not interoperable and are not focused on providing health services. 	<p>Support digital health policies and legislation development, including an e-health strategy and a costed implementation plan.</p> <p>Help establish an eHealth coordination group to ensure better governance and alignment.</p> <p>Help harmonize national standards on data collection, reporting, and exchange of health information and support the development of a national digital health architecture.</p>

SECTION 1:

About this Assessment

USAID's [Digital Strategy](#) aims to improve USAID development and humanitarian assistance outcomes through the responsible use of digital technology and strengthen the openness, inclusiveness, and security of country digital ecosystems. The Digital Strategy and the DECA are part of USAID's holistic approach to helping achieve the [Sustainable Development Goals \(SDGs\)](#).

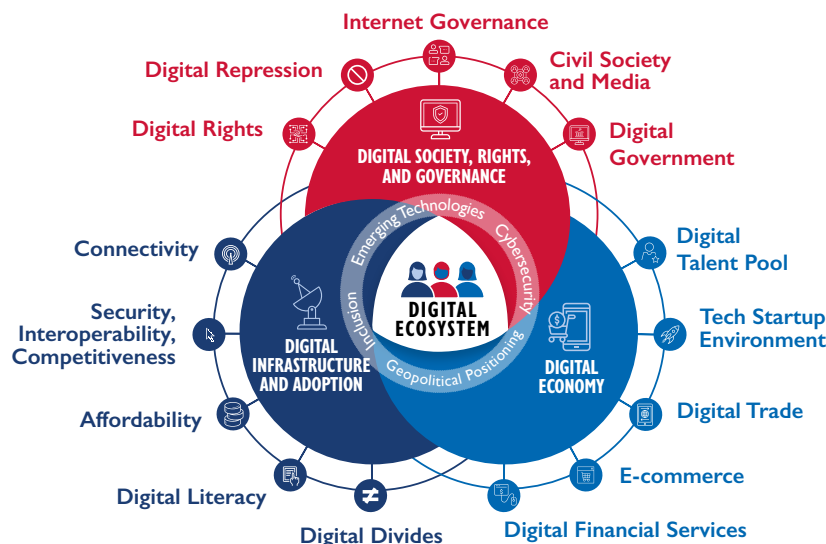
As part of the Digital Strategy implementation, the DECA examines three broad areas to understand the opportunities and challenges in a country's digital ecosystem (Figure 1):

1. Digital Infrastructure and Adoption
2. Digital Society, Rights, and Governance
3. Digital Economy

The Tajikistan DECA took place between September 2022 and February 2023. It included desk research, consultations with USAID/Tajikistan, and two weeks of in-country interviews in Dushanbe. The in-country research and virtual interviews involved a total of 63 interviews with 95 representatives of stakeholders from civil society, academia, the private and public sectors, international development organizations, and USAID/Tajikistan technical offices.

Rather than act as an authoritative source on the country's digital ecosystem, the DECA is intended to be a rapid assessment of opportunities and challenges tailored to USAID's programmatic priorities, and thus may not cover all of USAID/Tajikistan program offices and projects in-depth.

FIGURE 1: USAID's Digital Ecosystem Framework



SECTION 2:

DECA Findings

2.1. PILLAR 1: DIGITAL INFRASTRUCTURE AND ADOPTION

Digital Infrastructure and Adoption refers to the resources that make digital systems possible and how individuals and organizations access and use these resources. Digital infrastructure includes geographic network coverage, network performance, internet bandwidth, and spectrum allocation as well as telecom market dynamics around security, interoperability, and competitiveness. This pillar also examines behavioral, social, and physical barriers and opportunities for equitable adoption (digital divides, affordability, and digital literacy)—who uses and does not use digital technologies and why.

KEY TAKEAWAYS: DIGITAL INFRASTRUCTURE AND ADOPTION

FINDINGS

- Rugged, mountainous terrain and an unreliable electricity network create fundamental challenges for building out resilient digital connectivity infrastructure.
- The government has committed to increasing access to affordable internet and increasing market competition; however, policies and regulations often contradict this—increasing prices and negatively affecting internet quality.
- High taxation on the telecommunications sector disincentivizes private sector investment in expanding coverage or improving quality and resilience, and further increases prices.
- Unaffordable internet access and devices leave many people and organizations offline, and policy interventions/prescriptions have not yet addressed the situation.
- Poor school infrastructure and capacity, insufficient online content and training courses in Tajik, and technophobia are barriers to achieving general digital literacy and greater adoption.
- Gender digital divides are deep, pervasive, and rooted in social norms.
- Tajikistan lacks the legal, institutional, technical, and human capacity to effectively defend its cyberspace, making it one of the most vulnerable countries globally to external and internal cyber threats.

RELEVANT RECOMMENDATIONS

1. [Strengthen the government's cybersecurity capacity.](#)
2. [Facilitate public and private sector collaboration and investment in the ICT sector.](#)
3. [Prioritize bridging the gender digital divide.](#)
4. [Help grow digital adoption by improving digital literacy education and expanding digital content in local languages.](#)

Once a Central Asia regional champion in advanced digital connectivity, having pioneered the launch of 3G, Tajikistan now lags behind most of its neighbors in providing universal, affordable, and reliable broadband to its people. The country's landlocked, mountainous geography presents inherent challenges to building out a resilient digital connectivity infrastructure. The challenging business enabling environment for the telecommunications sector has exacerbated the situation, disincentivizing private sector investments that could improve quality and efficiency. As a result, internet in Tajikistan today is expensive and unreliable. The high cost of internet and digital devices leaves many people offline.

Another serious challenge is that general digital literacy is low. The impact of COVID-19 on school-aged children's education has helped focus government attention and donor resources on this issue. However, publicly available data is limited on questions such as the numbers of connected schools or computer laboratories and equipment.^{3,4} Teachers' and administrators' own digital literacy is low and standardized curricula are lacking. Online educational content that might fill gaps in formal education is missing in local languages. On top of these challenges, digital technologies are sometimes portrayed negatively in media outlets, which contributes to societal concerns and reservations about online life, particularly among Tajikistan's older generations. This can potentially slow down the adoption and acceptance of these technologies. With such a high percentage of Tajikistan's population under 14 years of age, leaving general digital literacy unaddressed could have long-term, negative consequences for the country's economic and social development.

Women face special barriers to digital inclusion. Constraining social norms are following women online. These social norms inform and affect all factors related to girls' and women's digital inclusion, including access to internet and devices, ability to use digital technologies effectively, or taking advantage of ICT-related skills and educational opportunities. Perhaps most importantly, these norms negatively impact girls' and women's interest in and trust of digital technologies.

One of the most critical challenges for Tajikistan's digital ecosystem development is the cross-cutting issue of cybersecurity. By all measurements, cybersecurity in both the public and private sectors in Tajikistan is very weak. Key institutional frameworks and systems are missing. Infrastructure is unprotected. Human capacity is low.

RUGGED, MOUNTAINOUS TERRAIN AND AN UNRELIABLE ELECTRICITY NETWORK CREATE FUNDAMENTAL CHALLENGES FOR BUILDING OUT RESILIENT DIGITAL CONNECTIVITY INFRASTRUCTURE.

Tajikistan's landlocked, mountainous geography creates various challenges for each of its three main segments of digital connectivity infrastructure: first-mile (international), middle-mile (national), and last-mile (end-user) (Figure 3). For first-mile, Tajikistan has a total of four terrestrial fiber connections via Kazakhstan, the Kyrgyz Republic, and Uzbekistan that all link to different points of the Frankfurt-Shanghai Trans-Asia Europe (TAE) cable that runs through Russia (Figure 2). This total reliance on the TAE poses a security and connectivity risk by creating a potential single point of failure. A future alternative to the TAE connection could be the planned Trans-Caspian Fiber Optic Cable project, part of the People's Republic of China's (PRC) Digital Silk Road, which will link Kazakhstan to Frankfurt via Azerbaijan and allow Tajikistan to diversify the TAE connection.⁵ The current status of this project, however, is unclear.

3 According to a 2021 assessment by UNICEF, fewer than twenty percent of schools in Tajikistan were connected to the internet.

4 UNICEF, 2022, "Education Case Study Tajikistan: Expanding digital learning opportunities and connectivity for all learners," [https://www.unicef.org/media/125736/file/Expanding%20digital%20learning%20opportunities%20and%20connectivity%20for%20all%20learners%20\(Tajikistan\).pdf](https://www.unicef.org/media/125736/file/Expanding%20digital%20learning%20opportunities%20and%20connectivity%20for%20all%20learners%20(Tajikistan).pdf).

5 Digital Silk Way, 2022, "Implementation of 'Digital Silk Way' Project Ongoing," May 25, <https://digitalsilkway.az/news/36/implementation-of-digital-silk-way-project-ongoing>.

FIGURE 2: Trans-Asia Europe Cable

Source: TTK, *Submarine Cable Networks*.⁶ <https://www.submarinenetworks.com/systems/eurasia-terrestrial/era>.

For its middle-mile, Tajikistan has laid over 2,800 kilometers (km) of fiber optic cable. Forty-six percent of the population lives within a ten-kilometer range of the nearest fiber connection and 86 percent of the population lives within a 25-kilometer range of it.⁷ This provides a good foundation for country-wide broadband coverage. However, frequent damage to the cables, due to harsh weather conditions and construction (especially in the cities and along the main roads), undermines the reliability of connectivity. Large areas of the country may be disconnected for days as a result. With companies increasingly reliant on digital connectivity for critical business processes, the economic cost of such outages is hard to overlook.

Last-mile connectivity for nearly all Tajiks is via mobile networks. According to the most recent data from the International Telecommunication Union (ITU), 90 percent of Tajikistan’s population has 2G/3G coverage, while 80 percent has 4G coverage.⁸ 5G coverage remains limited to about 3.8 percent.⁹ Three of the five mobile network operators (MNOs) have launched 5G test networks in Dushanbe.¹⁰ It is not yet clear when and how the government plans to expand the 5G network beyond the capital. In recent months, fixed broadband penetration has improved, but it still represents just around one percent of total broadband connections.¹¹

Mountainous topography makes rural broadband connectivity especially challenging. Alternative technologies to bring last-mile connectivity to more remote locations (such as low-cost wireless, or high bandwidth, medium earth orbit satellites) have not seen much uptake.¹² Starlink, the satellite internet network operated by SpaceX that can provide satellite internet access to low-accessibility areas, currently lists Central Asian countries as “coming soon.”¹³

6 TTK, n.d., “Submarine Cable Networks,” <https://www.submarinenetworks.com/systems/eurasia-terrestrial/era>.

7 International Telecommunications Union, 2023, “BBmaps Viz Portal,” web resource, <https://bbmaps.itu.int/bbmaps/>.

8 ITU, 2022. “Tajikistan: Population Coverage, by Mobile Network Technology,” ITU Data Hub (database), <https://www.top10vpn.com/research/cost-of-internet-shutdowns/#internet-shutdowns-2022-cost-by-country>.

9 GSMA, 2021, “GSMA Mobile Connectivity Index, Tajikistan,” <https://www.mobileconnectivityindex.com/#year=2021&zone1socode=TJK&analysisView=TJK>.

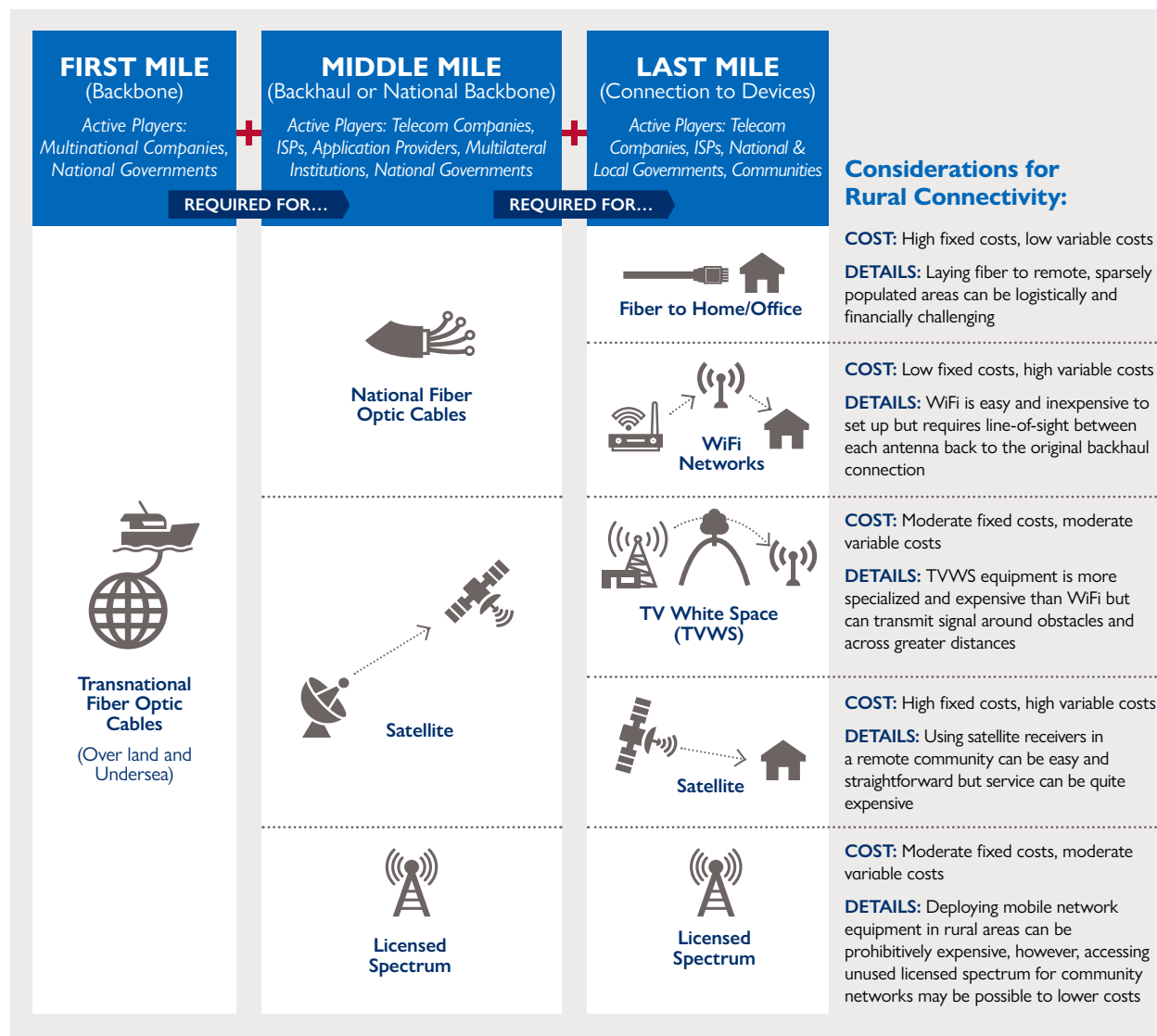
10 BuddeComm, 2021, “Tajikistan – Telecoms, Mobile and Broadband – Statistics and Analyses,” GlobeNewswire, December 15, <https://www.globenewswire.com/news-release/2021/12/15/2352903/0/en/Tajikistan-Telecoms-Mobile-and-Broadband-Statistics-and-Analyses.html>.

11 GSMA, 2018, Mobile Connectivity Index. <https://www.mobileconnectivityindex.com/-year=2021&zone1socode=TJK&analysisView=TJK>.

12 Internet Society, 2017, Tajikistan Internet Exchange Point Environment Assessment, June, <https://www.internetsociety.org/wp-content/uploads/2017/08/ISOC-Tajikistan-IXP-assessment.pdf>.

13 Starlink, <https://www.starlink.com/map>.

FIGURE 3: Elements of Broadband Connectivity



Source: USAID DECA Methodology.

Underlying the challenges to developing a resilient digital connectivity infrastructure in Tajikistan is an unreliable power supply. MNOs and internet service providers (ISPs) interviewed by the DECA team cited electricity as a major constraint to service provision. The limited generation capacity, combined with transmission and distribution losses, leads to frequent power outages.¹⁴ Unreliable electricity affects both access to and quality of internet, not only in remote areas but also in major cities. This is especially common during colder weather. Obsolete infrastructure cannot sustain existing consumers, many of whom use electric heaters in lieu of old, unreliable central heating. The lack of investment in new infrastructure and modernization also hinders the ability of the power sector to meet increasing demand for electricity. Many rural areas rely exclusively on off-grid power provided by diesel generators and, increasingly, solar cells. Deployment and maintenance of such power facilities is costly for operators, and tough weather conditions often prevent timely maintenance.

14 For a more detailed assessment of Tajikistan’s energy sector, see Energy Charter Secretariat, 2013, *In-Depth Energy Efficiency Review Tajikistan*, https://www.energycharter.org/fileadmin/DocumentsMedia/IDEER/IDEER-Tajikistan_2013_en.pdf.

THE GOVERNMENT HAS COMMITTED TO INCREASING ACCESS TO AFFORDABLE INTERNET AND INCREASING MARKET COMPETITION; HOWEVER, POLICIES AND REGULATIONS OFTEN CONTRADICT THIS—INCREASING PRICES AND NEGATIVELY AFFECTING INTERNET QUALITY.

The third pillar of Tajikistan’s 2030 National Development Strategy recognizes the importance of increasing access to affordable, high-quality internet and telecommunications, strengthening competition in the domestic telecom market, and improving the enabling environment for developing cross-border fiber optic networks. Tajikistan has also committed to establishing an independent telecom regulator and increasing sector competition via their World Trade Organization accession commitments. However, the government’s actions in practice do not always honor these commitments, and have created regulatory instability and unpredictability and price hikes, hurting businesses and consumers alike.

For example, the Law on Electronic Communications (drafted in 2002 and amended in 2006, 2008, and 2016),¹⁵ gives Tajikistan’s Communication Service (CS) responsibility for sectoral policymaking, as well as for core regulatory functions (e.g., ensuring fair competition between telecommunication operators, granting equal access of all market players to telecommunications services, and licensing the use of radio frequencies). CS also manages the state-owned enterprise Tojik Telecom. Vesting policymaking and regulatory powers in one entity (CS) that also acts as a telecommunication infrastructure operator (through Tojik Telecom), is contrary to international best practices and is non-compliant with Tajikistan’s domestic and multilateral (e.g., WTO) commitments.¹⁶ The lack of an independent policymaker and regulator can stifle competition (and therefore lead to higher prices and lower quality) and undermine accountability and transparency.

In addition, in 2015, the government created a centralized, state-owned communications hub, the Unified Communications Transit Center (UCTC) to protect national and information security and fight terrorism. This required all ISPs and MNOs to route their international internet traffic through the UCTC. The CS was given the mandate to manage the UCTC. The establishment of the UCTC discouraged the development of a domestic internet exchange point (IXP) that allows different networks present in a country to interconnect directly with each other. As a result, digital “traffic jams” occur through the UCTC, affecting the speed and efficiency of internet in the country.

In January 2018, the CS required all ISPs to purchase international bandwidth exclusively from Tojik Telecom (see Figure 4 for an overview of key service providers in Tajikistan’s telecommunications market). This gave Tojik Telecom an effective monopoly on the international internet access market. (The only other international internet channel is operated by Avesto Internet through the Kyrgyz Republic’s EICat and it is used for backup purposes.) As a state-owned enterprise, Tojik Telecom also receives tax breaks on provisions affecting the ICT and communications sector, stifling private sector investment.

Through its management of both Tojik Telecom and the UCTC, the CS controls all incoming and outgoing international traffic, assigns bandwidth, sets prices for providers and consumers, and may restrict or discontinue MNO operations. One result is that the wholesale price of international internet bandwidth in Tajikistan is significantly higher than in other CA countries at US\$26 per 1 megabyte per second (Mbps), compared to US\$4 in Uzbekistan and the Kyrgyz Republic, and just US\$2 in Kazakhstan.¹⁷

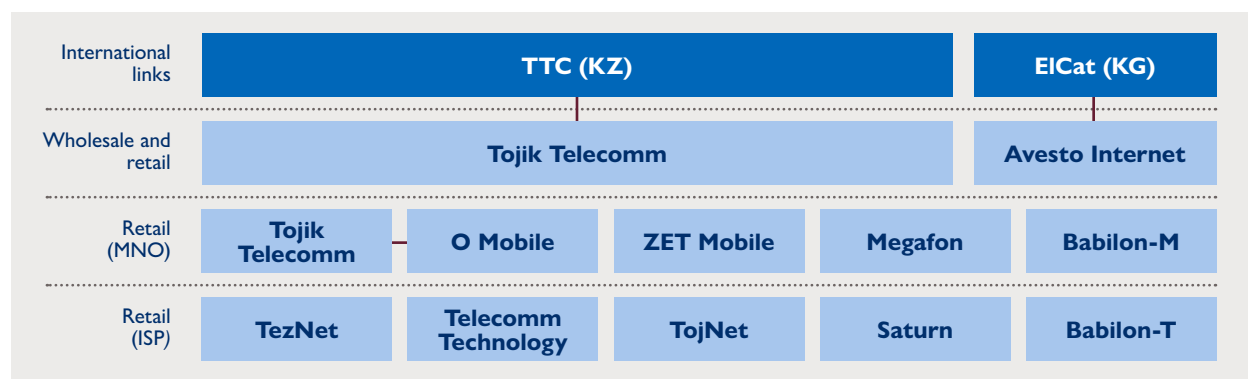
15 World Bank, 2019, *Tajikistan Country Economic Memorandum: Nurturing Tajikistan's Growth Potential*, Report No. 130045-TJ, World Bank, May, <https://documents1.worldbank.org/curated/en/283081560956198220/pdf/Tajikistan-Country-Economic-Memorandum-Nurturing-Tajikistans-Growth-Potential.pdf>.

16 World Bank, 2019, *Tajikistan's Country Economic Memorandum*.

17 Telegeography, n.d., “IP Transit Pricing Data,” <https://www2.telegeography.com/ip-transit-pricing-data>.

According to some of the interviewed MNOs, before these regulatory changes, the cost per 1 Mbps for Tajikistan was US\$10–20.

FIGURE 4: Tajikistan Telecommunications Market: Overview of Key Service Providers



Notes: KG = Kyrgyz Republic; KZ = Kazakhstan; TTC = Transtelecom.

Source: Authors.

Besides increasing prices, these moves have further jeopardized internet quality and resilience by creating another single point of failure in the country's telecommunication infrastructure. A minor incident in UCTC's operations could potentially cause country-wide internet blackouts for short periods.

Further, due to UCTC control of Tajikistan's international internet traffic, terrestrial connectivity capacity is modest, totaling 100 gigabits per second (Gbps) around mid-2022. Though this is up from 70 Gbps in 2021¹⁸ and a ten-fold increase over five years ago. For comparison, the Kyrgyz Republic's total internet bandwidth capacity in 2019 was 600 Gbps.¹⁹

HIGH TAXATION ON THE TELECOMMUNICATIONS SECTOR DISINCENTIVIZES PRIVATE SECTOR INVESTMENT IN EXPANDING COVERAGE OR IMPROVING QUALITY AND RESILIENCE AND FURTHER INCREASES PRICES.

Tajikistan has one of the highest tax burdens globally on the private sector.²⁰ One study placed Tajikistan's total tax and contributions rate at 67.3 percent, more than twice the average for Central Asia and Eastern Europe (32.8 percent). Government tax revenues in 2019–2020 represented 20 percent of gross domestic product (GDP), significantly higher than the 16.8 percent average of relevant comparator countries.²¹

The telecommunications sector faces particular tax burdens, including a 5 percent excise tax (the government has controversially deemed communications services as harmful placing them in the same category as alcohol and cigarettes), and a 15% value-added tax on the import of spare parts and specific telecommunication equipment. These taxes are passed on to the consumer.

According to interviewed MNOs, the net effect of such taxes has been to mostly limit infrastructure investments to more lucrative segments such as laying out fiber optic networks in Dushanbe and other big cities where the

18 Bahmaner Nadirov, 2022, "Communications Service of Tajikistan Issued Last Year's Indicators for the Achievements of This Year," Asia-Plus Media Group/Tajikistan, July 13, <https://www.asiaplustj.info/ru/news/tajikistan/society/20220713/sluzhba-svyazi-tadzhikistana-vidala-proshlogodnie-dostizheniya-za-pokazateli-nineshneho-goda>.

19 Freedom House, 2019, "Kyrgyzstan: Freedom on the Net 2019," <https://freedomhouse.org/country/kyrgyzstan/freedom-net/2019>.

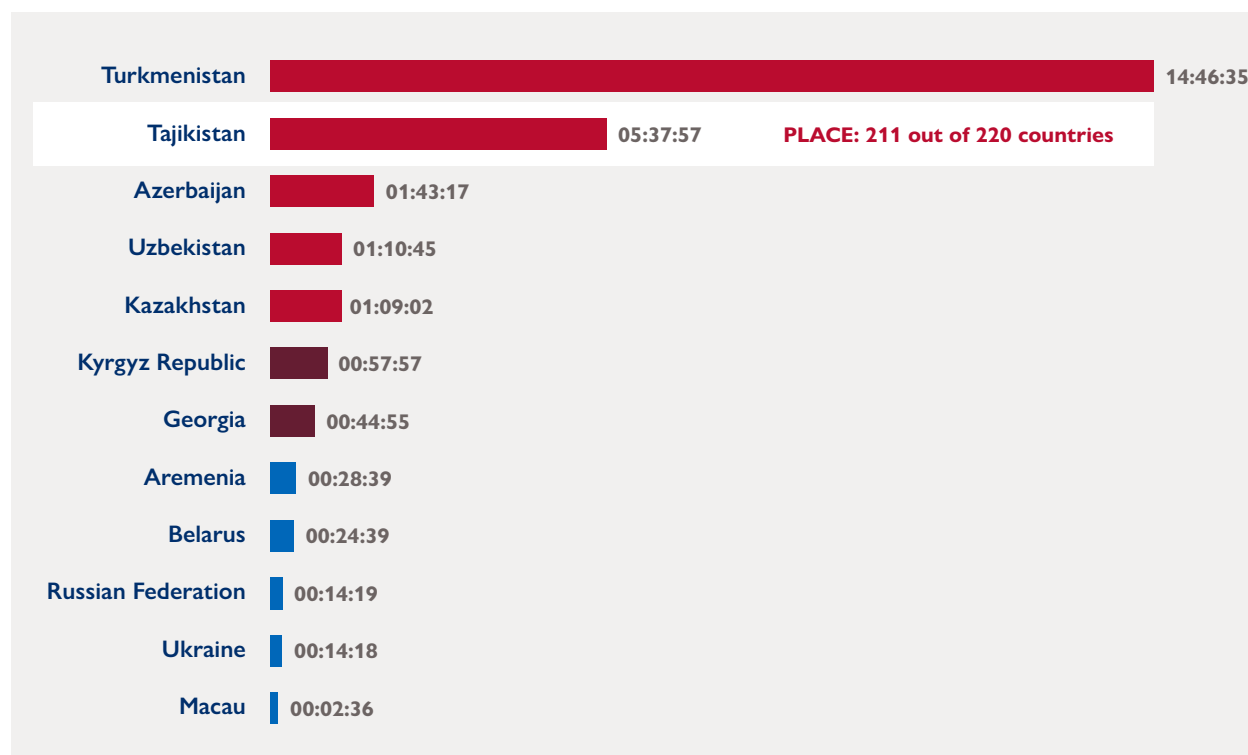
20 PwC, 2021, "Paying Taxes 2020: In-Depth Analysis on Tax Systems in 190 Economies," web resource, <https://www.pwc.com/gx/en/services/tax/publications/paying-taxes-2020.html>.

21 World Bank, 2022, *Tajikistan - Public Expenditure Review: Strategic Issues for the Medium-Term Reform Agenda*, Washington, D.C.: World Bank Group, November, <https://www.worldbank.org/en/country/tajikistan/publication/per-2022>.

population can afford to connect to fixed broadband (via subsidiary ISPs like Babilon-T and TezNet). This is slowly pushing smaller ISPs out of the market and risks turning the fixed broadband market into an oligopoly, subverting Tajikistan’s official policy (as reflected in the National Development Plan 2030) and further preventing market development.

MNOs also reported that diminishing profits and the increasing cost of capital has dampened investment in upgrading their networks to ensure quality. For example, the number of 3G and 4G base stations required to sustain current subscribers is insufficient to also ensure connection quality. This results in dramatic service degradation during peak hours, even in some central areas of Dushanbe. One MNO that operates about 300 4G base stations reported that it can provide a bandwidth of less than 1 megabit per second (Mbps) per subscriber during peak hours. Achieving the 10 Mbps/subscriber needed for a good user experience would require 1,700 base stations—almost six times as many—to properly serve the *existing* user base. In these conditions, many interviewees mentioned that for consumers, the quality and speed of internet service outweighs cost as this severely impacts their user experience, for example, streaming an online movie (Figure 5). For low-income populations, who constitute a large share of those on the margins of adoption, cost plays a more prominent role.

FIGURE 5: Time Required to Download a 5GB Movie



Source: Worldwide Broadband Speed League, 2022.²²

22 Cable.co.uk, n.d., “Worldwide Broadband Speed League,” web resource, available at <https://www.cable.co.uk/broadband/speed/worldwide-speed-league/>.

UNAFFORDABLE INTERNET AND DEVICES LEAVE MANY PEOPLE AND ORGANIZATIONS OFFLINE, AND POLICY INTERVENTIONS/PRESCRIPTIONS HAVE NOT YET ADDRESSED THE SITUATION.

Internet in Tajikistan is notably more expensive than in peer countries (Figure 6). Monthly mobile tariffs for 2GB (gigabytes) of data represented 7.54 percent of monthly household income in 2021, which significantly exceeds the ITU target of two percent. For Commonwealth of Independent States (CIS) countries, the average 2GB plan was 1.05 percent of monthly household income, whereas for landlocked developing countries, the same basket averages 2.67 percent of monthly household income.²³

FIGURE 6: Internet Speed and Affordability in Central Asian Countries, 2022

	Download (Mbit/s)	Cost Per Month\$	Affordability%	Cost 1GB Mobile Data (\$)
Kazakhstan	2.4	10.8	1.5	0.8
Uzbekistan	1.8	18.3	7.7	1.3
Kyrgyz Republic	2.5	19.9	9.5	0.6
Tajikistan	0.5	25.1	28.5	3.5
Turkmenistan	0.4	189.2	31.4	17.5

Source: *Broadbandchoices.co.uk, Internet Accessibility Index.*²⁴

Although there are no publicly available data on smartphone ownership in Tajikistan, according to the Alliance for Affordable Internet (A4AI), the price of a smartphone in Tajikistan in 2020 was 104.76 percent of the average monthly income.²⁵ At the same time, some DECA interviewees said smartphone costs were somewhat lower than in the region, mostly due to the large number of contraband phones, and most of those brought in from the PRC. The extent of these illegal imports may change, however, given CS plans to implement International Mobile Equipment Identity (IMEI) registration after the SIM registration process is complete.

Multiple shops throughout the country offer convenient monthly installment payment plans for devices. However, smartphones are still expensive. As noted above, the cheapest ones cost slightly more than an average monthly salary.²⁶ As a result, in rural areas in particular, there is typically not more than one smartphone per household. Multiple interviewees stated that the device is either used by men or, in families with migrant workers, used by women mostly for communicating via instant messaging and for receiving remittances.

POOR SCHOOL INFRASTRUCTURE AND CAPACITY, INSUFFICIENT ONLINE CONTENT AND TRAINING COURSES IN TAJIK, AND TECHNOPHOBIA ARE BARRIERS TO ACHIEVING GENERAL DIGITAL LITERACY AND GREATER ADOPTION.

USAID defines digital literacy as “[t]he ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately through digital devices and networked technologies for participation in economic, social, and political life.”²⁷ This definition encompasses two pillars: capacity and safety. Capacity is “the technical knowledge and skills required to use a variety of digital devices and services

23 2GB of data refers to a data-only mobile broadband basket. Percentage is cost of basket per over country’s monthly GNI per capita. See A4AI, “Affordable Internet – Journey from 1 to 5,” web resource, <https://a4ai.org/affordable-internet-journey-from-1-to-5/>.

24 Daniel Clifford, 2021, “Internet Accessibility Access,” broadbandchoices, January 20, <https://www.broadbandchoices.co.uk/features/internet-accessibility-index>

25 Alliance for Affordable Internet, 2020, “From Luxury to Lifeline: Reducing the Cost of Mobile Devices to Reach Universal Internet Access,” Web Foundation, https://a4ai.org/wp-content/uploads/2020/08/Alliance-for-Affordable-Internet_Device-Pricing_PUBLIC.pdf.

26 Alliance for Affordable Internet, 2020, *From Luxury to Lifeline*.

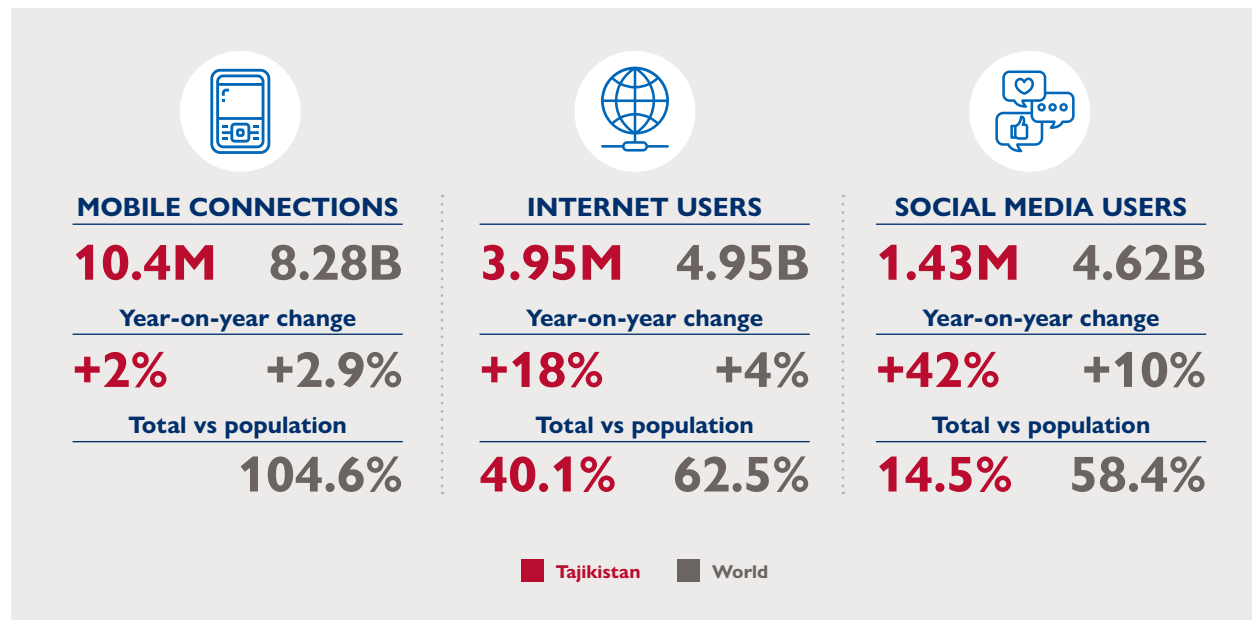
27 USAID, 2022, *Digital Literacy Primer: How to Build Digital Literacy into USAID Programming*, USAID, April, https://www.usaid.gov/sites/default/files/2022-05/USAID_Digital_Literacy_Primer.pdf.

such as mobile phones; tablets and computers; the Internet; messaging and social media services such as WhatsApp, Twitter, and Facebook; as well as audio and visual tools.”²⁸ Safety includes “the skills and awareness required to use digital tools carefully while navigating potential harms, [countering mis- and disinformation], and cyber threats successfully.”²⁹ (This section focuses primarily on “capacity”; see Pillar 2 for more in-depth discussion of “safety.”)

Despite almost universal general literacy, Tajikistan’s digital literacy rate appears low. Data do not currently exist on the number of individuals or extent of Tajiks’ digital literacy. Existing data on numbers of connections and internet and social media users point to impressive growth in usage in 2022 compared to 2021, demonstrating increased interest in adopting technologies. Still, adoption rates remain well below the world average (Figure 7), which point to persistent issues as well as the growth potential. The general consensus among interviewees was that few people in Tajikistan possess basic digital literacy, especially women and people living in rural areas.

Gaps in digital literacy have direct consequences for the country’s long-term economic and social development. Approximately 45 percent of the population is under the age of 20. Given that this population cohort will be the backbone of the working-age population in 2030, it is critical that they possess appropriate digital skills—through enhanced basic education, additional training, or accessible resources—to increase their potential to participate in the digital economy. The reasons for low digital literacy rates are numerous. Besides shortages of proper equipment in schools, two other major issues emerged during interviews. These include schoolteachers’ and administrators’ insufficient digital knowledge and resources, and a lack of content in local languages. Beyond the classrooms, there are other challenges.

FIGURE 7: Internet and Social Media Users in Tajikistan, 2021-2022



Source: Simon Kemp, *Digital Tajikistan*, Datareportal.

Schoolteachers’ and administrators’ insufficient digital knowledge and resources. Most interviewees acknowledged the low capacity of educational institutions to provide digital education from early grades onwards. This low capacity starts at the most basic infrastructure level: connecting schools to the internet and providing computers. Although the exact number of connected and well-equipped educational institutions

28 USAID, 2022, *Digital Literacy Primer*.

29 USAID, 2022, *Digital Literacy Primer*.

is not known, an estimated 3,300 primary and secondary schools (out of a total of 3,940), are unconnected.³⁰ Most of these schools are in remote and rural areas. UNICEF (the United Nations Children’s Fund) is supporting a mapping of schools that should be completed in 2023 that should clarify the real situation. Local ISPs and international development partners are also helping school digitalization efforts by providing connectivity and equipment, but further efforts from the government are needed. By law, mobile phones are banned in educational institutions, for allegedly interrupting school lessons and due to declared health concerns (e.g., radiation exposure).³¹ This eliminates the potential to use them as an additional educational tool. Due to lack of connectivity and devices, COVID-19 severely disrupted the educational process in Tajikistan. There were no online classes organized during the lockdown; instead, video lessons were broadcast on state television.³²

Digital education classes start in 5th grade, but the ICT Center under the Ministry of Education and Science acknowledges that there is a shortage of qualified ICT teachers to conduct the lessons. The government has approved the ambitious *Concept on Transition to Digital Education until 2042*,³³ which aims, among other things, to improve the digital skills of teachers, implement digital education programs, and to provide educational institutions with broadband access to internet and computing equipment, widespread introduction of interactive forms of education using ICT (including distance (online) education), and the development of basic digital curricula in the Tajik language. Tajikistan, however, does not yet have a national digital competencies framework³⁴ or other basis for developing a digital literacy curriculum or for defining, tracking, and reporting digital skills attainment in schools and across the general population. In the meantime, the UNICEF Upshift program is training teachers in digital teaching practices aimed at primary and secondary schools (and facilitates entrepreneurship skills).

Lack of content in local languages. A major barrier to acquiring basic digital literacy is language. Local content is critical for accessibility, and there is little educational content available in local languages. Many interviewees admitted that most private or donor-funded ICT courses are conducted in Russian. However, with more than half of the population growing up in post-Soviet Tajikistan, knowledge of Russian is becoming rare and is mostly concentrated in larger urban areas. With no knowledge of English either, many young people are locked out of formal courses and self-teaching with online resources.

Another consequence of the limited availability of local language content is that most beginning users either do not understand the importance of cyber hygiene and data protection or do not care about them, claiming that they have nothing to lose or hide. This leads to frauds and leaks of personal data, which further discourage

30 The DECA research team could not find published data on the number of unconnected schools in Tajikistan. This information was provided in a key informant interview (KII). The Ministry of Education/UNICEF mapping exercise currently is expected to publish this data when it is completed.

31 RadioFreeEurope / RadioLiberty, 2009, “Mobile Phones Banned at Tajik Schools and Universities,” March 13, https://www.rferl.org/a/Mobile_Phones_Banned_At_Tajik_Schools_And_Universities/1509430.html.

32 UNICEF, 2020, “Children in Tajikistan return to safer schools amid COVID-19,” September 30, <https://www.unicef.org/eca/node/6846>.

33 Decree of the Government of the Republic of Tajikistan No. 439 of August 31, 2022 “On the Concept of the transition to digital education in the Republic of Tajikistan for the period up to 2042.” portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=26550&language=ru (not available in English).

34 A national digital competencies framework is a set of standards that define the knowledge and skills that individuals need to effectively function in a digital world. They provide a common reference for education and training providers, learners, employers, and workers to identify, assess and certify digital competencies. They also support the development of digital literacy policies and strategies at national and regional levels. Different countries have developed their own national frameworks to define and assess digital competencies, as well as to guide policies and practices for developing them. One of the earliest and most influential national frameworks for digital competencies is the European Digital Competence Framework (DigComp). Another example of a national framework for digital competencies is the Australian Core Skills Framework (ACSF). Canada also launched its national framework for digital competencies, called the Digital Competency Profile (DCP). National competencies frameworks should not be static, but dynamic and adaptable to the changing needs of the digital society and economy. They should be regularly reviewed and updated to reflect the latest trends and developments in technology, innovation, and labor market. Ideally, they should also be aligned with international standards and frameworks, such as the European Digital Competence Framework (DigComp), to facilitate cross-border mobility and recognition of digital skills.

people from adopting digital technologies (for more discussion, see cybersecurity section below and Pillar 2: Digital Society).

Beyond the classroom. Apart from classes in schools, there are isolated initiatives to teach more advanced digital skills through private programming and robotics courses, either as separate classes, as part of private schools' curriculum, or as extra-curricular activities in a few public schools in Dushanbe. While helpful and increasingly popular (even if parents must often pay extra for them), such initiatives are too small to make a meaningful change. They are typically delivered by one-person or family companies, making them difficult to scale. In addition, because these small businesses face high taxes, rental, and equipment costs, they often function in the grey market (see Pillar 3 for more discussion).

Another frequent observation of private sector interviewees was the lack of linkage between education and the labor market. As a result, young people entering the labor market are not prepared and companies must invest in training (or re-training) them with the necessary digital (and soft) skills. This also applies to public sector employees. Most civil servants do not possess basic digital literacy skills; even if their job descriptions require such skills, they are not seriously considered when hiring.

For those already past school-age or living in rural areas, given the strong family bonds in Tajik society, digital literacy skills are passed up from children or more educated family members. Impact, however, is likely limited. Low connectivity and the limited number of devices in households constrain all rural residents, whatever their age. Rural populations have also been susceptible to messages about the potential harm of internet and communications technologies, without receiving a balanced picture of the potential benefits of connectivity. This drives technophobia (i.e., suspicion and reluctance to adopt digital technologies) among many people who have no access to alternative sources of information.

GENDER DIGITAL DIVIDES ARE DEEP, PERVASIVE, AND ROOTED IN SOCIAL NORMS.

Digital transformation offers many opportunities to bring down barriers and expand social and economic inclusion of historically marginalized groups or individuals facing intersecting barriers or discrimination (for example, see Box 1 on the potential for persons with disabilities). However, without focused efforts to include such populations, digital divides widen along access, education, interest, and other dimensions.

In Tajikistan, as with so many other questions around digital transformation, there is little available data on digital divides. The Internet Society data, for example, show disparities in urban/rural connectivity, mostly due to Tajikistan's mountainous, landlocked terrain, which disproportionately impacts the 72 percent of the population living in these rural areas.^{35,36} The ITU's most recent data (2017) are not sufficiently detailed to break out urban/rural internet access at home or to disaggregate internet use by age or sex.³⁷

The most recent data available (2021) from the GSMA Mobile Connectivity Index reveal that women lag in social media use, mobile ownership, and income parity. The Global Gender Digital Divide Index (GDDI) ranked Tajikistan 17 out of 20 countries benchmarked in 2022 on closing their gender digital divide.³⁸ The country scored poorly across all three of the GDDI dimensions: foundations, enablers, and impacts. Tajikistan's lack of

35 Internet Society, 2017, *Tajikistan Internet Exchange Point Environment Assessment*.

36 International Telecommunications Union (ITU), 2021, *Digital Trends in the Commonwealth of Independent States Region*, 2021, ITU, https://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-DIG_TRENDS_CIS.01-2021-PDF-E.pdf.

37 ITU, 2017, "Digital Development Dashboard," web resource, <https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx>.

38 DAKA advisory AB and Women in Digital Transformation LLC, 2022, *Gender Digital Divide Index Report*, 2022, <https://gddindex.com/wp-content/uploads/2022/02/GDDI-Report-2022.pdf>.

online government resources directed towards women on topics such as educational and labor opportunities, finance, health, and emergency services gave it a poor score on enablers. Overall, the GDDI found that the provision of e-services strongly correlates with better outcomes in overcoming gender digital divides. Tajikistan fared worst on impacts, which measures indicators such as: the percentage of women in leadership positions at the national telecommunications regulator, data protection agency, and largest telecommunications company; the percentage of women among science, technology, engineering, and mathematics (STEM) faculty at the largest public university; and percentage of women graduates from STEM and ICT tertiary-level programs. The study also noted that no data are available on pay gaps for women in Tajikistan's ICT sector (see Pillar 3 for discussion of the lack of women participation in the ICT sector overall), although the 2021 World Bank's *Tajikistan Country Gender Assessment* reveals that economy-wide, women earned 60 percent of what men earned in 2017.³⁹

Given the lack of gender-disaggregated data, the insights obtained during DECA interviews were especially important. They point to deep gender divides across multiple dimensions stemming from social and cultural norms. These norms impact access to the Internet and devices, ICT-related skills and educational opportunities, and overall interest in and trust of digital technologies. In turn, this circumscribes women's abilities to use digital technologies for their professional and personal development.

Access to digital technologies. Interviewees revealed that many girls and young married women do not have access to mobile phones or other smart devices. The ostensible stated reason is to control women, including their communication with other men and friends. In families with male migrant workers, it is common for men to leave smartphones with their mothers rather than their wives; wives then have limited access to speak exclusively with their husbands.

Digital literacy, skills, and ICT-related education. Interviewees also noted that women often lack basic digital skills. With a very large proportion of the male population working abroad (mostly in the Russian Federation), women do use digital financial services to facilitate digital transactions.⁴⁰ Their lack of digital financial literacy knowledge and skills, however, results in a distrust of technology. Many women immediately cash out remittances sent by male migrant workers.

Women lag vis-à-vis men in pursuing ICT or technical degrees, representing only about 15 percent of ICT students. The same is true in the private ICT courses organized by large ICT companies, banks, mobile operators, and development partners. According to the organizers of such courses, after graduation, many girls either get married and drop their careers or leave the country. Correspondingly, girls and women in ICT careers account for only 10-15 percent of the total number of employees in the sector. Initiatives such as Women in Tech, Girls in Tech, and Technovation raise huge interest, but are too fragmented and lack the resources needed to scale and produce meaningful, systemic change.

Low interest in and trust of digital technologies. Social norms that reinforce perceptions of technologies as harmful or dangerous are especially directed towards girls and women. At the same time, poor digital literacy leaves girls and women particularly vulnerable to real online risks such as financial crimes, technology-facilitated gender-based violence, trafficking, or other digitally enabled crimes. Lack of access to information and online media reduces potential sources of information that could provide women with real knowledge, support, and protection. Digitally enabled crimes reportedly have seen a significant uptick in recent years, mostly affecting young women who lack the experience and skills to keep themselves safe online, making them easy targets.

39 Alisher Rajabov, Barbara Weber, and William Hutchins Seitz, 2021, *Tajikistan: Country Gender Assessment*, Washington, DC: World Bank Group, <https://www.worldbank.org/en/country/tajikistan/publication/country-gender-assessment>.

40 According to estimates of the National Association of Businesswomen of Tajikistan, 28 percent of households are women-led.

This includes cases of social engineering, where young women, many of whom just moved from villages to larger cities, are identified via social media, persuaded to become second wives, and then deprived of money and other assets. Understandably, this stokes fears and mistrust, dampening interest in adoption and use and deepening divides.

The phenomenon of “digital vigilantism” that has emerged in the past couple of years is a razor that can cut both ways: sometimes helping and other times harming women. In one of the first examples that went viral, a taxi driver was caught on camera harassing a young woman on the street; the video was shared with police, who arrested and charged him. He ended up with 10 days of administrative arrest and community service.⁴¹

On the other hand, digital vigilantism, can create an environment in which the presumption of innocence is replaced by a presumption of guilt and where anyone can blame anyone for anything.

Technology-enabled gender-based violence (TEGBV) is another problem in Tajikistan, whereby digital platforms are used to reinforce conservative norms, particularly regarding gender and sexuality. Several key media informants noted that TEGBV practices are used increasingly to silence socially active women, as opposed to the physical violence typically used to silence men.

Women who are caught on video stepping outside of generally accepted gender boundaries such as “inappropriate” dressing, modern dancing, going to bars and clubs, etc., are often targets of blackmail and may have their lives and those of their families destroyed.⁴² For example, the Instagram pages “Sharmanda TV” (“Shame TV” in Tajik) and “Hodisa TV” (“Incident TV”) actively solicit content from their subscribers and publish it across multiple platforms at once (usually Instagram, Telegram, and YouTube). Often, these groups have a regional focus, generally in Dushanbe and Khujand. The use of non-consensual sexual materials as cyber blackmail has also become common across Tajikistan. In 2017 alone, there were at least 200 such complaints recorded by the Ministry of Interior.

While some law enforcement efforts have shut down such online shaming sites, one DECA interviewee likened this to a game of “whack-a-mole”—as one is closed, another appears in its place, with little monitoring support from companies like Meta, which does not have a local presence. Reforms to legal and policy frameworks are needed to better prevent and respond to TEGBV in Tajikistan. For example, the law does not yet explicitly criminalize TEGBV or provide effective remedies for the victims, and law enforcement agencies lack the capacity and resources to investigate and prosecute TEGBV cases. At the same time, local human rights nongovernmental organizations (NGOs) could also be more active in identifying and reporting such practices, both to the authorities and directly to Instagram and Facebook, as well as in providing support and advice to victims of such practices.

Missed opportunities across the gender digital divide. Digital technologies can open opportunities for micro, small, and medium-sized businesses (MSMEs) to expand their markets and reach new consumers, integrate into national and global supply chains, and test new types of businesses and business models. Most women-led businesses in Tajikistan are sole-proprietor enterprises or other small operations classified as MSMEs. The majority are micro-businesses in areas like cooking, handicraft, jewelry, and textiles, which could benefit from adopting digital technologies to improve operations, marketing, and sales. Inadequate capacity and resources may hinder the use of these technologies. The National Association of Businesswomen of

41 Sher Khashimov, 2020, “Digital Vigilantism in Tajikistan: Smartphones, Social Media, and the Culture of Shame,” CABAR, December 16, <https://cabar.asia/en/smartphones-social-media-and-the-culture-of-shame-can-digital-vigilantism-take-on-the-state-s-dysfunctions-in-tajikistan>.

42 Meduza, 2022, “‘I Get Shamed for Absolutely Nothing’: In Tajikistan Social Media, Patriarchy, and Labor Migration are Fuelling a Doxxing Problem,” October 31, <https://meduza.io/en/feature/2022/10/31/i-get-shamed-for-absolutely-nothing>.

Tajikistan (NABWT) notes a 9 percent gender imbalance in access to finance for women-owned businesses compared to men-owned ones. In addition, once again, lack of access, knowledge, skills, and interest in digital technologies mean that women are not aware of the opportunities to promote and sell their products or find customers and employees.

BOX 1: The Potential of Digital Inclusion for Improving the Lives of Persons with Disabilities in Tajikistan

Digital technologies have the potential to improve the lives of persons with disabilities in Tajikistan in multiple ways. Digitalization can offer more equitable and inclusive access to government services, for example. Unfortunately, the registration system for persons with disabilities is outdated, and state services often require the disabled to be physically present to submit documents required to receive support. Several civil society organizations in Tajikistan are eager to help bring greater inclusion through digital technologies to these vulnerable, marginalized populations.

Experts estimate that up to 2 percent of Tajiks have some kind of physical disability that causes them to drop out of public and economic life, due in large part to lack of accommodating infrastructure. Digital platforms could help to integrate them into society by creating opportunities for remote work, education, communication, and access to government services. The National Union of People with Disabilities of Tajikistan (NUPT) also reports more research is required about the needs of persons with disabilities. With more data and better systems for identifying persons who are marginalized due to a physical disability, NUPT could help provide access to internet, online trainings for digital (and other) skills, connections to other education, employers, and more.

Although autism is not an officially recognized condition in Tajikistan, and as a result, persons with autism and their families do not receive government support, digital technologies can bring opportunities for persons with mental disabilities, as well. For instance, one of the few local civil society organizations active on this front, IRODA, provides education campaigns for parents and children with autism, supports employment opportunities (e.g., the Inclusion Café in Dushanbe), and cooperates with local IT companies for developing mobile applications for non-verbal communication with children.

The digital economy also creates new possibilities for work and side-income for persons with mental and physical disabilities, as well as caregivers; and digital technologies can also offer flexible employment opportunities for caregivers, e.g., mothers of children with autism who need to be nearby, which affects their ability to take on certain jobs. Increasing digital literacy and increasing remote working opportunities could be an important step to provide family members with earning opportunities and a more comfortable life.

TAJIKISTAN LACKS THE LEGAL, INSTITUTIONAL, TECHNICAL, AND HUMAN CAPACITY TO EFFECTIVELY DEFEND ITS CYBERSPACE, MAKING IT ONE OF THE MOST VULNERABLE COUNTRIES GLOBALLY TO EXTERNAL AND INTERNAL CYBER THREATS.

Tajikistan's low capacity in cybersecurity emerged multiple times during DECA interviews. A recent study ranked Tajikistan the least cyber-secure country in the world.⁴³ Indeed, Tajikistan ranks low on both the National Cyber Security Index (NCSI), at 143rd of 160 countries and the ITU Global Cybersecurity Index (GCI) at 138th of 182 countries, placing it behind most of its regional peers. According to Kaspersky, Tajikistan suffers mostly from ransomware and blockers, and in 2021, Tajikistan was placed among top-10 countries in which users' computers were attacked by intruders.⁴⁴ Though Tajikistan has made recent efforts to address cybersecurity weaknesses, more emphasis has been placed on strengthening the country's surveillance capabilities rather

43 Paul Bischoff, 2022, "Which Countries Have the Worst (and Best) Cybersecurity?" Comparitech, September 26, <https://www.comparitech.com/blog/vpn-privacy/cybersecurity-by-country/>.

44 Kaspersky, 2021, *Kaspersky Security Bulletin, 2021: Statistics*, https://go.kaspersky.com/rs/802-IJN-240/images/KSB_statistics_2021_rus.pdf.

than improving its cybersecurity. As Tajikistan’s digital ecosystem evolves, cybersecurity will be critical to convince people to trust and adopt digital technologies and services.

Tajikistan adopted two national regulations on cybersecurity in the early 2000s (the 2003 Presidential Decree “On the Concept of Information Security” and the 2004 “Program for ensuring information security of the Republic of Tajikistan”); however, these regulations need updating. Tajikistan also lacks a national or government computer emergency response team (CERT) or a cybersecurity incident response team (CSIRT) to respond to cybersecurity at the national level. Instead, each separate government institution and state-owned enterprise bears the responsibility of its own cybersecurity. This situation leaves Tajikistan vulnerable at the national level, hampering the ability to respond to incidents and perform quick and systematic preventive and corrective actions.

As mentioned earlier, existing infrastructure and mechanisms, such as the UCTC, also create a single point of failure that could cut off the Tajikistan’s international connectivity. The UCTC does not appear to have the capacity to detect or prevent attacks (including distributed denial-of-service (DDoS) attacks) on national assets. When incidents do occur, they often go unreported to the Ministry of Interior or to the CS due to lack of trust in their ability to resolve such problems. In the absence of a CERT or a cybersecurity incident response team (CSIRT), most incidents remain unaccounted for.

BOX 2: What are CERTs and CSIRTs?⁴⁵

A **computer emergency response team** or CERT is an organization or a group of experts responsible for responding to and managing computer security incidents, providing support, and handling security breaches or vulnerabilities, typically within a government. CERTs play an important role in maintaining the security of computer systems and networks by identifying, analyzing, and mitigating computer security incidents and threats, and by providing advice and guidance on how to prevent similar incidents from happening in the future. They are the first line of defense in responding to cyberattacks and other types of computer security incidents.

A **computer security incident response team** or CSIRT is similar to a CERT. The main difference between the two is that a CSIRT is specifically focused on security incidents that affect a certain organization, while a CERT may have a broader scope that includes country-wide computer emergencies, providing training and education on computer security, conducting research on computer security threats, and developing policies and procedures for responding to computer security incidents.

As noted in the digital literacy section of this report, institutional and infrastructure weaknesses are easily leveraged by ill-intended actors because people are unaware of cybersecurity risks and good practices for staying safe online. Indeed, there were reports during the interviews of e-wallet and other digital financial service (DFS) frauds. Many of these negative impacts, as confirmed during the DECA interviews, are a consequence of the lack of cybersecurity education in primary, secondary, or tertiary education. Typically, financial institutions conduct awareness campaigns that should educate people on good practices of using DFS, but there is no coordinated government response to counteract such phenomena.

45 Based on: Ed Moyle, 2023, “CERT vs. CSIRT vs. SOC: What’s the Difference?”, TechTarget, February, <https://www.techtarget.com/searchsecurity/tip/CERT-vs-CSIRT-vs-SOC-Whats-the-difference>.

2.2. PILLAR 2: DIGITAL SOCIETY, RIGHTS, AND GOVERNANCE

Digital Society, Rights, and Governance focuses on how digital technology intersects with government, civil society, and the media. This pillar is divided into three sub-pillars: Internet Freedom; Civil Society and Media; and Digital Government. Internet Freedom explores factors that enable or constrain the exercise of human rights and fundamental freedoms online. This includes individual rights to freedom of speech, privacy, and free assembly, and the abuse of these rights through digital repression. Civil Society and Media identifies key institutions and how they report on, advocate around, and influence online freedoms. Digital Government looks at the government's efforts to manage internal information technology (IT) processes and systems, deliver citizen- and business-facing e-services, and engage with the public through digital channels.

KEY TAKEAWAYS: DIGITAL SOCIETY, RIGHTS, AND GOVERNANCE

FINDINGS

- Media literacy and awareness of online risks (such as financial crimes, harassment, hate speech, child exploitation, and trafficking) are relatively low, even as citizens are increasingly turning to the Internet for news and information.
- Tajikistan's Personal Data Protection Law is aligned to international best practices to safeguard citizens' data, however implementation has stalled.
- Almost no civil society organizations have programs to raise awareness of internet governance and media literacy issues among the general population.
- Numerous challenges, including weak data and cyber literacy among media organizations, journalists, and bloggers, adversely impact the quality and resilience of online journalism.
- Digital government transformation efforts are visible and having an impact, but they would benefit from an agency overseeing and coordinating digitalization.
- Effective sector digitization requires a strategic, sectoral vision, organizational structures, and increased digital capacity.
- Reliance on donor-financing for digital transformation leads to fragmented implementation and lacks sustainability.
- Digital identity and interoperability are missing elements of Tajikistan's digital foundation.
- Interest in and appreciation of open data is low; opportunities exist to strengthen supply and demand.

RELEVANT RECOMMENDATIONS

5. [Bolster data privacy, protection, and cyber hygiene at all societal levels.](#)
6. [Build the capacity of civil society and independent media to use digital technologies safely and effectively.](#)
7. [Support implementation of the digital government transformation agenda.](#)

While more people are coming online, in part driven by the COVID-19 pandemic, uptake is still relatively slow in absolute terms, and there is a general lack of awareness of associated risks. Publicly-available data about the extent of those risks—i.e., data breaches, fraud, blackmail, harassment, hate speech, mis/disinformation and exploitation—are limited or non-existent. No organization, government or nongovernmental, seems to be tracking these risks in a systematic manner. Concerns around radicalization and the vulnerability of youth to recruitment by extremist groups prevent parents from letting their children go online, and government and other stakeholders have not yet prioritized support for child safety online. Internet users generally are equally ignorant of how their rights translate online or how to exercise them. While Tajikistan adopted a Personal Data Protection Law, implementing regulations are not yet in place.

Low media literacy increases the population's vulnerability to mis/disinformation circulated online. Relatively few civil society organizations are engaged on issues related to internet governance and information literacy

because their own knowledge and confidence is limited. Digital and information literacy is only marginally better among journalists and activists compared to the general population, which hampers growth of quality, online content in the Tajik language. Poor cyber hygiene practiced by organizations and individuals alike exacerbates cybersecurity vulnerability and increases the probability of cyber attacks and other cybercrimes.

The Government of Tajikistan has outlined a vision for digital government and the overall digital economy first in its *Concept of Electronic Government in Tajikistan for 2012–2020*, and later in its *Concept of the Digital Economy* adopted in late-2019. As a result, the government has launched multiple administrative information systems, established core national registries and databases, and launched the first e-services over the past decade.

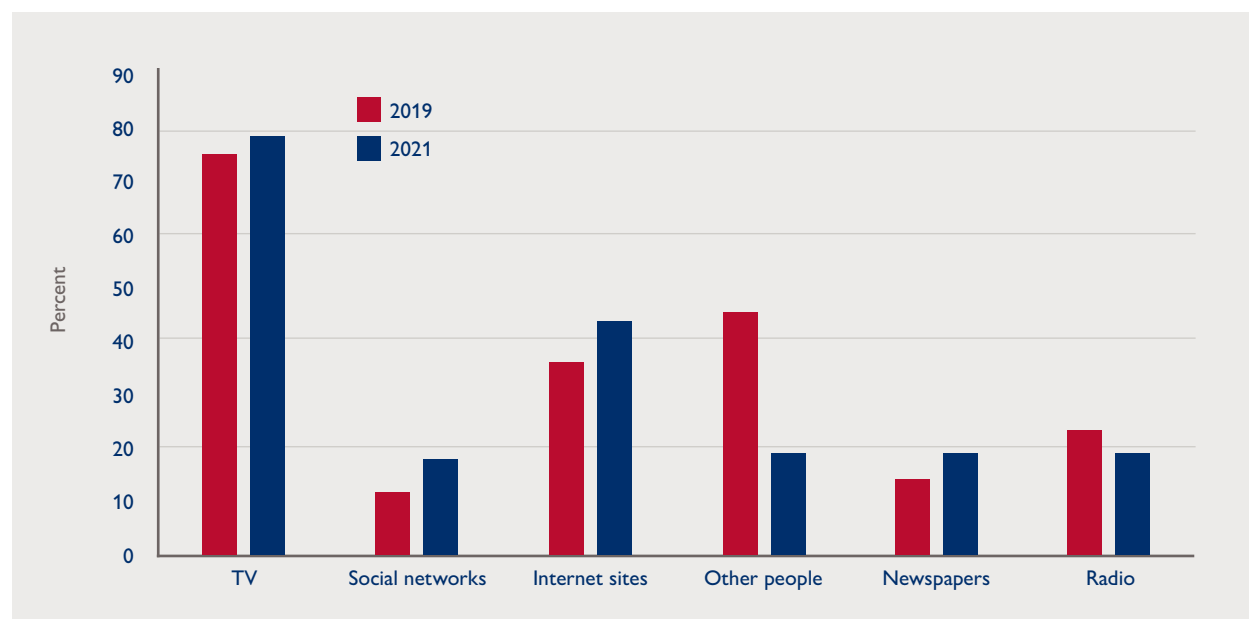
To sustain this momentum and ensure coordinated efforts to maintain, expand, and continue digitalization across government institutions, a designated agency should be created to oversee a whole-of-government approach to digital transformation. The President has acknowledged and demanded the creation of such an agency, but it has not yet materialized. Additionally, digitization of specific sectors requires strategic vision, stronger digital skills and literacy among civil servants, and increased coordination of donor support and initiatives with champions within government to ensure buy-in and long-term sustainability. Digital identity and data interoperability, too, are critical to enhance digital government.

MEDIA LITERACY AND AWARENESS OF ONLINE RISKS (SUCH AS FINANCIAL CRIMES, HARASSMENT, HATE SPEECH, CHILD EXPLOITATION, AND TRAFFICKING) ARE RELATIVELY LOW, EVEN AS CITIZENS ARE INCREASINGLY GOING ONLINE FOR NEWS AND INFORMATION.

For the great majority of Tajiks, state-owned television remains their core source of news and information. The COVID-19 pandemic, however, did push more people onto digital platforms for news and information.⁴⁶ For media consumers, websites and social media platforms both saw significant increases in usership between 2019 and 2021 (the most recently available data). Websites' usage grew by 20 percent, and social media platforms' usage grew by 50 percent. Together, online sources were used by 47 percent of media consumers in 2019 and by 60 percent in 2021 (Figure 8). If these trends continue, according to this data, websites and social media platforms together will reach near parity with television as information sources for media consumers by the end of 2023: over a quarter will use social media and half will use websites.

This assessment may be optimistic, however. It is unclear from the data how much of this digital adoption among media consumers was driven by necessity during lockdowns, which made in-person information exchange difficult or impossible. In addition, poor internet connections and high access costs pose a challenge to expanding online media consumption to a broader swath of Tajikistan's population (see Pillar 1 for a discussion of infrastructure and affordability challenges).

46 COVID-related lockdowns were not as severe or prolonged in Tajikistan as in Europe, the United States, or even other countries in the region.

FIGURE 8: Tajik Media Consumers' Information Sources, 2019 and 2021

Source: Internews/USAID Media Consumption Report, 2021.⁴⁷

Demand for online content. Tajikistan's two million migrants (mostly in Russia) are a significant demographic that prefers to access news and information online from Tajik-language sources. More broadly, for those who do have access to the Internet and use it, messenger apps and various social media platforms are the generally preferred channels for accessing the Internet.

Messenger apps such as WhatsApp, Telegram, and IMO⁴⁸ are the Internet for migrants, their families, and rural residents, especially for people over 35 years old. Migrants and rural residents prefer IMO because it is less expensive, allows for free video calls, and demands lower bandwidth. However, some interviewees with cybersecurity expertise expressed concern about IMO's data security protocols and said they assumed that IMO users could be easily surveilled or hacked. Telegram has reportedly seen a surge in use over the past several years, though no data are available publicly on the number of downloads of the app in Tajikistan.

Overall, a relatively small percentage of Tajiks use social media—just 10.9 percent of the total population at the beginning of 2023.⁴⁹ Uzbekistan also lags, with just 15.3 percent of the population using social media.⁵⁰ Neighbors Kazakhstan and the Kyrgyz Republic have much higher rates of adoption at 60.8 percent and 41.1 percent, respectively.⁵¹

Among those few Tajiks who are using social media platforms, Facebook currently is the most popular, although its demographic is an older, more urban and educated audience with better internet access. Interviewees reported that its popularity seems to be declining. Among social media users, Instagram is more popular with

47 Internews/USAID, 2021, *2021 Internet Consumption Survey*, USAID, November, https://internews.in.ua/wp-content/uploads/2021/11/USAID_Internews-Media-Consumption-Survey-2021_ENG.pdf.

48 IMO was created by former early Google employees (Alyson Shontell, 2021, "One of Google's First Ten Employees Tells Us What He's Doing Now," *Business Insider*, August 13, <https://www.businessinsider.com/early-google-employee-georges-harik-on-imoim-2012-8>). It is internationally operated by PageBites, Inc., a wholly owned subsidiary of Singularity IM, Inc. (Corporationwiki, n.d., "Singularity IM, Inc." web resource, <https://www.corporationwiki.com/p/31rt2o/singularity-im-inc>).

49 Simon Kemp, 2023, "Digital 2023: Tajikistan," *DataReportal*, February 14, <https://datareportal.com/reports/digital-2023-tajikistan>.

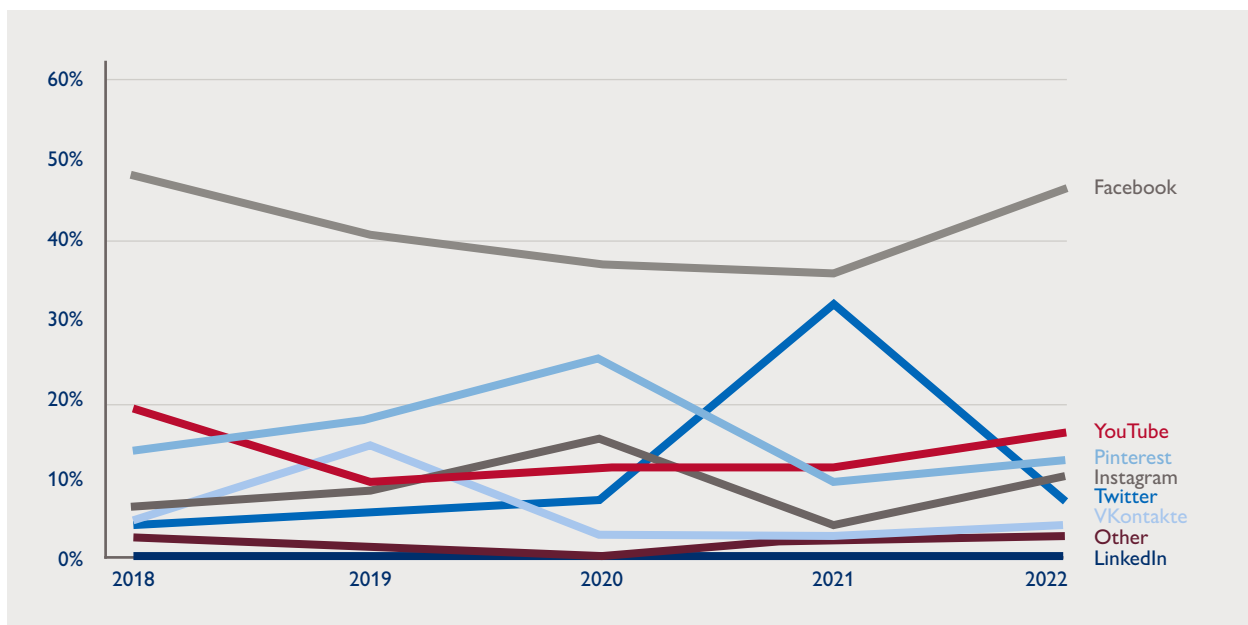
50 Simon Kemp, 2023, "Digital 2023: Uzbekistan," *DataReportal*, February 14, <https://datareportal.com/reports/digital-2023-uzbekistan>.

51 Simon Kemp, 2023, "Digital 2023: Kazakhstan," *DataReportal*, February 14, <https://datareportal.com/reports/digital-2023-kazakhstan?rq=kazakhstan>; and Simon Kemp, 2023, "Digital 2023: Kyrgyzstan," *DataReportal*, February 14, <https://datareportal.com/reports/digital-2023-kyrgyzstan>.

a younger demographic, as is TikTok, though both may be used more for entertainment purposes. YouTube is popular among vloggers, and the number of accounts aimed at a Tajik audience is reportedly growing; videos posted by the most popular accounts can receive over 200,000 views. According to interviewees, about half of the YouTube accounts are based in Russia and many are created by migrants. Odnoklassniki⁵² also has a strong user base among Tajik migrants in Russia. Twitter is barely used (Figure 9).

Interviewees describe Tajiks' social media engagement as passive. They access information on platforms without posting or contributing much to discussions. This may be illustrative of how freely they feel they can publicly express themselves online. Still, social media may offer potential to help disseminate information and solve local-level problems. Some interviewees reported, for example, that people have reached out to government accounts on Instagram or YouTube and have received positive responses.

FIGURE 9: Comparative Popularity of Platforms Among Social Media Users in Tajikistan, 2018–2021



Source: Statcounter, GlobalStats.⁵³

Supply of online content. Just as the COVID-19 pandemic helped drive up Tajiks' demand for new online media sources, it also pushed media organizations to accelerate their digital transformation, both in their operational models and in their platforms for sharing content with users. Many journalists have started working from home or in hybrid home-office models. Tajikistan's main independent media player, Asia+, reported that across the several platforms where they share content—Facebook, Instagram, and YouTube—they have almost 1 million subscribers in total and receive millions of views online.

Media and civil society organizations (CSOs) are looking for ways to communicate through a greater variety of channels and platforms. Many noted the need to expand their use of Telegram and Twitter “to be connected to [the] global world.” In addition, organizations are looking for ways to reach a broader, younger audience, especially as Facebook's popularity seems to be declining. Twitter still is used very little; this may be due to poor English language fluency and few Tajik-speaking users.

52 Odnoklassniki is a social network service used mainly in Russia and former Soviet Republics (available at <https://ok.ru/>).

53 Statcounter, n.d., “Global Stats: Social Media Stats, Tajikistan,” data portal, <https://gs.statcounter.com/social-media-stats/all/tajikistan>.

Media literacy and the risks of going online. While online consumption of news and information in Tajikistan is growing, public trust of the Internet is low. This may be driven in part by the legitimate but potentially overstated concern that children and teens may be vulnerable to recruitment into terrorist organizations through online channels, fueling anti-technology campaigns. As a consequence, many parents are fearful of letting their children use digital technologies. In addition, media literacy across the population is relatively low, although there are some indications that it may be improving. Still, people are vulnerable to misinformation and disinformation campaigns and are fearful of what they do not understand.

Tajikistan lacks comprehensive studies on the extent and types of online criminal or illicit activities such as financial crimes, harassment, child exploitation, hate speech, and violent extremism. Data are difficult to find or verify. It appears that no government or nongovernmental organization is systematically tracking and/or sharing this kind of information.

With regard to child online safety, the above mentioned concern about exposure and vulnerability of children to recruitment by extremist groups, though not unfounded, is potentially overstated and thus overshadows concern about other potential risks for children going online, such as cyberbullying, harassment, sexual exploitation, or other forms of human trafficking. There are not yet meaningful initiatives to protect child online safety. “Incitement to suicide” is not criminalized in Tajikistan (unlike in Kazakhstan, the Kyrgyz Republic, and Uzbekistan).⁵⁴ There are no provisions to address hate speech, apart from insult or defamation of the President and his family. Many countries are in the process of adopting some form of child online protection strategies and/or policies. One hundred governments are taking part in the [WeProtect Global Alliance](#) (none of the Central Asian countries are), which is helping to develop legal and policy frameworks, as well as working to find effective approaches and solutions to address these serious issues. Civil society organizations in Tajikistan are only just beginning to be aware of these kinds of global initiatives.

Online harassment of adults, by contrast, receives more attention. As noted previously (see Pillar 1, gender digital divides section), women are disproportionately targeted for online harassment, threats, violence, and blackmail. It is not clear whether “threats of murder or grievous bodily harm” made online can be prosecuted under existing laws.⁵⁵ As with attitudes about offline threats of violence against women, police may be unlikely or unwilling to take cases of online violence against women seriously (see Pillar 1, gender digital divide section for a more thorough description of these issues).

At least one effort has been made in Tajikistan to create a digital code of ethics: the Code of the Electronic Citizen. First developed in 2013 with support from the Open Society Foundations and updated in 2021, 50,000 copies of the code were printed and distributed to mobile network operators (MNOs) to be disseminated together with SIM cards. Though a positive step, this effort appears to have had little impact. Building awareness of online risks and discouraging abuse of the Internet for harassment, intimidation, cyberblackmail, and other online crimes requires consistent and coordinated societal efforts that include awareness-building, behavior change communications, and legal frameworks to protect people online.

All media and civil society interviewees reported that media literacy in Tajikistan is low. While this may be true relative to other countries in the broader region, a 2021 survey on media literacy conducted by Internews showed improvement from 2019 in internet users’ knowledge of concepts such as “fake news,” trolls, disinformation, and fact-checking. Knowledge of the importance of personal data protection is still nascent.

54 Asylai Akisheva, 2022, “Cyberviolence is a Curse for Women in Central Asia,” EurasiaNet, February 7, <https://eurasianet.org/perspectives-cyberviolence-is-a-curse-for-women-in-central-asia>.

55 Asylai Akisheva, 2022, “Cyberviolence is a Curse for Women in Central Asia.”

TAJIKISTAN'S PERSONAL DATA PROTECTION LAW IS ALIGNED WITH INTERNATIONAL BEST PRACTICES TO SAFEGUARD CITIZENS' DATA, HOWEVER IMPLEMENTATION HAS STALLED.

In general, there is a lack of interest and concern for the protection of personal data in Tajikistan, including by the individuals sharing their personal data over digital platforms. The reaction of people regarding the risk of exposing or leaking their personal details is that they have nothing to hide. Therefore, IMO messenger, which has been recognized as mishandling personal data of its users, remains one of the most popular. In addition, consumer protections are weak. Interviewees reported that it is not clear how the credit information bureau collects, uses, or protects consumers' data. Moreover, people do not know their consumer rights or how to exercise them.

These challenges are not unique to Tajikistan, and populations around the world are just waking up to the need to ensure their personal data are protected and secured. Even if Tajiks were generally well-informed about their right to data privacy and protections, however, they would have difficulty exercising those rights.

Tajikistan passed its Personal Data Protection Law in 2018,⁵⁶ modeled after the EU's General Data Protection Regulation (GDPR) and with its core provisions aligned to global standards. The law was spearheaded and driven through adoption by motivated civil society organizations (CSOs) in cooperation with interested parliamentarians. The nearly year and a half of multistakeholder engagement and dialogue with and across the government to draft and adopt the law represents a best practice example for developing and passing new legislation in Tajikistan. Despite this success story, implementing regulations have not yet been drafted or adopted. The implementation mandate rests with the Communication Service rather than the Ministry of Justice or General Prosecutors' Office; developing and enforcing the law may circumscribe or conflict with other regulatory powers of the CS.

Some CSOs involved in drafting the law made early efforts to raise awareness of the law and garner support for the adoption of implementing regulations. These efforts have stalled due in part to lack of funding on these topics. At the same time, Tajiks' personal information is regularly exposed. More than one interviewee claimed that FinTech companies regularly violate personal data protections by collecting, sharing, and selling users' financial data without their knowledge to creditors and guarantors.

ALMOST NO CIVIL SOCIETY ORGANIZATIONS HAVE PROGRAMS TO RAISE AWARENESS OF INTERNET GOVERNANCE AND MEDIA LITERACY ISSUES AMONG THE GENERAL POPULATION.

The low levels of digital media literacy and lack of sufficient awareness of the realistic risks associated with using digital technologies have come to the attention of some human rights and media-focused CSOs in recent years. Many are working to build their organizations' internal knowledge and capacity on these topics. This includes technical knowledge and systems for the organizations' own cybersecurity. At present, any programming is entirely dependent upon international donor funding. Tajikistan also does not yet have a national chapter of the Internet Governance Forum – a multistakeholder platform bringing policymakers and other stakeholders together to discuss Internet policy – which could potentially improve coordination across organizations and the government on these topics.

Programs that do exist are focused largely on building the capacity of journalists and media organizations (see next section). Little to no attention is given to systematic data-collection about child online safety, harassment/

⁵⁶ Law of the Republic of Tajikistan No. 1537, 2018, "About Personal Data Protection," as published in English on cis-legislation.com, <https://cis-legislation.com/document.fwx?rgn=108952>.

cyberbullying, hate speech, or online violence against women. These issues will only become more acute as access to the Internet and online resources expands over the coming years.

Programming that is directed at building the knowledge and capacity of the broader population is focused on improving their media literacy, particularly on the topics of misinformation and disinformation; it is not clear how far the beneficiary reach is to date, especially outside of Dushanbe. The platform [MediaSavod.tj](https://www.media.savod.tj/) has developed a variety of multimedia resources in Tajik about media literacy for both journalists and the general public. These are shared online and accessed mostly through its Facebook page.

None of the organizations interviewed had sustained projects dedicated to educating the broader population about their data privacy rights. [Khoma](https://www.khoma.tj/) has produced a short, informational video on the topic, which includes some basic principles of cyber hygiene. Another organization reported that it had tried to work with the private sector and businesses on data-related questions—both opening data and protecting data—but there was limited understanding of or interest in the topics.

NUMEROUS CHALLENGES, INCLUDING WEAK DATA AND CYBER LITERACY AMONG MEDIA ORGANIZATIONS, JOURNALISTS, AND BLOGGERS, ADVERSELY IMPACT THE QUALITY AND RESILIENCE OF ONLINE JOURNALISM.

Unfortunately, interviewees reported that many journalists' data and cyber literacy are little better than the average citizen. Data privacy and protection is a new concept, and few know what it is or how to protect themselves. General good cyber hygiene practices (e.g., changing passwords to accounts regularly) also are relatively unknown or unpracticed. Larger media organizations such as Asia+ have the knowledge and resources to train their teams on these issues and practices. For smaller organizations and individuals, awareness and, critically, interest are low.

BOX 3: A Growing Media Gender Divide

In the past, journalism was a relatively popular profession among women. While newsrooms may not have had gender parity, women were a visible and important part of the media landscape. Both the transition to digital platforms and the rise of TEGBV have been driving women out of the profession. The around-the-clock demand of producing digital content has made work-life balance more challenging. Perhaps more importantly, however, are the tools used to silence and shame women who speak out actively online. Moral pressure to align with social norms can lead to harassment and bullying. The International Partnership for Human Rights reported that there have been targeted revenge porn attacks on women journalists, who were threatened with the publication of “compromising material” if they did not refrain from critical reporting.

As a result, more and more women in media are opting to leave. Despite all these pressures, women journalists remain at the forefront of independent journalism, human rights activism, and advocacy in the country.

Many interviewees said that part of the challenge for media is an overall decline in the quality of education for journalists. There are no standards for media education. Seven universities have journalism schools, but they all take different approaches to the course of study. Curricula have not kept up with the fast-changing digital landscape, although some efforts are underway to address this.^{57,58} There are plans to include media literacy for journalists in their curricula. The organization Khoma developed a “digital rights” learning module for media

57 The Organization for Security and Co-operation in Europe (OSCE) is currently supporting the Ministry of Education and Science to update and improve the journalism curricula used at national universities and support faculty training.

58 OSCE, 2023, “Media Freedom and Development,” <https://www.osce.org/programme-office-in-dushanbe/106435>.

students as part of a media rights course. This was developed through a co-creation exercise with teachers and shared with all universities that have a school of journalism.

Interviewees also observed a general decline in professionalism among practicing journalists, especially bloggers. In the past, trained journalists might have been good at investigation and analysis but had no digital skills. Today, when anyone can go online and create content, digital skills may be better, but journalism skills are lower and the quality of content is poor. The need for awareness-building about media ethics and how to use digital technologies for good was a consistent theme among interviewees.

Paradoxically, practicing journalists' media literacy may be low because it is assumed they know it without being taught—that they should be knowledgeable by default. Numerous organizations are trying to address this false assumption with support from international donors. Training for journalists has been conducted on topics such as hate speech and data analytics/big data, but the need for more data journalism specialists is great and will only grow. Most attention and resources to date have been put on addressing mis/disinformation online. Online fact-checking skills among journalists and bloggers generally are weak, especially among older professionals. The organization Ravzana is leading efforts to teach people how to check facts. Encouragingly, requests for such trainings are high. More broadly, opportunities for professional training have not been as popular or of interest despite the expectations of the organizations offering them. Willingness to participate in offline work trainings for professional development has been low.

Cyber hygiene practices among journalists also are poor. This extends to understanding the risks of cyberattacks on infrastructure and how to prepare for and address them. After several attacks on their websites and servers in 2018–19, Asia+ worked with an international company to build in more protections and resilience to its digital systems. As a result, it was better prepared for a wave of DDoS attacks launched against Tajik media and other organizations while reporting on border clashes in 2022; smaller and more local organizations, however, suffered.

Finally, like all independent media globally, Tajikistan's media is facing the existential challenge of finding sustainable business models in a digitally transforming world. Independent media use a relatively small number of channels and tools for information collection and publication. Many have an insufficient understanding of how to expand their audiences, platform monetization (e.g., advertising integration and collaboration), and mechanisms for getting around blocking or online attacks, for example. Smaller and local media organizations and individuals especially need support to learn how to survive in the digital world. The local Khatlon newspaper may serve as a good example of how to engage readers and users. It has developed an interactive newspaper with its own website that includes video/audio materials, conducts surveys, and links to social media platforms.

DIGITAL GOVERNMENT TRANSFORMATION EFFORTS ARE VISIBLE AND HAVING AN IMPACT, BUT THEY WOULD BENEFIT FROM AN AGENCY OVERSEEING AND COORDINATING DIGITALIZATION.

The Government of Tajikistan's digital transformation efforts in the last decade have been mainly driven by the *Concept of Electronic Government in Tajikistan for 2012–2020* and subsequently by the late-2019 *Concept of the Digital Economy*.⁵⁹ This resulted in the launch of multiple administrative information systems such as the Financial Management Information System, the Human Resource Management Information System, the Public Procurement Portal, and the Electronic Document Management System, among others.

59 Government of Tajikistan, 2019, "Concept of the Digital Economy in the Republic of Tajikistan," resolution no. 642, December 30, <https://medt.tj/images/news/2019/KCERT.pdf>.

At the same time, many of the core national registries and databases have been established, albeit not yet fully digitized, such as the civil registry, land and real estate registries, registries of enterprises and vehicles, legal and regulatory acts. The first e-services were also launched during this period, which have been concentrated mostly in financial and tax sectors like declarations and reporting. The recent approval of the Law on Public Services⁶⁰ is expected to further stimulate e-service development and increase service delivery standards and quality.

Though these concerted efforts toward digital government transformation in Tajikistan are significant, there are some systemic gaps that may diminish potential returns. One such issue is the lack of proper governance mechanisms to guide deep and cross-cutting digital reforms. There is no overarching, coordinating institution tasked with digital transformation, despite the President demanding creation of such an agency in an early 2021 address.⁶¹ The mandates for certain digital elements are typically appointed in the legal acts themselves. For example, the Ministry of Economic Development and Trade has been appointed as the responsible agency for digital economy development, while the implementation of the Law on Public Services is under the responsibility of the Ministry of Justice. However, there is no cross-institutional coordination mandate with regards to the digital transformation agenda. Thus, parsing of responsibilities across governmental institutions can result in siloed implementation and the initiation of systems that are not rooted in industry standards or best practices and are not interoperable with the existing digital infrastructure. Acknowledging this, in 2019, the government adopted a resolution that creates a new agency for digitalization under the Executive Office of the President, but this agency has not yet been established.

Establishing an agency for digitalization under the Executive Office of the President would align to best practices, according to which such agencies are more successful the closer they are to the main executive power in the country. Besides being the spearhead of digitalization efforts, this agency would develop and maintain the overall enterprise architecture of the digital infrastructure, adopt and enforce industry standards and best practices, coordinate implementation of shared digital platforms, and ensure cross-institutional collaboration and interoperability.

In addition to establishing the agency, the government may need support to untangle overlapping institutional mandates and fill gaps. For example, as detailed in Pillar 1, the Communication Service holds multiple roles: sector regulator, policymaker, and manager of the state-owned enterprise Tajik Telecom. In addition, it has been appointed as the agency responsible for data protection. The same is true of cybersecurity; besides outdated legislation, there is no government agency that owns the overall cybersecurity agenda and there is no national or government CERT or CSIRT. See Appendix B for an organizational chart of the relevant government bodies.

Lastly, there is a need for cross-institutional coordination to ensure synergy between various implementation actors. Such coordination can happen at several levels to ensure greater buy-in and collaboration.

EFFECTIVE SECTOR DIGITIZATION REQUIRES A STRATEGIC, SECTORAL VISION, ORGANIZATIONAL STRUCTURES, AND INCREASED DIGITAL CAPACITY.

While at the central government level, the strategic development priorities are clearly set in policy documents such as the *Concept of the Digital Economy*, the priorities for digitalization of sectors (such as agriculture, healthcare, and others) are often driven by donor financing, rather than by the institutional vision and real

60 Republic of Tajikistan, 2020, "Law on Public Services," no. 1690, April 2, https://ncz.tj/system/files/Legislation/1690_ru.pdf.

61 President of the Republic of Tajikistan, 2021, "Address of the President of the Republic of Tajikistan, Leader of the Nation, Emomali Rahmon Majlisi Oli of the Republic of Tajikistan 'On the Main Directions of the Domestic and Foreign Policy of the Republic, of January 26, 2021,'" <http://www.president.tj/ru/node/25006>.

needs. An exception is the recently approved *Concept of Transition to Digital Education in the Republic of Tajikistan for the Period up to 2042*. Interviews also pointed to efforts to develop the *Strategic Plan for Development of Digital Healthcare in the Republic of Tajikistan for 2023–2028*, although it is not yet finalized.

The lack of strategic vision for sectoral transformation is also due to a lack of qualified specialists that would have both the mandate and the skills required to coordinate sectoral digitalization activities. On the one hand, there are no functions in the organizational charts of government agencies that would have specific mandates related to digital transformation, such as, for example chief information officer, chief technology officer, chief data officer, or the like (Box 4). On the other hand, as detailed under Pillar 3, there is a shortage of highly qualified experts, so attracting them to join the government in such positions, given the salary constraints in the public sector, will be challenging as well.

BOX 4: ICT Management Roles in Governments

The titles CIO (chief information officer), CTO (chief technology officer), and CDO (chief digital officer) describe senior leadership positions responsible for technology and digital initiatives in large organizations, including governments.

CIOs are typically responsible for the overall technology strategy and information systems and ensure that adopted technologies are aligned with the national or sectoral development objectives. CIOs may oversee the development and implementation of technology systems and infrastructure and be responsible for the security and privacy of information and the management of technology resources and budgets.

CTOs oversee the development efforts and technologies used to achieve development goals. CTOs often work closely with engineering teams to ensure that technology is being used effectively to sustain business processes and services.

CDOs drive the government's digital transformation and innovation to improve the customer experience and adoption/growth. CDOs are often responsible for the development of digital products and services, and for the implementation of customer engagement strategies.

The specific responsibilities and focus of the CIO, CTO, and CDO positions can vary depending on the size and type of the country, and its specific goals and priorities. Some governments combine the roles of CIO, CTO, and CDO into a single position, while others may have separate positions for each role. For example, countries such as Estonia, Moldova, and South Korea have government CIO positions, whereas Australia and the United Kingdom have CIO positions in each of their major agencies and a CIO council to coordinate their activities.

Even for non-management ICT positions, there is a five- to ten-fold difference in salaries compared to private sector companies, which makes it difficult for ministries and agencies to attract skilled ICT staff. The existence of state-owned enterprises, typically subordinated to larger ministries and agencies and able to pay higher salaries, partially alleviates the problem and allows for the maintenance of existing ICT infrastructure and for small developments.

As a result, digitalization is not a permanent concern or priority at the institutional level; it happens ad-hoc based on the views and initiatives of each institution's leaders. Because about 70–80 percent of the government ICT investments are donor-driven and donor-funded, the lack of reliable and competent counterparts puts these investments under risk of failure. The lack of trust between the public and private sectors, as pointed out in Pillar 1, results in little digitalization work being outsourced to private sector companies. Even if it were so, this would not cover the vision for digital transformation and ICT management roles within government institutions themselves, as neither of these functions can be outsourced.

Lastly, another major challenge preventing wider adoption of digital technologies is the lack of basic digital skills within most government institutions and positions. Anecdotal evidence shows cases when civil servants are not able to make use of existing digital data and reports, and sometimes, even to use basic ICT tools such as email.

Many of these challenges are not unique to Tajikistan; they are faced by many countries with various geographic positioning and economic development. However, failure to acknowledge and address them has far-reaching consequences. One of the most common results is the development of information systems that are faithful transpositions of paper-based procedures in digital form, and which do not optimize processes for digital space and do not communicate with third-party state information systems. As a result, the usability of the systems is low and they are sometimes more burdensome than the traditional procedures and services. Furthermore, the lack of an enterprise architecture vision at the sectoral level results in individual ICT elements being developed that are heterogenous, based on different, often obsolete technologies and which are not interoperable. As a result, public sector institutions do not see major gains from digitalization, and this discourages further investment in ICT and digital transformation.

RELIANCE ON DONOR-FINANCING FOR DIGITAL TRANSFORMATION LEADS TO FRAGMENTED IMPLEMENTATION AND LACKS SUSTAINABILITY.

The lack of financing of digitalization activities is affecting implementation of large-scale national digital transformation programs. Typically, government institutions have two major sources of financing for digitalization activities: the state budget and the development partners' programs. However, the share of ICT activities financed from Tajikistan's state budget is small. Even in major programs, such as the *Medium-Term Program for the Development of the Digital Economy in the Republic of Tajikistan for 2021–2025*, most activities rely on development partner support. Such an approach, while not uncommon for other countries with similar levels of digital development, poses certain implementation risks.

Typically, relying on donor support for high-cost investment activities is known to produce good and visible results. It should be noted, however, that, due to the nature of the donor support programs, they are focused on improving certain aspects, procedures, or services, and often do not look at the big picture for a sector or area of intervention. Where the proper governance mechanisms are missing and institutions lack sectoral vision and capacity, as is the case in Tajikistan, attention to the big picture is easy for the institutions themselves to overlook and it may also not be a priority for the development partners. This situation leads to fragmented digitalization, a lack of integration and interoperability between various digital elements, and duplication of efforts, even among the programs financed by the same development partner.

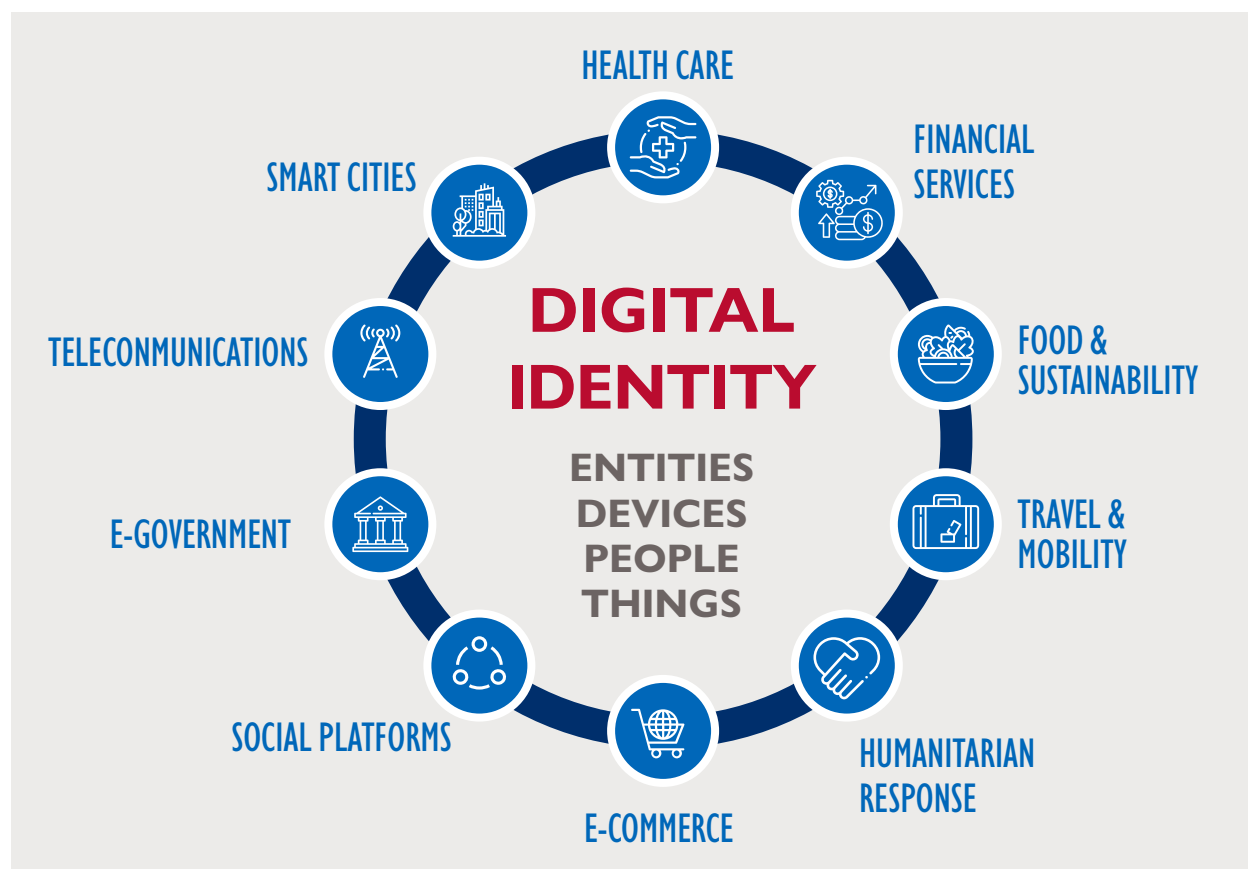
Additionally, development partners' investments in digital infrastructure are not typically reinforced with budget for medium- and long-term support and maintenance. As most donor support programs are timebound spanning 3–5 years, it is difficult for development partners to cover future maintenance expenses and ensure continuous development of state information systems, registries, and databases. At the same time, the state institutions rarely allocate monies for such expenses from their own budget or from the state budget. As a result, the digital government infrastructure generally lacks proper support and maintenance, cannot keep up with the legislative changes, is based on old technologies, and lacks proper security mechanisms. Often, this ends with information systems getting decommissioned and duplicative investments to replace obsolete systems that were not properly maintained.

DIGITAL IDENTITY AND INTEROPERABILITY ARE MISSING ELEMENTS OF TAJIKISTAN’S DIGITAL FOUNDATION.

Besides a good governance structure and an enabling legal and regulatory framework, there are several technological foundations that can help governments leapfrog their digital transformation and lay the foundation for efficient and secure digital services and processes. Effective (and trusted) use of these foundations, though, underscores the importance of implementation and enforcement of the Data Protection Law.

Digital Identity. The first of these digital foundations is digital identity, i.e., the ability of people to securely identify themselves and transact remotely (see Figure 11 for an illustration of the potential applications of digital identity). Tajikistan is characterized by near universal coverage of birth registration and national identity cards, which serve as residents’ primary identification document. However, the country is not able to benefit from this impressive coverage mainly due to the lack of interoperability of foundational ID systems, such as identity cards and civil registration, the lack of a unique identifier assigned at birth and kept throughout the life of an individual, the prevalence of paper records, and the lack of digitally enabled mechanisms for seamless identify verification in the context of service delivery across multiple sectors.

FIGURE 11: How Digital Identity Can Improve Lives in a Post-COVID-19 World



Source: World Economic Forum, 2021.⁶²

62 Julie Dawson and Christian Duda, 2021, “How Digital Identity Can Improve Lives in a Post-COVID World,” World Economic Forum, January 14, <https://www.weforum.org/agenda/2021/01/davos-agenda-digital-identity-frameworks/>.

There are no identity verification mechanisms for in-person service delivery when receiving government services. This prevents service providers from streamlining identity verification for improved service delivery in sectors such as social protection, healthcare, and financial inclusion by eliminating the need to present paper credentials and requirements to leave copies of the identity documents with the service provider.

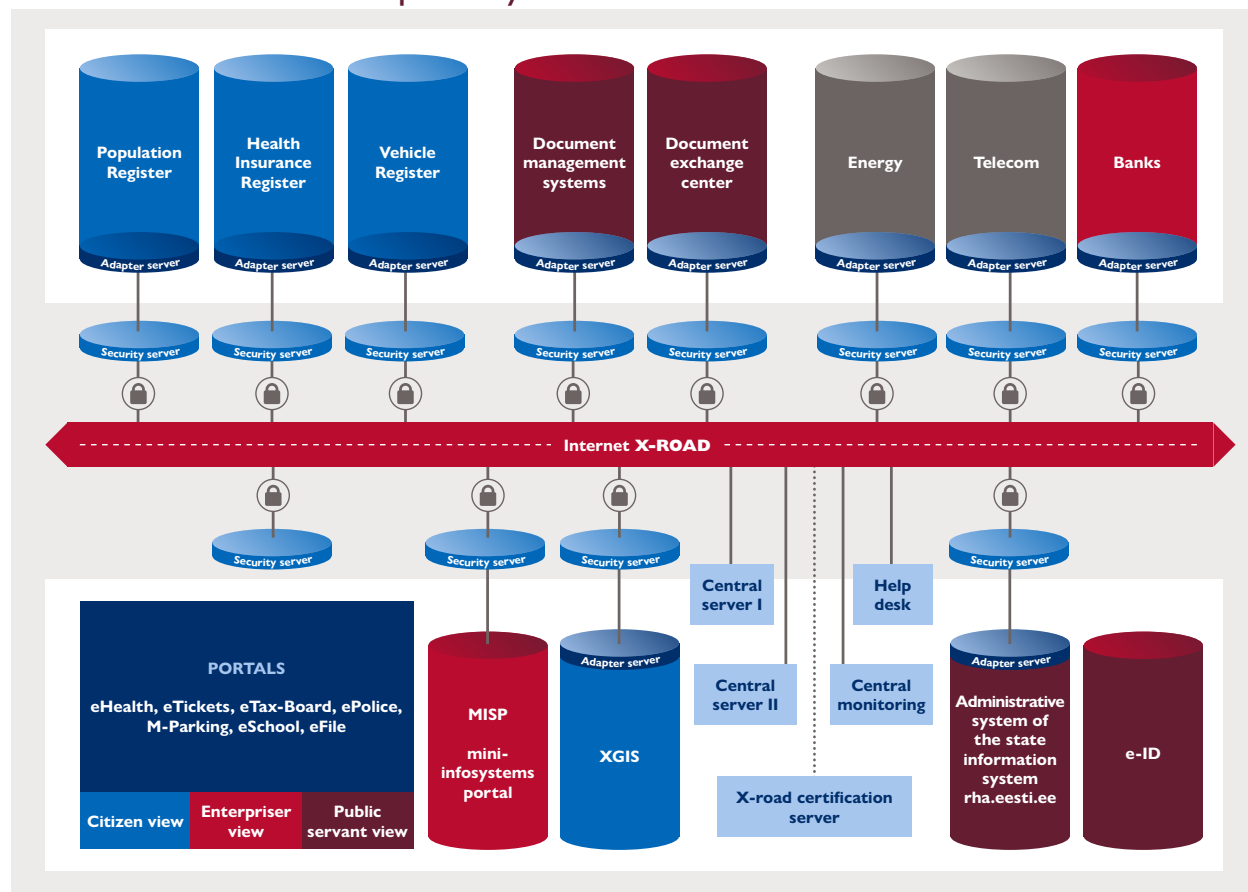
The existing digital authentication and e-signature capabilities that would support remote service delivery and allow people to securely authenticate themselves online, access services, and transact remotely are underdeveloped and underused due to technical limitations and cost constraints. For example, digital credentials are only available in the form of USB tokens and a digital certificate with a one-year validity period costs around US\$50. Overall, given the lack of compelling use cases and prohibitive costs for the general population, few individuals use electronic signatures and they are instead used mostly by larger businesses.

Interoperability. The lack of interoperable⁶³ information systems is a digital infrastructure gap that slows development of e-services and digital government. During DECA interviews, interviewees noted the lack of data exchange practices in the public sector. The few data exchange practices in the tax and identification systems are done on a bilateral basis and subject to memorandums of understanding between institutions. Typically, interoperability works best where there is an interoperability framework that includes the legal and regulatory aspects of data exchange; institutional roles and responsibilities; the underlying technological standards, specifications, and platforms that allow for data exchange; and the semantic part, which makes it possible to properly link data by means of unique identifiers, classifiers, naming conventions, etc.

The quality and efficiency of public service provision would be greatly improved with increased interoperability, also reducing risks of error or oversight. For example, without interoperability between vital statistics (i.e., medical registration of births and deaths) and civil registration data, there is a possibility that newborn children could be unaccounted for and who should otherwise benefit from basic services. The same goes for education and healthcare systems. When there is no unique personal identifier, it is difficult to ensure that everyone is covered and that there is no duplication of data. Similarly, without data exchange between social, tax, and identification systems, targeted social assistance becomes more challenging and prone to fraud and potential exclusions.

Ideally, the interoperability framework of a country is universal and includes both public and private information systems to provide better services to people and make institutions more efficient and proactive. A good example of a universal interoperability system is Estonia's X-Road (Figure 12), which was also adopted by countries such as the Kyrgyz Republic and Ukraine and which allows for seamless digital service provision, including in cross-border scenarios.

63 Interoperability is generally defined as the ability of a system to work with other systems to allow for information exchange.

FIGURE 12: Estonia-based Interoperability Platform X-Road

Source: GDS Blogs (gds.blog.gov.uk) 'Government as a data model': what I learned in Estonia

INTEREST IN AND APPRECIATION OF OPEN DATA IS LOW; OPPORTUNITIES EXIST TO STRENGTHEN SUPPLY AND DEMAND.

There are no regulations requiring or managing the publication of government data. As a result, there are little government data available in bulk form. The most useful datasets are published by the Ministry of Finance (covering the data on state budget planning and execution), the Public Procurement Agency (covering public procurement data), and the Statistics Agency, which publishes data on the real sectors of the national economy.

According to several interviewees, the demand for open data is low and mostly limited to several NGOs and some journalists. Regular people, students, and startups do not have the appetite for or the interest in pursuing government opening data for accountability, research, or business purposes. Sustained efforts are thus required on both the supply and demand sides to create sufficient traction to develop an open data ecosystem in Tajikistan.

BOX 5: Accessing Government Information

According to the National Association of Independent Mass Media of Tajikistan (NANSMIT), journalists have difficulty accessing information from local and national authorities. Interviews with independent media organizations and bloggers confirmed this. Some of the issues identified include:

- Government agencies do not open enough data for public analysis and use.
- Government websites are not well maintained or regularly updated (the Ministry of Foreign Affairs was a noted exception).
- Official requests for information are denied on spurious grounds, or no reason is given at all.
- Response times to requests are not compliant with regulatory requirements.
- Regulatory-mandated timeframes for responding are too long (information may be outdated or irrelevant by the time it is received).

The Law on Public Services adopted in April 2020, which was the culmination of five years of multistakeholder efforts, was supposed to make information about public services more transparent. This has not yet been the experience of those trying to access information. Nevertheless, some interviewees remained hopeful. They noted that the Ministry of Justice and some members of parliament are still interested in making progress on these issues and have good working relationships with CSOs.

2.3. PILLAR 3: DIGITAL ECONOMY

Digital Economy explores the role digital technology plays in increasing economic opportunity and efficiency, trade and competitiveness, and global economic integration. Areas of inquiry include digital financial services (DFS) (credit or debit cards, payment apps, mobile money, and digital savings and loan products), financial inclusion, regulation of digital finance, digital trade, e-commerce, and the financial technology (FinTech) enabling environment. This pillar also assesses strengths and weaknesses in the local digital talent pool and the tech startup environment; a healthy digital economy requires a supply of ICT skills that matches the demand and an ecosystem that promotes technological innovation.

KEY TAKEAWAYS: DIGITAL ECONOMY

FINDINGS

- Demand for DFS faces cultural and infrastructure challenges, but the National Bank and FinTech companies are working to meet these challenges and spur adoption.
- By increasing convenience and trust, QR codes hold potential to drive many more consumers toward cashless habits.
- Strengthening the infrastructure and enabling environment for parcel delivery and increasing digital literacy will help speed up e-commerce development.
- Despite challenges, local e-commerce businesses are emerging.
- Though the Trade Portal and Single Window mark steps forward in digital trade, digitalizing paper-based processes and addressing interoperability across systems can help realize the benefits.
- The small market size and current regulatory environment discourage tech entrepreneurship.
- Lack of affordable financing options limits the ability of tech startups to grow.
- The support ecosystem for startups is nascent but growing, and it requires more resources and greater coordination to accelerate innovation.
- Holistic support for the education system would help create the skilled workforce needed to drive digital transformation.

RELEVANT RECOMMENDATIONS

8. [Support the development of a tech startup ecosystem](#)
9. [Increase trust in and the uptake of digital financial services and payments](#)
10. [Reshape the approach to ICT workforce development](#)

Tajikistan is one of the most remittance-dependent economies in the world, however, the growth of digital financial services (DFS) has been relatively slow. General distrust of the financial sector, exacerbated by several major bank failures in 2017, is at the heart of this problem. Cash remains king. In 2021, only about 40 percent of Tajiks have a bank account, though this is a significant improvement over the 2.5 percent from 2011.

DFS are an important enabler for developing the e-commerce sector in Tajikistan and increasingly integrated services from banks and telecom companies are helping. The FinTech sector, led by banks and mobile providers, is working to offer products and solutions that will improve quality, usage, and trust of DFS. QR codes have boomed in popularity in just the past two years and may offer opportunities to spur greater adoption of DFS. Payment card usage also has seen important upticks in usage, largely due to initiatives championed by the National Bank.

Unlike most other countries, Tajikistan did not see a significant acceleration of e-commerce during the COVID-19 pandemic. Inadequate digital literacy among smaller business owners means they may not be aware of (or they may be wary of) opportunities for online business. There are also several regulatory hindrances to both

e-commerce and cross-border trade development. International parcel delivery companies exited the market in 2017 due to licensing requirements, encouraging a thriving gray market for last-mile delivery to consumers and businesses. Though the government has made significant efforts to simplify and digitize customs clearance and product inspection procedures, benefits have not yet been fully realized. Data interoperability among state agencies – common in the initial stages of digital trade development – continues to pose a challenge, leaving officials to rely on paper-based systems.

An entrepreneurial culture is not yet widespread, but evidence shows its budding growth. Fear of having ideas stolen, mistrust of any available legal recourse, and high taxes discourage the growth of the private sector, including tech startups. While there have been efforts, in the past and more recently, to create IT parks with preferential tax regimes, these efforts are still in progress. State-owned enterprises (SOEs) and large companies are currently the main beneficiaries of existing free enterprise zones (FEZs).

Digital startups struggle to access affordable financing. Traditional banks do not offer reasonable terms. Venture capital and angel investment are not in the market; tech entrepreneurs must rely on their own networks of friends and family for financial support. The framework for a broader startup ecosystem – including incubators and accelerators, networking, and mentoring—exists, but would benefit from additional investment and resources, as well as increased coordination and collaboration between the government, the international donor community, and private and nonprofit actors.

Though there is a persistent shortage of skilled ICT professionals in the market, Tajikistan’s young population presents an opportunity to educate the workforce of tomorrow, as ICT specialists are needed to drive digital transformation of the public sector and economy. To overcome the existing skills gap and embrace this opportunity, significant and rapid investments are required to update educational infrastructure, curricula, and to support teacher and professional development. The private sector and international donors are stepping up with classes and trainings for higher-grade secondary school students to help raise awareness of the opportunities in ICT careers and to develop a pipeline of interest. FinTech companies, in particular, are training young people to meet specific business demands. While these approaches are helping, they are limited in their reach and impact.

DEMAND FOR DFS FACES CULTURAL AND INFRASTRUCTURE CHALLENGES, BUT THE NATIONAL BANK AND FINTECH COMPANIES ARE WORKING TO MEET THESE CHALLENGES AND SPUR ADOPTION.

Tajikistan is one of the most remittance-dependent countries in the world, ranking number one in the former-Soviet region and fourth globally (Figure 14).⁶⁴ Card-to-card remittances—often from migrant workers (90 percent of whom are in Russia)⁶⁵—are crucial for Tajikistan’s economy.⁶⁶ In 2022, transactions from migrants

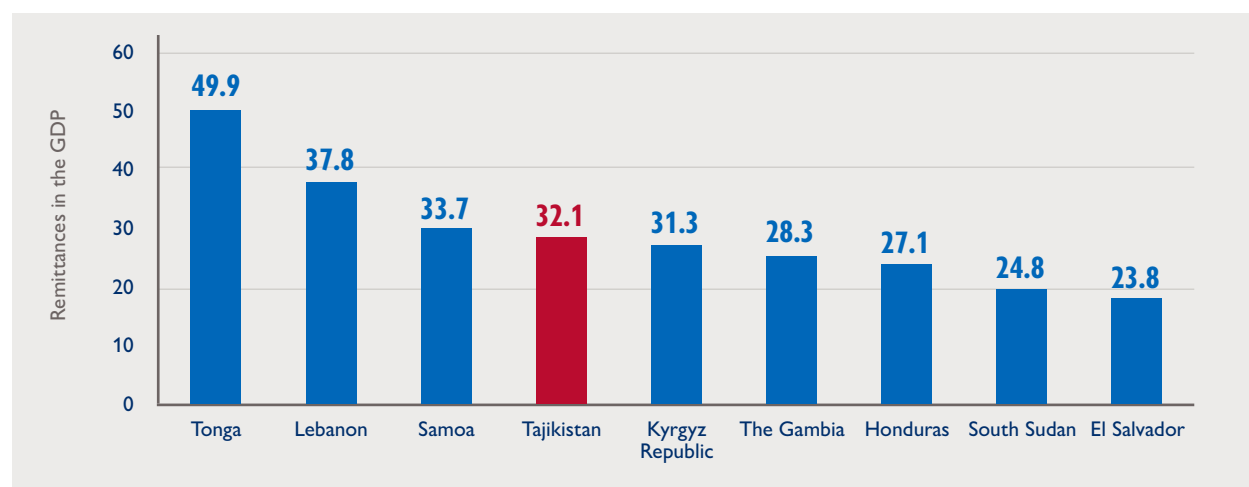
64 Sputnik Tajikistan, 2022, “The Authorities of Tajikistan Could Not Name the Amount of Transfers of Labor Migrants,” August 4, <https://tj.sputniknews.ru/20220804/tajikistan-dengi-trudovoykh-migrantov-1050491790.html>.

65 Remittances and Migration Team Social Protection Global Practice World Bank, 2022, “Remittances Brave Global Headwinds,” Migration and Development Brief no. 37, World Bank Group, November, <https://www.knomad.org/publication/migration-and-development-brief-37?fbclid=IwAR3YvaFjppbyRMgkyGzDINaeMiUZH7x2q9bRgJDJERrVb6E58kPy6uAcUE&mibextid=Zxz2cZ>.

66 Sputnik Tajikistan, 2022, “The Authorities of Tajikistan Could Not Name the Amount of Transfers of Labor Migrants.”

were estimated at over 32.2 percent of GDP (up to US\$3.2 billion)⁶⁷ and had an average transaction value of around US\$160.⁶⁸ Even during Russia’s ongoing invasion of Ukraine, this represented a 20 percent increase over 2021.⁶⁹

FIGURE 13: Top Countries in the World by % Share of Remittances in GDP, 2022



Source: World Bank, 2022.⁷⁰

This prevalence of digital remittance transfers has not translated into increased demand for or use of other types of digital financial services (DFS). Payment for e-commerce services and other online purchases is still lagging. Cash was still used close to 90 percent of the time in 2022, although that is down from 94 percent in 2019.⁷¹ By comparison, use of cash is 10.6 percent in Kazakhstan, 21.6 percent in Russia, and 26.6 percent in Uzbekistan.⁷² People use cash-in terminals and online banking to pay for utilities, bills, and separate services (e.g., sports betting); very few order products online.

Multiple factors contribute to the slow uptake of DFS. Chief among them is the population’s general distrust of the financial sector (see below), which is compounded by gender and geographic divides in bank account ownership and utilization, and in digital infrastructure. Licensing requirements to use the national payment system, Korti Milli, further constrain the development of a more diverse offering of DFS products on the market (see Box 6), though the National Bank has championed other initiatives to support DFS.

Distrust of the financial sector. Tajikistan’s financial stability has been under pressure since its financial crisis in 2016, which contributed to the bankruptcy and closure of several large national banks the following year.⁷³ These bank failures undermined trust in the banking system by both individuals and businesses, which

67 Remittances and Migration Team World Bank, 2022, “Remittances Brave Global Headwinds.”

68 Pairav Chorshanbiev, 2022, “The Volume of Money Transfers from Russia to Tajikistan Increased Slightly in 2021,” ASIA-Plus Media Group/Tajikistan, March 17, <https://asiaplustj.info/ru/news/tajikistan/society/20220317/obem-denezhnih-perevodov-iz-rossii-v-tadzhikistan-v-2021-godu-neznachitelno-viros>.

69 Pairav Chorshanbiev, 2022, “Remittances to Tajikistan Likely to Hit Record High in 2022 – World Bank,” ASIA-Plus Media Group/Tajikistan, December 2, <https://www.asiaplustj.info/ru/news/tajikistan/economic/20221202/denezhnie-perevodi-v-tadzhikistan-v-2022-godu-vozmozhno-stanut-rekordno-visokimi-vsemirnii-bank>.

70 Remittances and Migration Team World Bank, 2022, “Remittances Brave Global Headwinds.”

71 National Bank of Tajikistan, 2022, “Development of the Market of Bank Payment Cards.”

72 Architecture and Construction Committee of the Government of the Republic of Tajikistan, 2022, “In Tajikistan, Low-cost QR Codes are Actively Implemented for Non-cash Payments,” July 19, https://tajsotmon.tj/ru/tajikistan_ru/12466-v-tadzhikistane-dlya-beznalichnyh-raschetov-aktivno-vnedryayut-malozatratnye-qr-kody.html.

73 Pairav Chorshanbiev, 2019, “NBT Explained Why It Was Necessary to Save the ‘Unviable’ Tajiksodirot Bank and Agroinvest Bank,” ASIA-Plus Media Group/Tajikistan, December 30, <https://asiaplustj.info/ru/news/tajikistan/economic/20191230/nbt-obyasnil-zachem-nuzhno-bilo-spasat-nezhiznesposobie-tadzhiksodirotbank-i-agroinvestbank>. Notably, in the past 10 years, there has been a reduction of all types of financial institutions in the country, but most predominantly of micro-loan organizations. Dot Vision Information and Analytical Portal, 2022, “Status of Financial Institutions in Tajikistan,” June 22, <https://nuqta.info/sostoyanie-finansovyh-organizatsij-tadzhikistana/>.

has led to a reluctance to keep money in bank accounts. Even the majority of digital remittance transfers are almost immediately withdrawn as cash.

At the same time, the underdevelopment of cybersecurity (as discussed in Pillar 1), creates both a risk and a roadblock for digital maturing of the financial sector. Although DECA interviewees noted that cybercrimes are not yet a major challenge for Tajikistan's DFS, any upticks in online financial frauds that are not protected against or left unaddressed will only further feed skepticism and distrust of electronic funds.

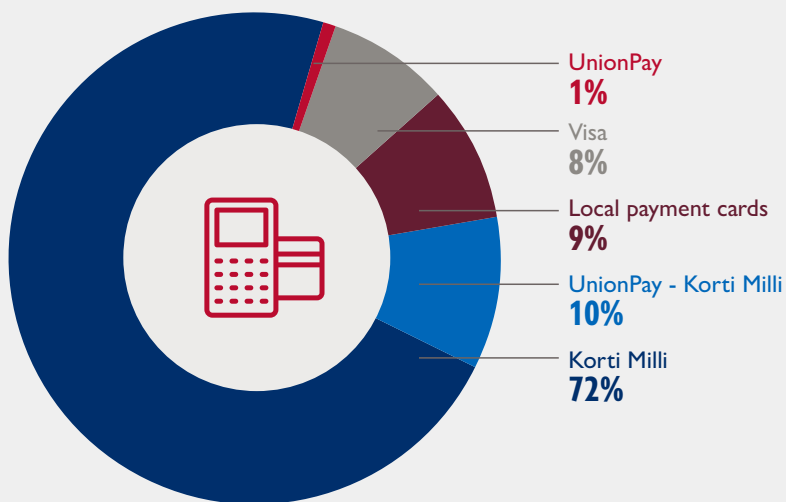
BOX 6: National Payment System: Korti Milli

In 2017, the Law on Payment Services and Payment System entered into force, defining the procedures for providing payment services in Tajikistan. The National Bank of Tajikistan is the key state entity responsible for issuing licenses for payment system operators, including the national payment system platform Korti Milli. By law, every financial institution that has a license must use Korti Milli.

Korti Milli performs three key functions within the national payment system: interbank card switch, card scheme, and third-party processor. All processing of Korti Milli passes through state-owned Amonatbank. This increases associated costs for other DFS players in the market.

More than 70 percent of pensions and wages for public sector employees are transferred directly to Korti Milli cards. Most issued cards are under Korti Milli. VISA, MasterCard, and UnionPay branded cards issued locally altogether account for less than 10 percent of the cards used in the market; co-billing cards of UnionPay and Korti Milli cards that can work abroad account for 10 percent; and local payment cards of credit financial organizations account for 9 percent (Figure 13). People also use nonbanking cards, including pre-paid city cards (e.g., Dushanbe City Cards that work only in Dushanbe public transport) and other transport cards integrated with Korti Milli.

FIGURE 14: Payment Cards in Circulation by Payment System in Tajikistan, 2022



Source: National Bank, 2022

Adoption of DFS is showing some recent growth. Tajikistan’s current DFS offerings are largely limited to payment and credit cards and to mobile wallets (mostly used for remittances). Credit cards are less ubiquitous than mobile wallets and payment cards in part because of a cultural avoidance of credit, as well as a limited understanding of credit products. Small percentages of the population are aware of the few existing savings products available, and only a small percentage of those aware are using them.⁷⁴

Figure 14 illustrates payment card use in Tajikistan. According to the National Bank, the number of bank payment cards increased by 30 percent in just one year from 3.1 million cards in 2020 to over 4.6 million cards in 2022.⁷⁵ This was due in part to the National Bank’s initiatives⁷⁶ to: (i) simplify the process of opening a bank account whereby individuals could acquire a transport card at Dushanbe City kiosks that would work as bank cards after remote identification;⁷⁷ and (ii) develop a single mechanism for transferring money from card-to-card with support from the International Finance Corporation (IFC).⁷⁸ Both initiatives have demonstrated momentum. For the former, remote identification has enabled people to open bank accounts or electronic wallets remotely, contributing to a 30 percent increase in the number of e-wallets from 2021 to 2022, and 2.2 million subscribers for mobile payment instruments by March 2021 compared to zero in 2017.⁷⁹ For the latter, card-to-card transfers increased from 20 percent in 2020 to 80 percent of all transfers in 2022.⁸⁰ Money transactions using hawala-like methods are also in use in Tajikistan, although these transactions decreased during the COVID-19 pandemic because of quarantine restrictions.

The most prominent banks that integrate FinTech solutions are Alif Bank (with its own digital ecosystem uniting Alif Pay, Alif Shop, Alif Tech, and Alif Mobi), Dushanbe City, Humo, Eskhata, and Imon. Notably, Imon, Alif, and Humo were established initially as micro-loan organizations. Most of them depend on Russia when it comes to international transfers.

Telecom and mobile operators such as Babilon-M, Tcell, and MegaFon also support FinTech development through electronic wallets in partnership with financial organizations. Interviewees revealed that Tajiks have greater trust in mobile operators, so mobile wallets are more developed and are used both to transfer money and to make payments.

74 Based on World Bank, 2021, “Global Findex Database 2021,” <https://www.worldbank.org/en/publication/globalfindex>.

75 National Bank of Tajikistan, 2022, “Banking Statistics Bulletin 2022, No. 12 (329),” https://nbt.tj/upload/iblock/75c/r27e7rjoes2ex1014n9v7jj9y60u3jw/BULL_12_2022.pdf.

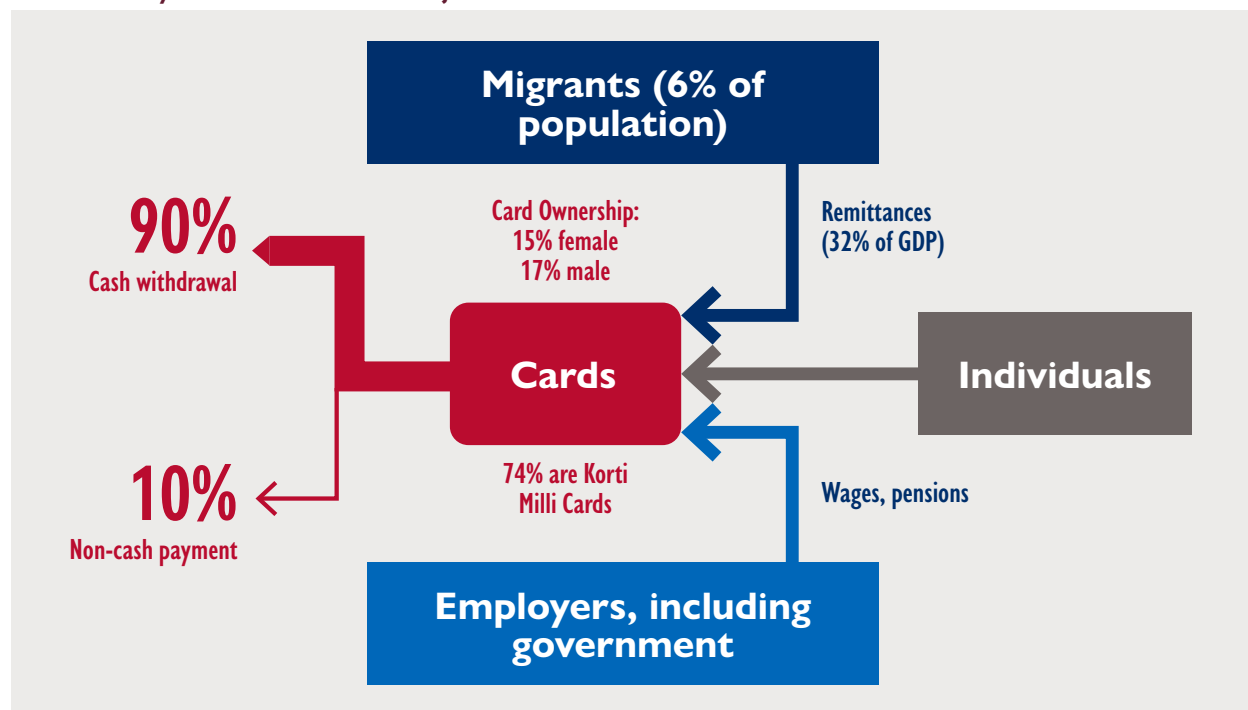
76 Generally, the National Bank is responsible for the national payment gateway, organizing payment, clearing, settlement systems, and remittances in Tajikistan. It sets rules, forms, terms, and standards on performance of non-cash and cash settlements.

77 Identification is required to have access to all services of the financial institution, including transfers. For residents, it can be done remotely.

78 OneTrust Data Guidance, 2020, “Tajikistan: National Bank Develops Methods for Remote Identification of e-Wallets,” July 8, <https://www.dataguidance.com/news/tajikistan-national-bank-develops-methods-remote>.

79 Ozan Sevimli, 2022, “Development of E-commerce in Tajikistan,” speech at the 22nd Meeting of the Advisory Council on Improving the Investment Climate, Dushanbe, Tajikistan, March 16, <https://www.vsemirnyjbank.org/ru/news/speech/2022/03/17/e-commerce-development-in-tajikistan>.

80 Based on DECA interviewees’ estimates and CMA, 2021, “National Bank of Tajikistan Launches Automated Payment System,” December 2, <https://www.cma.se/news/national-bank-of-tajikistan-launches-automated-transfer-system>.

FIGURE 15: Payment Card Use in Tajikistan

Source: Authors. Stats based on National Bank 2022; World Bank, 2022; and Global Findex Report 2021.⁸¹

Geographic and gender divides in bank account ownership and point-of-sale (POS) infrastructure.

Tajikistan’s financial sector has seen explosive growth with the overall number of adults with bank accounts increasing from 2.5 percent in 2011 to nearly 39 percent in 2021 and increasingly more individuals receiving digital funds transfers.⁸² Available data show almost no gender imbalance in bank account ownership (39.6 percent of men and 39.4 percent of women). There are some differences in usage of digital payments, however. Women are somewhat more likely than men to use bank accounts for receiving digital payments—likely a reflection of digital remittances from migrant males. Men are much more likely than women to make a digital payment.⁸³ Gender gaps are wider in using digital means to pay bills and in making purchases over the Internet (Table 2). There are no data about what accounts for these different usage patterns. Under prevalent cultural norms, men are heads of households and control family finances, which may account for these differences.

TABLE 2: Bank Account Ownership and Use by Gender and by Location in Tajikistan, 2021

	ACCOUNT OWNERSHIP	OWNS A CREDIT OR DEBIT CARD	RECEIVED A DIGITAL PAYMENT	MADE A DIGITAL PAYMENT	USED A MOBILE PHONE OR THE INTERNET TO PAY BILLS	USED A MOBILE PHONE OR THE INTERNET TO BUY
MEN	39.6	17.1	19.0	25.3	5.5	2.1
WOMEN	39.4	14.9	20.7	20.4	2.3	0.5
URBAN	40.3	17.3	21.6	22.2	4.0	1.3
RURAL	36.3	10.9	13.3	24.9	3.8	1.1

Source: World Bank Global Findex Database 2021⁸⁴

81 National Bank of Tajikistan, 2022, “Banking Statistics Bulletin 2022, No. 7 (324).”; Remittances and Migration Team Social Protection Global Practice World Bank, 2022, “Remittances Brave Global Headwinds”; and World Bank, 2021, “Global Findex Database, 2021.”

82 National Bank of Tajikistan, 2011, “Banking Statistics Bulletin 2011, No. 12 (197), https://nbt.tj/upload/iblock/7ff/Bulleten_12.pdf; and National Bank of Tajikistan, 2021, “Banking Statistics Bulletin 2021, No. 12 (316), <https://nbt.tj/upload/iblock/a1c/cb0vbh63abmomp7sp0s4evnwxs9h4s/2021.pdf>.”

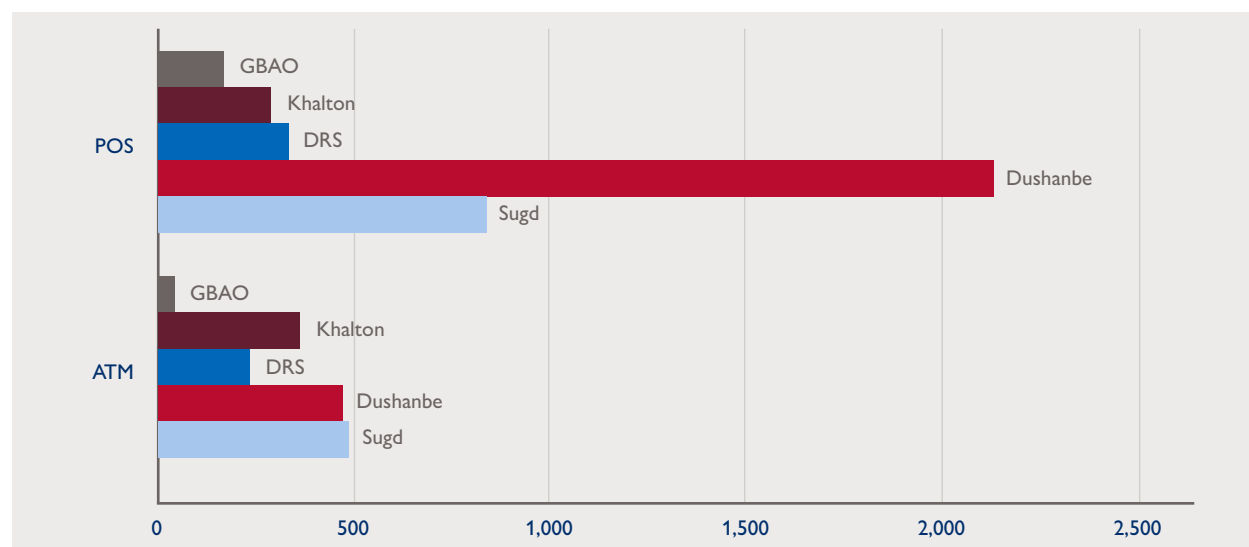
83 Presumably, because migrants are mostly men who send money to their families, the receivers are mostly women.

84 World Bank, 2021, “Global Findex Report 2021.”

The gap between rural and urban residents' bank account ownership and usage of digital payments is wider than the gender gap. Urban populations are more likely to have payment cards and to maintain bank accounts. At the same time, use of technology to make payments shows a relatively narrow urban-rural divide. (Table 2). This is an impact of migrants, who send remittances to their families who are often in rural areas.

Unsurprisingly, DECA interviewees revealed that infrastructure for using bank cards, specifically ATMs and POS purchase equipment, is concentrated mostly in Dushanbe. Khujand (the capital of Sugd) is catching up, however. For instance, there are around 40 ATMs per 100,000 people in the city of Dushanbe, 20 per 100,000 in Sugd, 15 per 100,000 in Khatlon and the GBAO region, and 10 per 100,000 in DRS regions (Figure 16).

FIGURE 16: Payment Infrastructure in Tajikistan by Oblast, 2022



Source: National Bank of Tajikistan.⁸⁵

In September 2022, the government introduced the *National Financial Inclusion Strategy of the Republic of Tajikistan for 2022–2026*,⁸⁶ developed with support from the IFC and the Swiss State Secretariat for Economic Affairs (SECO). This strategy outlines plans for delivery networks, DFS, financial product diversity, consumer protection, and financial literacy. A key objective of the strategy will be to support financial product diversity, including DFS. Implementation of the strategy, in conjunction with increased utilization of the special regulatory regime adopted by the National Bank in focusing on “innovative financial products,” should further catalyze and support development of inclusive and diverse DFS.

There also are important sub-national initiatives by international donors to help develop DFS in the regions. For instance, in 2019, the IFC initiated the Pamir Cashless Zone project that led to an increase of cashless transactions from 4 percent to 65 percent in GBAO, at least from one particular service provider (Box 7).

85 National Bank of Tajikistan, 2022, “Development of the Market of Bank Payment Cards.”

86 Government of the Republic of Tajikistan, 2022, “National Financial Inclusion Strategy of the Republic of Tajikistan, 2022–2026,” https://nbt.tj/files/program/national_strategy_ru.pdf.

BOX 7: Cashless Zone in Pamir

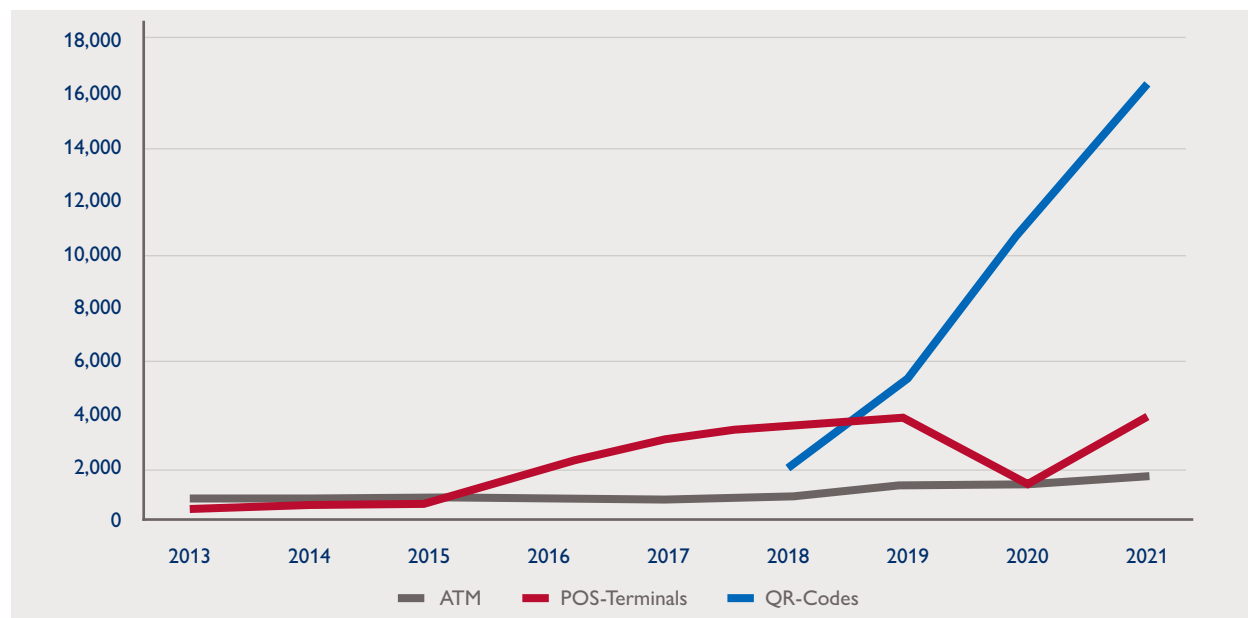
In 2019, the IFC initiated a pilot project to develop a cashless zone in the GBAO region. IFC engaged the Pamir Energy company, an energy utility supplier, to contribute to creating bank accounts and wallets for households. It was decided that all 98 employees of Pamir Energy who periodically visit households could serve as bank agents. They were equipped with POS terminals and plastic cards and received training. As a result, the employees gave out cards to all the households, opened e-wallets or bank accounts, and explained to the households the basics of DFS use. It was reported that the cashless level of one electric energy service provider increased from 4 percent to 65 percent in a half year. This progress was unfortunately slowed by unrest in the GBAO region.

Source: DECA interview with the IFC.

BY INCREASING CONVENIENCE AND TRUST, QR CODES HOLD POTENTIAL TO DRIVE MORE CONSUMERS TOWARD CASHLESS HABITS.

While Tajikistan has seen gradual growth in payment infrastructure in recent years, the use of QR codes has been booming since about 2019. While ATMs had annual growth of 16 percent and POSs grew by 40 percent, the annual growth of QR-codes in the last four years was 101 percent⁸⁷ (Figure 17). Financial organizations started installing QR codes in trade and service enterprises in 2019. In 2022, more than 16,000 QR codes were put into use in the country, a 47 percent increase over the previous year.

FIGURE 17: Payment Infrastructure in Tajikistan, 2013–2022, units (ATMs, POS, QR-Codes)



Source: National Bank of Tajikistan.⁸⁸

QR codes are attractive for businesses because unlike POS terminals or relying on customers' use of ATMs for cash-out payments, QR codes do not require specialized hardware and associated maintenance and therefore are less costly. For consumers who use cashless transactions, QR codes are popular for their relative convenience and ease of use. They avoid ATMs, where lines are often long for cashing-out (and in) and cash shortages are common, and they provide an alternative to POS terminals, which are not always available or reliable.

87 National Bank of Tajikistan, 2022, "Banking Statistics Bulletin 2022, No. 7 (324)."

88 National Bank of Tajikistan, 2022, "Development of the Market of Bank Payment Cards."

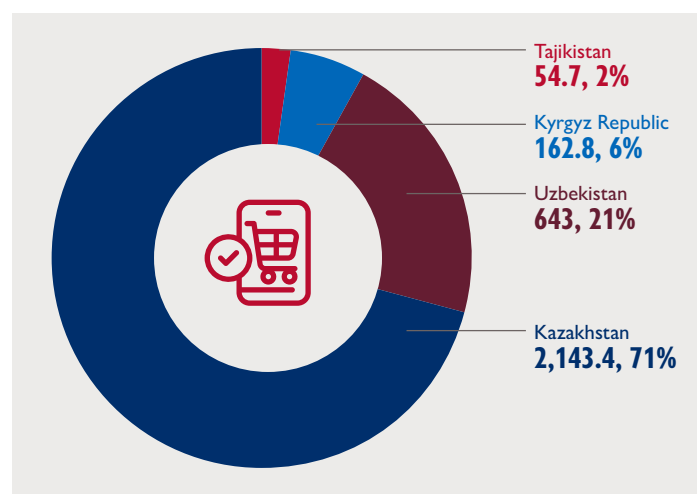
A challenge for further uptake of QR-code payment is that there is no unified QR code for payments. This complicates the purchasing process. The QR code of one bank is incompatible with the application of another bank, so businesses are forced to create accounts in different banks and install several QR codes in points-of-sale; each QR code is linked to only one account (a corporate or private bank account or a mobile wallet).

Together with Alif and Humo, the National Bank is working to solve this issue and develop a single QR code (for example, similar initiatives concerning universal QR codes have been used in Ghana, India, the PRC, and Singapore⁸⁹).⁹⁰ A single QR code will streamline digital payments and drive further uptake of DFS by dramatically increasing convenience for consumers. More importantly, it can help build confidence in cashless transactions. Tracking through a single QR system is simpler to verify, so fraudulent or illegal transactions using QR codes linked to private bank accounts are minimized.

STRENGTHENING THE INFRASTRUCTURE AND ENABLING ENVIRONMENT FOR PARCEL DELIVERY AND INCREASING DIGITAL LITERACY WILL HELP SPEED UP E-COMMERCE DEVELOPMENT.

In contrast to global trends, e-commerce sales in Tajikistan have seen a serious drop over the last four years. While other countries in Central Asia have seen double-digit growth in e-commerce in recent years, accelerated by the COVID-19 pandemic, Tajikistan did not experience similar rates of growth. Although there was a slight increase in food delivery during the pandemic, the volume of online sales remained low. Tajikistan today remains among the least-developed countries across Central Asia for e-commerce;⁹¹ its share of the total e-commerce market in Central Asia in 2020 was just two percent (US\$54.7 million) (Figure 18).⁹² Further evidence of this can be seen when the national e-commerce market sizes of each country are analyzed relative to GDP. The e-commerce share of GDP is 1.9 percent for the Kyrgyz Republic, 1.1 percent for Kazakhstan, 0.9 percent for Uzbekistan, and 0.6 percent for Tajikistan.

FIGURE 18: E-commerce Market Size in Central Asia, US\$ millions, % of total



Source: Based on KPMG study, 2020.⁹³

89 Apoorva Hedge, 2022, "QR Codes for Financial Institutions: The Rise of QR Code Payments," Beaconstac, October 27, <https://blog.beaconstac.com/2020/10/qr-codes-for-financial-institutions/>.

90 Since this report went to publication, the single QR-code has been rolled out in Tajikistan.

91 Excluding Turkmenistan as there are no data available.

92 KPMG, 2022, "Overview of Fintech Development in Central Asia," November, <https://assets.kpmg/content/dam/kpmg/kz/pdf/2020/12/Overview-of-Fintech-Development-in-Central-Asia.pdf>.

93 KPMG, 2022, "Overview of Fintech Development in Central Asia."

At the foundation of a thriving e-commerce sector is the ability to deliver goods to homes and businesses in a timely, cost-efficient manner. Effective systems and infrastructure for cross-border, national, and local logistics are key. In Tajikistan, package delivery is expensive and unreliable.

Tajikistan fares poorly on the most recent World Bank Logistics Performance Index, losing 20 positions in just four years (from 114th in 2014 to 134th in 2018, out of 163 countries). Among its neighboring countries, it only outperforms Afghanistan. (See Table 3 and the Digital Trade section, below, for more detailed discussion of the challenges concerning cross-border movement of goods.)

TABLE 3: Logistics Performance in Central Asia Region, 2014–2018

COUNTRY	OVERALL LOGISTICS RANK		CUSTOMS		INFRASTRUCTURE		INTERNATIONAL SHIPMENTS		LOGISTICS QUALITY AND COMPETENCE		TRACKING AND TRACING		TIMELINESS	
	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014
TAJIKISTAN	134	114	150	115	127	108	133	92	116	113	131	119	104	133
KAZAKHSTAN	70	88	65	121	81	106	84	100	90	83	83	81	50	69
UZBEKISTAN	99	129	140	157	77	148	120	145	88	122	90	77	91	88
KYRGYZ REPUBLIC	108	149	55	145	103	147	138	127	114	151	99	145	106	155
RUSSIAN FEDERATION	75	90	97	133	61	77	96	102	71	80	97	79	66	84
AFGHANISTAN	160	158	158	137	158	158	152	156	158	152	159	159	153	149

Source: Based on World Bank Logistics Performance Index.⁹⁴

The Universal Postal Union’s Postal Reliability Index provides additional insight into the national and local delivery systems. Tajikistan scores just 2 out of 10 possible points for its overall postal development level.⁹⁵

For comparison, the Kyrgyz Republic and Kazakhstan scored 5 and 6, respectively (Uzbekistan also scored a 2 and Turkmenistan is not measured). Tajikistan’s mountainous geography and severe weather present challenges to building and maintaining the network of transportation infrastructure necessary to deliver products across Tajikistan’s regions and borders.

Additionally, regulatory measures concerning parcel delivery have had the potentially unintended consequence of driving several major international delivery companies to exit the market. Starting in 2017, the government required all delivery companies—international, national, and local—to obtain a postal license from the Communication Service to deliver goods anywhere in Tajikistan. Prior to this, foreign delivery services could begin operations simply by registering with the Tax Committee.⁹⁶

94 World Bank, n.d., “Aggregated LPI,” Logistics Performance Index (online database), <https://lpi.worldbank.org/international/aggregated-ranking>.

95 Universal Postal Union, 2022, *2022 Postal Development Report: Postal Journey to a Sustainable Future*, Bern: Universal Postal Union, <https://www.upu.int/en/Publications/2IPD/Postal-Development-Report-2022>. On a scale of 0–100, Tajikistan scores 16.16 on Reliability, 14.93 on Reach, 2.74 on Relevance, and 33.98 on Resilience.

96 Government of the Republic of Tajikistan, 2021, Resolution “On the approval of the Regulations on Features Licensing of Certain Types of Activities (in the New Editions),” <https://tajtrade.tj/media/№172%20ППРТ%20%20о%20лицензировании.pdf>.

The postal license is difficult to obtain. Companies must first open offices in all districts of the country before applying for the license. As a result, DHL, UPS, TNT, and Pony Express all left the country six years ago.⁹⁷ Since then, only two licensed parcel delivery companies operate: (i) EMS Tajikistan, a division of the state postal operator Pochtai Tojik, which is under the Communication Service; and (ii) a private company, Pochtai Asr, which is affiliated with Pochtai Tojik. Interviewees reported there are many complaints about the quality of these companies' services. Both are costly and slow.⁹⁸ Pochtai Tojik further does not have enough post offices across the country, challenging the development of e-commerce in many locations; Asr, for example, is dependent on the government-run postal infrastructure.

To circumvent the lack of quality delivery options, businesses and individuals have turned to grey economy options (Box 8).

BOX 8: The Grey Economy and Delivery

Other private delivery companies work in Tajikistan, but in the gray zone. DECA interviews revealed that people use taxi services, shipping sharing services (e.g., ViZoo), and unlicensed courier companies to deliver small parcels to customers within cities, although many complain about the quality and time of delivery, particularly regarding food delivery. Consequently, many companies develop their own courier services to ensure quality.

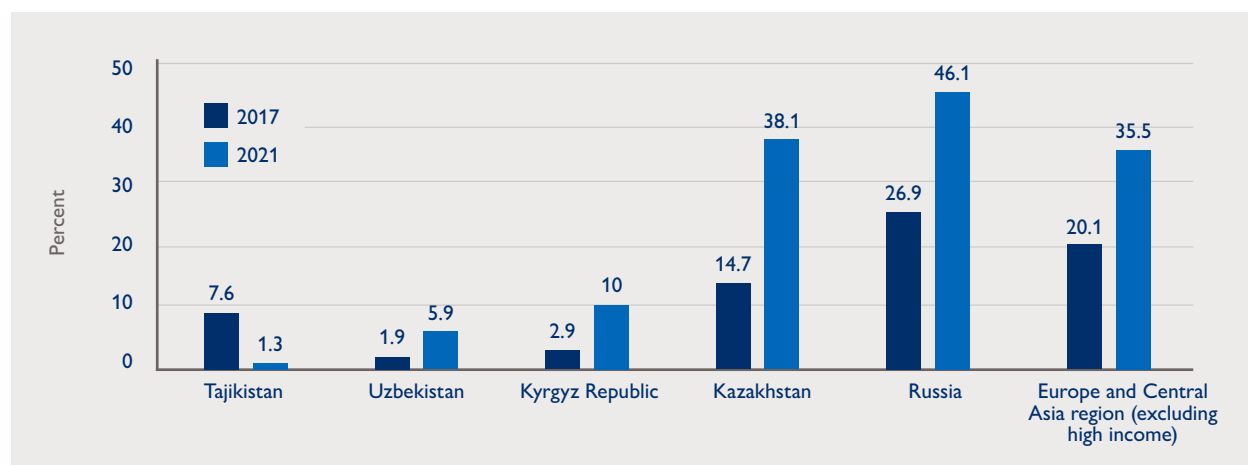
Low digital literacy, skills, and trust may limit businesses' and users' adoption of digital technologies. Insufficient digital literacy and skills (see Pillar I for more discussion) also hinder the development of e-commerce. Many merchants do not have their own websites and do not use software for automatization and connection to marketplaces. Interviewees reported that entrepreneurs and small business owners find it difficult to deal with electronic tax submissions, which can lead to incorrect declarations and penalties. While there have been some initiatives to train sellers in enabling technologies and electronic filing (including a now-closed tax return support system from Babylon-M), they are few and insufficient to systemically build the digital skills current business owners need to run a successful e-commerce-based business.

Low uptake of online resources and DFS also holds back e-commerce development. People tend to monitor and browse online websites and marketplaces but are not yet eager to order online. This may be related to issues of trust (as discussed in the DFS section, above). Cultural norms and habits around personal contacts when making purchases may also play a role. The 2021 World Bank Global Findex Database shows that only 1.3 percent of Tajiks made purchases online, compared to 38.1 percent of Kazakhs and 46.1 percent of Russians (Figure 19).⁹⁹

97 DHL, though, returned to the market in 2021 following a special agreement with the government.

98 Fergana, 2020, "In Tajikistan, Letters and Parcels Take a Long Time to Arrive. And They Don't Always Get There," February 20, <https://fergana.agency/articles/114948/>.

99 World Bank, "Global Findex Database, 2021."

FIGURE 19: Used a Mobile Phone or Internet to Buy Something Online, % population 15+, 2017–2021

Source: Based on World Bank, Global Findex Database 2021.¹⁰⁰

DESPITE CHALLENGES, LOCAL E-COMMERCE BUSINESSES ARE EMERGING.

The emergence of e-commerce in Tajikistan has been driven mostly by banks and telecom companies that are integrating e-commerce platforms within their broader digital services and solutions. These companies have started to create full-fledged ecosystems of digital services through single apps. For example, national FinTech companies such as Alif and Humo push e-commerce by integrating marketplaces into their mobile banking apps, unifying payments, sales, and other services on a single platform. Babilon-M established its own app that integrates e-wallet and digital classifieds; the app has up to 50,000 active users.

These large e-commerce sector influencers are helping to facilitate and drive the development of local e-commerce companies, platforms, and marketplaces. Tajikistan has seen the development of several small e-commerce marketplaces (e.g., Gelos.tj, Magnit.tj, Usto.tj, and luhtak.tj). Local online bulletin boards/classifieds platforms (e.g., Somon.tj), booking options for transport (e.g., fly.tj), online drugstores (e.g., Yalla.tj), and food delivery companies (e.g., Shef.tj, Sor-Pizza, and Kurutob Delivery) are some of the other notable examples. Oblast-level platforms (e.g., Obbo.tj in Khujand) are also beginning to emerge. In terms of services, interviewees indicated food delivery is the most popular; many also order goods like phones, cosmetics, and appliances online. Outside of marketplaces, some local companies are developing their own mobile apps for a range of goods and services—e.g., delivering food, flowers, and medicine; selling tickets; and paying for parking. Digitally enabled businesses such as so-called dark stores (businesses that transact entirely online without a bricks-and-mortar storefront) also are growing (Box 9). It is important to emphasize, however, that these services and businesses have been concentrated mostly in Dushanbe and Khujand. A full-fledged, nationwide deployment of e-commerce has not yet been possible in the existing business environment.

The capacities of local e-commerce companies and other e-commerce supply and delivery chain actors are slowly growing thanks to the efforts of donors and selected local players. However, a systematic approach to the support and development of the whole ecosystem of players (including transportation fleets, warehousing, internal postal package-delivery service, and internal delivery courier services) is lacking.

¹⁰⁰ World Bank, “Global Findex Database, 2021.”

BOX 9: Dark Kitchens and Stores: A Growing E-commerce Trend in Tajikistan

Dark stores are not informal e-commerce, but rather fully online stores supported by specialized warehouses. A dark store is essentially a warehouse that is organized in a highly optimized manner. Rather than buyers walking through the store, specially trained employees fill orders, following the optimized trajectory designed by the system. Dark stores are different from online retailers like AliExpress in that they are located within the city, so orders are filled quickly. Many dark stores specialize in fast-moving consumer goods, such as food and cosmetics. In developed countries, dark stores appeared in the mid-2010s and grew throughout COVID-19. Additional demand during the pandemic also increased demand for dark kitchens, which are restaurants that work online only and typically deliver food. Due to lower operating costs, this type of business has become attractive for many.

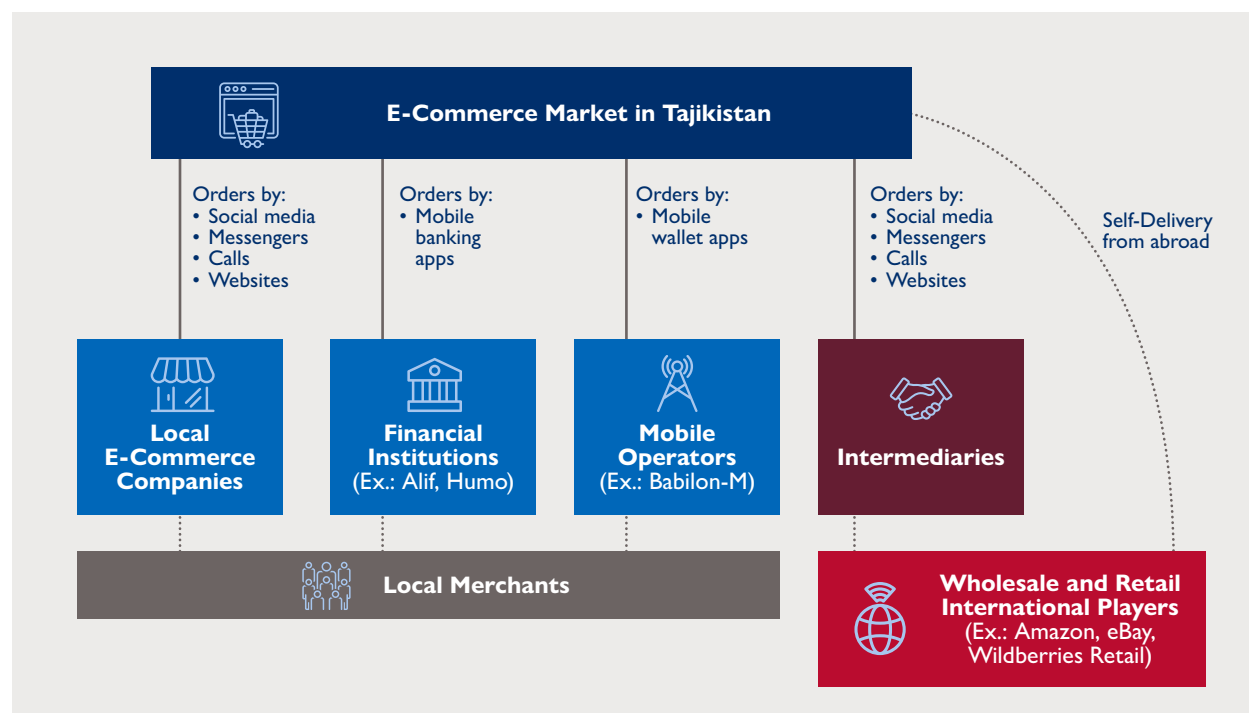
In Tajikistan, such dark businesses have been gaining momentum over the past two years. For instance, dark kitchens started to emerge at the height of COVID-19 with support from local IT players like Babilon-M. Companies such as SorPizza use mobile applications, call centers, and courier services, but still transact mostly as cash-upon-delivery rather than digital payments. Online drugstores without physical presence are also actively appearing in Tajikistan. For example, Yalla.tj works as a platform of connected pharmacies that delivers medicines on request. However, the imperfection of the emerging market sometimes leads to double taxation. Both the platform and the pharmacy connected to the platform can be charged VAT for the delivery of the same product. According to DECA research, despite constraints, this type of business is a promising direction for the development of e-commerce in Tajikistan, as it involves lower operating costs, including rent, which is critical for many small and medium-sized enterprises (SMEs) to survive.

DECA interviewees shed light on the readiness of individual sellers and buyers to engage in e-commerce. In recent years, social media platforms such as Instagram, Facebook, and TikTok, and other social networks and messenger apps have become increasingly popular for selling and trading new and used goods. When businesses and individuals sell goods through these platforms, they often avoid the tax authorities. DECA interviewees indicated that e-commerce via social media is among the most widely used in the country, meaning many of e-commerce transactions are based on card-to-card payments (between private bank accounts) not fixed by tax authorities and therefore can be considered "underground."

International digital platforms are not available for Tajik consumers or businesses. Prominent global platforms like Amazon, eBay, and Netflix have not entered the Tajik market. While Tajiks can order from AliExpress, it can take up to three months to receive a delivery from the sellers in the PRC. Regional companies like Russia-based Wildberries or Ozon do not deliver to Tajikistan currently, though this may change.¹⁰¹

The main reasons international and regional companies have not entered the Tajik market are its small size, limited purchasing power, and geographical complexities that inhibit shipping. As in other countries with smaller markets (e.g., Georgia and Moldova), this has led to the creation of some intermediary markets ("Intermediaries" in Figure 20, below; also sometimes called "social commerce" or informal e-commerce). For example, people use relatives, friends, or third-party companies to receive orders from Amazon or eBay in the other countries (e.g., in the United States) and ship the products onwards to and within Tajikistan; this increases prices for the end-consumers.

101 @wildberriestj, 2022, "The Start of the Opening of Wildberries in the Republic of Tajikistan Is Very Soon!" Instagram posting, January 17, <https://www.instagram.com/p/CY098leKgdV/>.

FIGURE 20: Key Channels of Tajikistan’s E-Commerce Market

Source: Authors.

The government and donors are working to improve Tajikistan’s e-commerce enabling environment. Tajikistan’s government passed an e-commerce law in late 2022 and currently is developing the *E-commerce Development Program in the Republic of Tajikistan for 2023–2027*.¹⁰² The law recognized transactions for sale, purchase, and exchange of goods, works and services carried out online. The strategy aims to expand access to world markets through digitalization, by providing a simplified e-commerce system, simplifying trade procedures, and attracting foreign capital.¹⁰³ A government-level coordination body has not yet been tasked with implementing the overall policy. DECA interviewees suggested that this role could be filled by the National Bank or the Ministry of Economy and Trade, which is tasked as the key implementer of the e-commerce law.

A separate consumer protection law also exists but does not yet include consumer rights with regard to online transactions.

The nonprofit Council for E-Commerce Development under the Chamber of Industry and Commerce was established in 2019.¹⁰⁴ The Council meets twice a year and is engaged in developing and monitoring of legislation and coordinating with major stakeholders such as government agencies, businesses, and donor organizations such as USAID. Another key supporting entity is the E-Commerce Association of Tajikistan, a nonprofit that unites key mobile operators and financial institutions engaged in e-commerce. It works as a platform for discussion, lobbying, and collaboration, and provides recommendations to the government on e-commerce regulation.

102 Avest.tj, 2022, “Tajikistan develops e-commerce development program for 2023-2027,” September 15, <https://www.toptj.com/m/news/2022/09/15/v-tadzhikistane-razrabatyvaetsya-programma-razvitiya-elektronnoy-kommercii-na-2023-2027-gody>.

103 Avesta Information Agency, 2022, “Tajikistan Develops E-commerce Development Program for 2023–2027,” September 15, <https://avesta.tj/2022/09/15/v-tadzhikistane-razrabatyvaetsya-programma-razvitiya-elektronnoj-kommertsii-na-2023-2027-gody/>.

104 Vecherka, 2020, “In Tajikistan, Council for the Development of E-commerce Created,” October 29, <https://vecherka.tj/archives/47471>.

Businesses also receive support from international donors (e.g., USAID and the European Bank for Reconstruction and Development (EBRD)). For example, with the support of USAID’s Future Growth Initiative, Babilon-M launched a Babilon Academy to serve as an e-commerce accelerator for merchants. By 2022, it contributed to the digitalization of around 700 merchants. EBRD also issues grants for merchants, providing expert and advisory support for adoption and use of digital technologies in their operations.¹⁰⁵

THOUGH THE TRADE PORTAL AND SINGLE WINDOW MARK STEPS FORWARD IN DIGITAL TRADE, DIGITALIZING PAPER-BASED PROCESSES AND ADDRESSING INTEROPERABILITY ACROSS SYSTEMS CAN HELP REALIZE THE BENEFITS.

Since its accession to the WTO in 2013, Tajikistan has made progress in expanding cross-border trade and also has entered into numerous bilateral and regional free-trade agreements. These improvements are reflected in the country’s rankings on the Trading Across Borders Index where Tajikistan has moved up to 141 from 188. Still, various customs tariffs and taxes, complex product certification processes, and other opaque bureaucratic import-export requirements combine to make it difficult and expensive for most companies attempting to move products across the border.

Tajikistan has put in place programs, institutional frameworks, and systems to help digitize and simplify its procedures. The government adopted the State Program for Export Development of the Republic of Tajikistan for 2021–2025, established a Coordinating Committee on Trade Facilitation, and launched the Republic of Tajikistan’s trade portal and single window system for processing export, import, and transit operations. These are significant steps toward transparency and iterative improvement in trade facilitation and adoption of digital trade. Service delivery procedures, however, have not yet been re-engineered for digital platforms. Critically, the many government agencies, including Customs officers, that have primary roles in issuing trade permit certificates, do not have interoperable systems that are capable of exchanging data.

The heavy paper-weight of Tajikistan’s trade procedures. Paper still runs and weighs down Tajikistan’s cross-border trade system. For example, 28 steps are required to clear imported IT equipment at the border.¹⁰⁶ Forty-five paper documents must be submitted in the process, some of which must be provided multiple times. While Customs brokers can help navigate this process, the cost of such services can be prohibitive for entrepreneurs and small businesses.

Paper-based vehicle entry permits (VEPs) are another example of how undigitized systems perpetuate inefficiencies and create room for corruption. Tajik cross-border trade is conducted primarily on roads and railways, with 21 international border points. The Ministry of Transport issues VEPs to trucks. This paper-based system enables a grey market of VEP sales by secondhand dealers to importers. It also makes it possible for the same VEP to be used by several importers at the same time at different Customs points. DECA interviewees explained that the ministry is working on creating a digital VEP, but for a digital solution to succeed, Customs would require proper and efficient data exchange between offices.

Complex certifications for compliance with product standards. While Tajikistan has expanded opportunities for trade with many different countries, this has also grown the roster of trading partners with differing product standards and certification requirements. Understanding which standards and certifications

105 European Bank for Reconstruction and Development, n.d., “Grow Your Business in Tajikistan,” webpage, <https://www.ebrd.com/work-with-us/advice-for-small-businesses/tajikistan.html>.

106 Ministry of Economic Development and Trade, Government of the Republic of Tajikistan, n.d., “IT Import,” web resource, <https://tajtrade.tj/procedure/155?l=ru>.

are required by which country or region is challenging for any business interested in exporting. Many exporters lack information about different standards required for each country.

For imported products, certification is led by the government agency, Tajikstandard. There is a shortage of laboratories for certification processes, and, in order to receive international certificates, entrepreneurs need to visit neighboring countries. The products-clearance process for import slows the development of trade routes and affects attractiveness for investors. The complexity of the process also means that many imported products are not properly cleared by Customs. For instance, according to DECA interviewees, 99 percent of imported smartphones are not cleared by product category but by weight. While this has the beneficial effect of lowering the cost of digital devices for end-purchasers, it stimulates the grey economy, corruption, and contraband activity that limits healthy business development in Tajikistan.

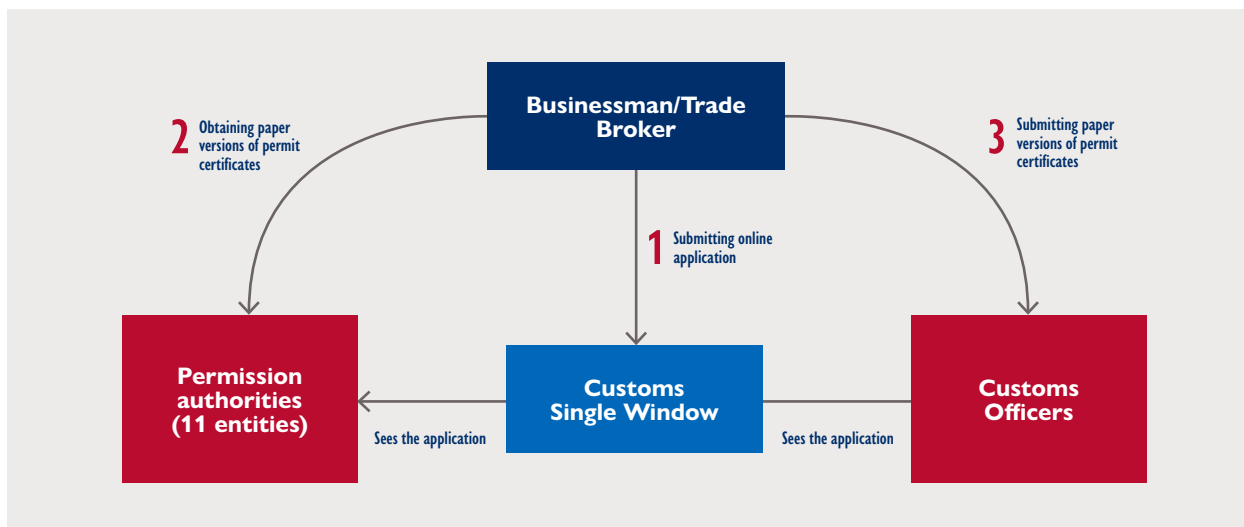
Attempts to lighten the load through digitalization of trade: the trade portal and single window.

In 2019, the Ministry of Economic Development and Trade launched the Tajikistan Trade Portal, which provides detailed information about the procedures required to import and export different types of products, as well as the related cross-border transit issues. It does not include advanced databases of the various country laws and standards that are required for compliance and certification. While the trade portal is a good tool to guide businesses through the whole trading process for different goods, it reveals the complexity of the process. The Portal may detail the twenty-eight steps required to import IT equipment, for example, however it does not address the burdens on SMEs and entrepreneurs to comply with those steps. Some steps may be eased (or eliminated altogether) through digitalization.

Tajikistan's launch in 2020 of a single window for Customs clearance was intended to help reduce some of this complexity. The single window successfully digitized the initial application process for obtaining a trade permit and made it more transparent. However, while the 11 other government authorities involved in taxing, certifying, approving, and permitting cross-border trade can now see that an initial application has been submitted, they do not have interoperable information systems and thus cannot exchange data among themselves. Without the ability to exchange data, traders (or their brokers), must visit 11 state agencies in person to submit paper documentation and permissions (Figure 21). In effect, the single window has added a step to the process of Customs clearance: submitting the application online through the portal and then bringing the necessary documentation in person to each separate agency involved. Further, given poor connectivity in many areas, uploading all documents to the single window can add hours of delays in processing; and by the time the single window coordinates documents among other departments, the validity of the fees and certificates can expire. Each single window application costs 130 somoni (around US\$12 or up to 16 percent of the average monthly wage¹⁰⁷) and hiring a broker may not be economically feasible for small businesses.

Trade-related stakeholders, such as the Association of Customs Brokers, are encouraging the government to put in place the necessary physical and regulatory infrastructure to digitize data exchange among agencies. Recently, the World Bank also helped connect Tajik Customs with ASYCUDA, an electronic clearance system. The interoperability of various trade-related agencies will be essential for the single window to facilitate greater cross-border trade.

107 World Bank, n.d., "GDP Per Capita (Current US\$) – Tajikistan," data on World Bank Open Data (database), <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=TJ>.

FIGURE 21: Customs Single Window Operation in Tajikistan

Source: Authors.

THE SMALL DOMESTIC MARKET SIZE AND THE CURRENT REGULATORY ENVIRONMENT DISCOURAGE TECH ENTREPRENEURSHIP.

Systemic factors in Tajikistan have led to a general distrust of entrepreneurship in the minds of the Tajik people. Inadequate legal protections contribute to fears of the theft of business ideas, for example. In addition, the small size of the Tajik market and limited access to external markets amplifies startup risks such as poor domestic demand, the cost of piloting ideas, and the ability to scale successful ventures. These factors reduce the appetite to develop new technological products domestically. Success stories highlighting startups and showcasing the potential of betting on new ideas could contribute to mitigating these systemic challenges, but they are few and far between (Box 10).

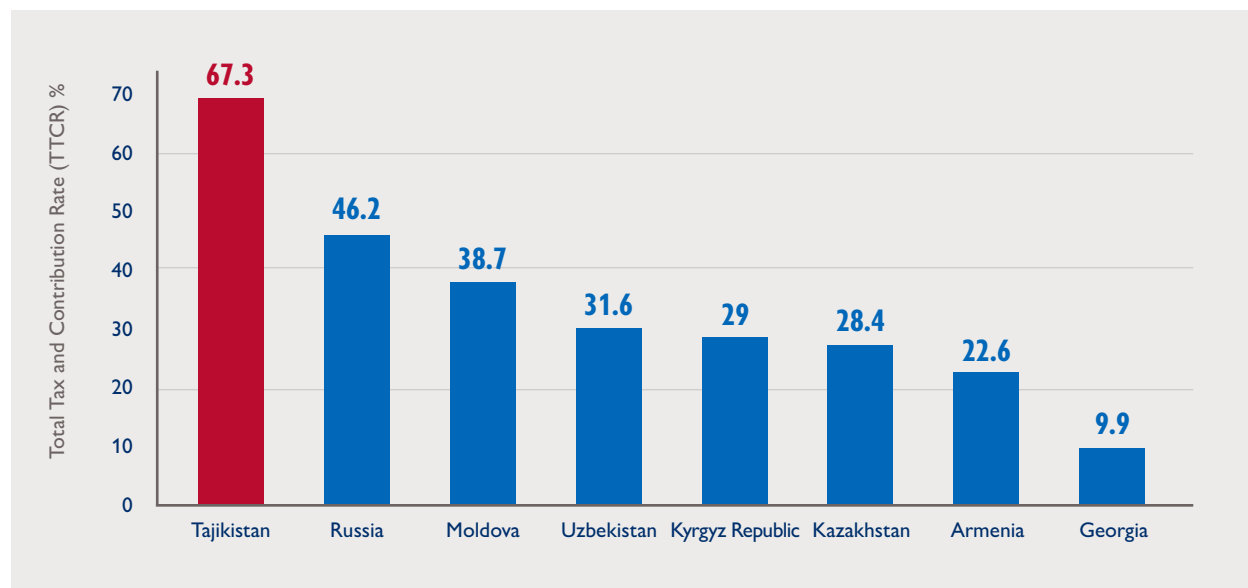
BOX 10: Some Tech Startup Successes

The most prominent start-up successes are concentrated in Dushanbe and Khujand. These include the e-commerce platform Somon.tj, the software-as-a-service (SaaS) developer Zypl.ai, and the digital marketing solution Shedyr. There are also few female-owned startups, concentrated in agritech, beauty tech, and food tech. There are even several Tajik companies that received international recognition. For example, Alif Bank, which is technically not a startup but initially a micro-loan organization, operates today as a private technological company with its own digital ecosystem. It has secured investment from a Swiss bank and a private investor from Monaco. Sharing more founder stories from these startups, especially ones with female founders or executives, could increase the appetite of entrepreneurs to start new businesses.

Difficult regulations for winding down businesses are impediments for digital startups. Tajikistan’s poor score on “resolving insolvency” in the last Doing Business ranking is reflected in the fact that of 600,000 registered enterprises as of 2020, only half were active. Experience from other countries has shown that, for tech entrepreneurship to succeed, failing needs to be safe. “Fail early, fail often” is an (in)famous Silicon Valley mantra, meaning: having a failed startup does not make one a criminal or one should not necessarily have to carry a lot of personal risk. Regulatory environments that make it difficult to declare bankruptcy and close businesses can discourage the growth of a digital startup ecosystem.

Taxes weigh down growth. As discussed in Pillar 1, Tajikistan’s overall taxes are higher than in other countries in the region, and they are among the highest in the world for all businesses. According to various estimates,¹⁰⁸ the most applicable total tax rate in Tajikistan—which is the share of taxes including personal income tax levied on business employees, corporate income tax, and social security tax—reaches up to 67.5 percent. This is more than twice as high as the average for the countries of Central Asia and Eastern Europe (Figure 22). The total tax rate may grow even higher than the 67.5 percent estimate when accounting for VAT, property, and taxes on dividends.

FIGURE 22: Total Tax and Contribution Rate in Selected Countries of the Central Asia and Eastern Europe Region, 2020



Source: PWC, 2020.¹⁰⁹

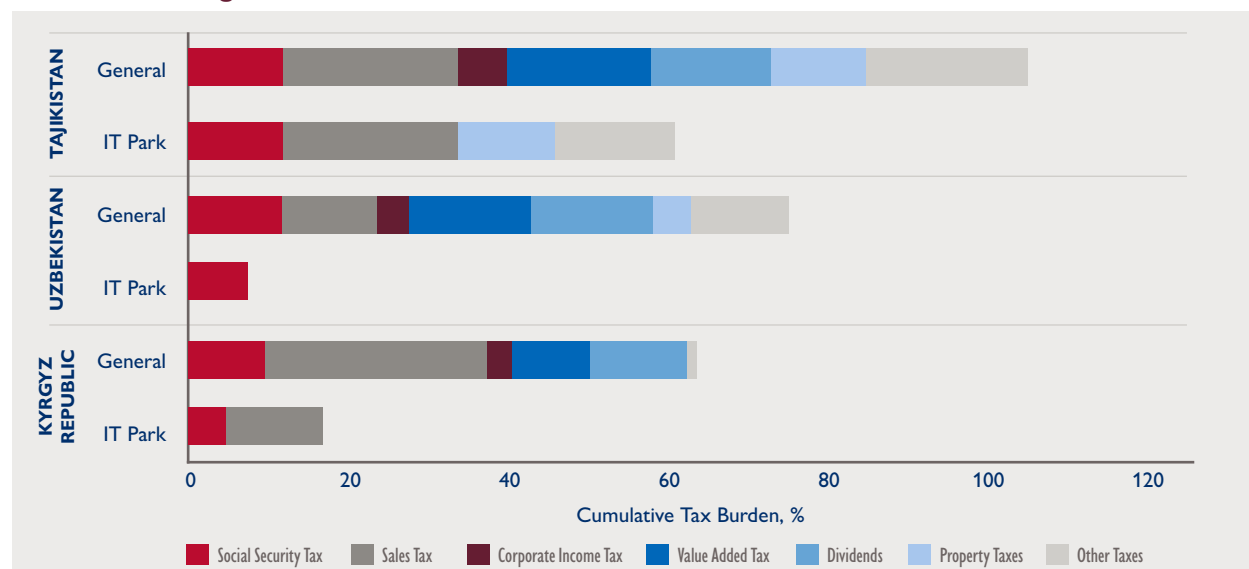
To encourage development of the ICT industry, many of Tajikistan’s neighboring countries have created preferential tax conditions for the sector by establishing IT parks. In Tajikistan, the 2010 Law on Technology Parks (or technoparks) was initially adopted to support the manufacturing sector and attract research and development resources; however, it did not have a focus on ICT, nor did it include incentives to attract businesses to the country. Currently, technoparks are established under almost every university as state unitary enterprises (known as GUPs) but are not operational because of the lack of favorable conditions to attract businesses.

In neighboring countries, the tax burden issue is solved by IT park preferential conditions (Figure 23). In 2021, an amendment to the law was drafted that introduced exemption from all taxes (except payroll tax) for IT companies that commit to operating in an IT park for 15 years.¹¹⁰ This draft has not yet been adopted. According to official statements, the first physical IT park that will introduce simplified conditions for IT businesses is being built in Dushanbe. Interviewees expressed that launch and proper functioning of this IT park would be a game-changer for IT startups. In other countries, IT parks are also often used to deploy regulatory sandboxes to help SMEs and technological startups pilot and test their solutions. There is an opportunity to explore whether such initiatives could be adopted in the Dushanbe IT Park.

108 Including DECA interviews and PWC assessment: PWC, n.d., “Overall Ranking and Data Tables,” web resource, <https://www.pwc.com/gx/en/services/tax/publications/paying-taxes-2020/overall-ranking-and-data-tables.html>.

109 PWC, n.d., “Overall Ranking and Data Tables.”

110 Pairav Chorshanбиеv, 2021, “Tajikistan Completes Drafting of New Law “On Technoparks,”” ASIA-Plus Media Group/Tajikistan, November 1, <https://www.asiaplustj.info/ru/news/tajikistan/economic/20211101/v-tadzhikistane-zavershili-razrabotku-proekta-novogo-zakona-o-tehnoparkah>.

FIGURE 23: Tax Regimes in Selected Central Asian Countries, Cumulative Tax Burden, %

Source: Based on materials received from Aga Khan Foundation.

Note: The IT park in Tajikistan is in a concept stage.

In Tajikistan's four free economic zones (FEZs)—Panj, Ishkoshim, Dangara, and Sugd—FEZ residents are granted tax and Customs benefits. However, the bureaucratic hurdles necessary to obtain FEZ resident status and the fact that the FEZs are mostly occupied by large state-owned industrial companies limit SMEs' access to these benefits.

Where preferences do exist, small businesses face challenges related to the due diligence surrounding tax exemptions and reporting; and in general they are subjected to frequent tax audits, which may happen as often as every two months.

Many entrepreneurs may not be aware of their rights, how to deal with tax submissions, and which taxes should be paid, and they may be fined for incorrect declarations of taxes. Despite the introduction of online tax submission in 2018, DECA interviewees said there are still challenges with tax reporting. PWC's *Paying Taxes 2020 Assessment* showed that, on average, Tajik enterprises spent 224 hours a year (more than 9 days) on preparing tax reports.¹¹¹ Overall, this leads to avoidance of working online and an aversion to transparency on part of business owners.

LACK OF AFFORDABLE FINANCING OPTIONS LIMITS THE ABILITY OF TECH STARTUPS TO GROW.

Of the few active technological startups and IT companies in Tajikistan, the majority work on developing digital solutions for FinTech and SaaS. The large share of the grey market in Tajikistan discourages investors from abroad. At the same time, there is limited access to finance from domestic sources.

Traditional bank loans are ill-suited for tech startups or IT SMEs. They also are expensive, with interest rates as high as 30 percent. Some companies have been unable even to open bank accounts, with banks pointing to weak sales history as the primary obstacle. As a result, some applications to open a corporate bank account remain pending for more than a year. Banks also have high processing fees and take commissions from businesses.




111 PWC, n.d., "Overall Ranking and Data Tables," web resource, <https://www.pwc.com/gx/en/services/tax/publications/paying-taxes-2020/overall-ranking-and-data-tables.html>.

There are no venture capital funds or networks of IT business angels in Tajikistan aimed at supporting tech startups. The School of Venture Investors and Business Angels, recently created by 55Group, has a mission to popularize the concept of venture capital to a wider audience (Figure 24). DECA interviewees shared IT startups are mainly financed by local enthusiasts and patrons who seek to bring in knowledge and build a national culture of startups.

THE SUPPORT ECOSYSTEM FOR STARTUPS IS NASCENT BUT GROWING; IT REQUIRES MORE RESOURCES AND GREATER COORDINATION TO ACCELERATE INNOVATION.

Fostering a vibrant innovation and entrepreneurship ecosystem requires the participation and coordination of multiple actors; the resources and commitment to test new ideas; and a relative tolerance for failure. Although multiple actors have made marked efforts to support the development of a startup ecosystem in Tajikistan, this support is fragmented, and the existing framework is not yet able to help cohorts of innovative tech startups to transform their ideas to reality. Critically, current support of the startup ecosystem is unsustainable due to its heavy dependence on international donor support. There also is an important disconnect between market demands and startup training and mentorship programs.

FIGURE 24: Overview of Tajikistan Startup Ecosystem

	Venture Capital			Private, NGO, Donors			Government Support	
	Private	Public	Grants	Universities	UN/DONORS/NGOs	Private	Universities	Government
 Pre-Startups	School of Venture Investors and Business Angels	N/A	N/A		Accelerate Prosperity (AKF) Peak by UKAid (FCDO) Upshift by UNICEF	Limhona Bootcamps Beshaft by Alif Hackathon by Coca-Cola, Tcell, Babilon, 55Group, etc.	N/A	Ministry of Finance subsidies Business incubator
 Startups	N/A	N/A	N/A	Business Woman Association	Accelerate Prosperity (AKF) Peak by UKAid (FCDO) Open Society Insitutue Start-up Choihona by UN Volunteers Networking events by Coca-Cola, Tcell, Babilon, 55Group, etc. Networking	Business Women and Youth Accelerator by Imon Networking events by Coca-Cola, Tcell, Babilon, 55Group, etc.	Technoparks under universities	Business incubator Tajinvest Dushanbe Development Foundation Center for Green Initiatives
 Scale-up	N/A	N/A	N/A	National Association of Small and Medium Enterprises	Accelerate Prosperity (AKF) Peak by UKAid (FCDO) Mini-grants programs JICA, GIZ	Networking events by Coca-Cola, Tcell, Babilon, 55Group, etc.	N/A	N/A

Source: Authors, DECA methodology.

The government has made efforts to support the startup ecosystem. Tajikistan's National Development Strategy 2030 emphasizes the importance of supporting entrepreneurial activity. There have been multiple government-sponsored initiatives to support entrepreneurs and stimulate the business environment in recent years. For instance, the Presidential 300 Program¹¹² was adopted in 2019 to improve the regulation of entrepreneurship and support producers and exporters.¹¹³ In 2020, the Ministry of Finance created a subsidy to finance startups founded by women, people with disabilities, and young people returning from migrant work.¹¹⁴ Information about the program's impact is not publicly available.

The key government institutions tasked with supporting the startup ecosystem are the Investment Committee of the Ministry of Finance and the Ministry of Industry and Innovations. Government-led institutions that contribute to the development of startups and SMEs in the country include Tajinvest (known as GUP GosKomInvest which is under the Investment Committee), Center for Green Initiatives, and the Dushanbe Development Foundation. Though importantly focused on startups and SMEs at large, none of these efforts have been intentionally targeted toward tech/IT startups. In addition to considering tech or IT-specific initiatives, there are also opportunities to support institutions to better define their respective roles within the innovation ecosystem.

Incubators and accelerators are overly dependent on international donor support. There are successful business incubators and accelerators aimed at supporting the startup environment in Tajikistan, but they are not sustainable since the funding is donor-based and comes from international partners (Figure 24). There are cases of startups that stopped operating after their financing was terminated and are still waiting for investors.¹¹⁵ According to DECA interviewees, the most active institutions that support startup culture include the Accelerate Prosperity Incubator of the Aga Khan Foundation, Peak by UKAid, Upshift by UNICEF, the state-owned Business Incubator, Businesswomen and Youth Accelerator in Khujand supported by the Imon Foundation, and bootcamps by Ilmhona. For instance, Accelerate Prosperity has supported 170 business projects totaling more than 30 million somoni (US\$3 million) since its launch in 2016.¹¹⁶ Another prominent institution is Business Incubator of Tajikistan, which was established by the government in 2018; it hosts consultations on finance and law, and provides educational support administered by 55Group, a private investment company.

Several NGOs such as the Open Society Institute, the National Association of Small and Medium Enterprises (NASME), and the National Female Entrepreneurs Association of Tajikistan (NFEA) are working to build a culture of entrepreneurship, but efforts are limited. The Open Society Institute funds local startups, including Yakdu.tj, a platform for online medical services that facilitates scheduling consultations with doctors. The NASME assists entrepreneurs in developing their businesses by hosting knowledge sharing events and workshops. The NFEA supports endeavors of women-led firms and facilitates creation of startup culture by conducting hackathons.¹⁶ While these are positive starts, they are not systemic efforts and the budgets are limited.

112 The full name of the program is the "Action Plan for the Implementation of 300 Days of Reforms to Support Entrepreneurship and Improve the Investment Climate in the Republic of Tajikistan."

113 United States Department of State, 2019, "2019 Investment Climate Statements: Tajikistan," Executive Summary, <https://www.state.gov/reports/2019-investment-climate-statements/tajikistan/>.

114 Pairav Chorshanbiev, 2020, "Project on Concessional Financing of Start-ups is Launched in Tajikistan," ASIA-Plus Media Group/Tajikistan, March 2, <https://asiaplustj.info/news/tajikistan/economic/20200302/v-tadzhikistane-zapuskayut-proekt-po-lgotnomu-finansirovaniyu-startapov>.

115 CABAR, 2023, "Tajikistan: Startups are Needed, But Conditions are Lacking," January 24, https://cabar.asia/en/tajikistan-startups-are-needed-but-conditions-are-lacking?_utl_t=ln.

116 ASIA-Plus Media Group/Tajikistan, 2022, "Empowering Tajik Businesses: Accelerate Prosperity on Supporting Small Businesses in the Country," ASIA-Plus Media Group/Tajikistan, June 29, <https://asiaplustj.info/ru/news/tajikistan/society/20220629/pobuzhdenie-tadzhikskogo-biznesa-accelerate-prosperity-o-podderzhke-malogo-biznesa-v-strane>.

Co-working spaces are growing in popularity. As DECA interviews revealed, many SMEs and startups face issues finding working spaces. Co-working spaces provide an opportunity for aspiring entrepreneurs to access affordable office space and internet access, and to connect with like-minded entrepreneurs. Three popular co-working spaces (Puzzle, Parking, and Regus) have opened in Dushanbe in the last five years and attract many entrepreneurs.¹¹⁷ American Space facilities also provide entrepreneurs with necessities.

Networking and mentorship events are growing in number, but would benefit from increased exposure to and engagement with successful entrepreneurs. In Tajikistan, networking events and training workshops to support startups and entrepreneurs are happening, yet infrequently. Large international and local companies such as Coca-Cola, Babilon, Tcell, MegaFon, Spitamen Bank, support open innovation by sponsoring events, serving as mentors, and encouraging ideas.¹¹⁸ International donors have also initiated knowledge sharing events and facilitated networking. For instance, over the last few years, GIZ initiated the TRIGGER program to support startups in the agriculture sector.¹¹⁹ The Japan International Cooperation Agency (JICA) launched a mini-grants program for entrepreneurs in Tajikistan in 2020.¹²⁰ Networking events such as Startup Choikhona and Start-up Weekend Tajikistan gather entrepreneurs and help them exchange ideas and experiences. The Startup Choikhona project, initiated by the United Nations Development Program (UNDP), provides a platform at universities for young entrepreneurs to share ideas, look for business partners, and receive real-time coaching.¹²¹ TechWomen and TechGirls programs supported by the U.S. Embassy contributed to knowledge building for women and girls and raising their interest in IT. The American Chamber of Commerce hosted networking activities and events aiming to attract investment in Tajikistan. However, DECA interviews revealed that coaches and trainers often lack practical knowledge, there are limited trainings for startups in Tajik language, and weak promotion of local business success stories do not motivate young entrepreneurs.

BOX 11: Business Process Outsourcing as a New Start-up Sector in Tajikistan

Business process outsourcing (BPO) is an emerging sector for start-up activity in Tajikistan. BPO in Tajikistan is concentrated in call centers, programming, marketing, accounting, and data entry. DECA interviewees indicated that most BPO activity is in Dushanbe, particularly those providing outsourced labor on Silk Road (a freelance platform for U.S. markets), and Khujand, especially for IT solutions in Tajikistan. BPO offers the ability for remote work, which would be a strong opportunity for women in Tajikistan; however, to scale BPO and remote work, connectivity, digital skills, and language skills are essential. All of these elements currently are weak or missing in Tajikistan's digital ecosystem.

117 Ilhom Aliyev, 2020, *The Digital Generation and Startups in Tajikistan*, Central Asia Program Paper 229, January, <https://centralasiaprogram.org/wp-content/uploads/2020/02/CAP-Paper-229-Ilhom-Aliyev.pdf>.

118 Ilhom Aliyev, 2020, *The Digital Generation and Startups in Tajikistan*.

119 Tajik Startups, n.d., "Trigger II Program," <https://www.tajik-startups.com/ru/мы-о-нас/trigger-ii-program/>.

120 Japan International Corporation (JICA), 2022, "JICA Mini-Grant Program," web resource, May, https://www.jica.go.jp/tajikistan/russian/office/others/mini_grant.html.

121 UN Volunteers, 2017, "Increasing Youth Employment in Tajikistan through the Promotion of Entrepreneurship," August 10, <https://www.unv.org/tags/start>.

HOLISTIC SUPPORT FOR THE EDUCATION SYSTEM WOULD HELP CREATE THE SKILLED WORKFORCE NEEDED TO DRIVE DIGITAL TRANSFORMATION.

With 70 percent of the population under 35 years of age and an overall national average age of 22 years,¹²² Tajikistan faces challenges and opportunities for developing a 21st century ICT workforce. Both the public and private sectors need ICT specialists to drive digital transformation of the government and economy. Computer science is included in the general education curriculum and technical and vocational training institutes offer some ICT personnel training programs. Unfortunately, universities are not currently producing qualified ICT specialists, leading to a workforce shortage and a dependence on on-the-job training models. The government, too, has acknowledged this challenge and has stated its commitment to addressing it.¹²³

More than 10 higher educational institutions across the country train specialists in ICT, producing about 2,000 graduates annually.¹²⁴ However, because there are almost no linkages between academia and business, these ICT specialists are unprepared to meet the market's needs. Indeed, out-of-date curricula may require them to “unlearn” certain lessons when practically applying their education in a job setting. As one DECA private sector interviewee noted, “There is no sense in getting a local ICT diploma, as all the acquired skills are obsolete. It is easier to take a student without knowledge and teach them than to take them with university knowledge.”

At the heart of this challenge lie an underfunded, rigid educational system with inadequate infrastructure, outdated curricula and too few qualified, motivated teachers and professors. For a qualified and skilled ICT workforce—for example to develop and operate cybersecurity systems in large SOEs or the banking sector—major investments are needed to improve universities' internet connectivity, set up computer labs and data centers, revamp curricula and degree courses, and train and pay professors. Many universities do not have the resources to purchase legally licensed software for technical courses. To support the government on addressing these systemic challenges for the ICT higher-education system, international donors might use models of successful cooperation with local universities at subnational level in other sectors, such as natural resources.¹²⁵

In addition to these challenges leaving graduates of ICT programs unprepared for the market, many parents and young people are not aware of the financial and professional opportunities that an ICT career offers. For young women in particular, social norms around women's use of digital technologies (see Pillar 1, gender digital divide section) and misconceptions about ICT jobs may discourage them from following such career paths. Young women also may leave higher education and employment when they marry or become pregnant, leaving them unskilled and unable to take advantage of the kinds of flexible or higher-paid employment that the ICT sector can offer. The private sector and donor organizations are stepping in to help raise awareness, create interest, and build the skills needed.

International donor and nonprofit efforts. The international donor community has noted the shortage of digital skills among Tajikistan's youth and has launched numerous initiatives to bring attention and support for this issue. USAID, UNDP, UNESCO (the United Nations Educational, Scientific and Cultural Organization), UNICEF, the World Bank, and the Asian Development Bank (ADB) all have activities supporting some form of competence-based education with a focus on ICT and STEM. While helpful in raising awareness, DECA

122 Asia-Plus Media Group/Tajikistan, 2021, “How Many Young People Are There in Tajikistan and What Do They Do?” May 23, <https://asiaplustj.info/ru/news/tajikistan/society/20210523/skolko-v-tadzhikistane-molodih-lyudei>.

123 H.E. Emomali Rahmon, 2021, “Address on Major Aspects of Tajikistan's Foreign and Domestic Policies by the President of Tajikistan, Leader of the Nation, H.E. Emomali Rahmon,” delivered in Dushanbe on December 21, <https://mfa.tj/en/berlin/view/9389/address-on-major-aspects-of-tajikistans-foreign-and-domestic-policies-by-the-president-of-tajikistan-leader-of-the-nation>.

124 Asian Development Bank, 2021, *Technical and Vocational Education and Training in Tajikistan and Other Countries in Central Asia: Key Findings and Policy Options*, April, <https://www.adb.org/publications/tvet-tajikistan-central-asia>.

125 University of Central Asia, 2021, “UCA and the Polish Academy of Sciences to Explore GBAO's Natural Resources,” November 15, <https://ucentralasia.org/news/2021/november/uca-and-the-polish-academy-of-sciences-to-explore-gbao-s-natural-resources>.

interviews indicate these efforts are not coordinated and provide ad-hoc, short-term solutions that do not address the systemic challenge of ICT education in Tajikistan.

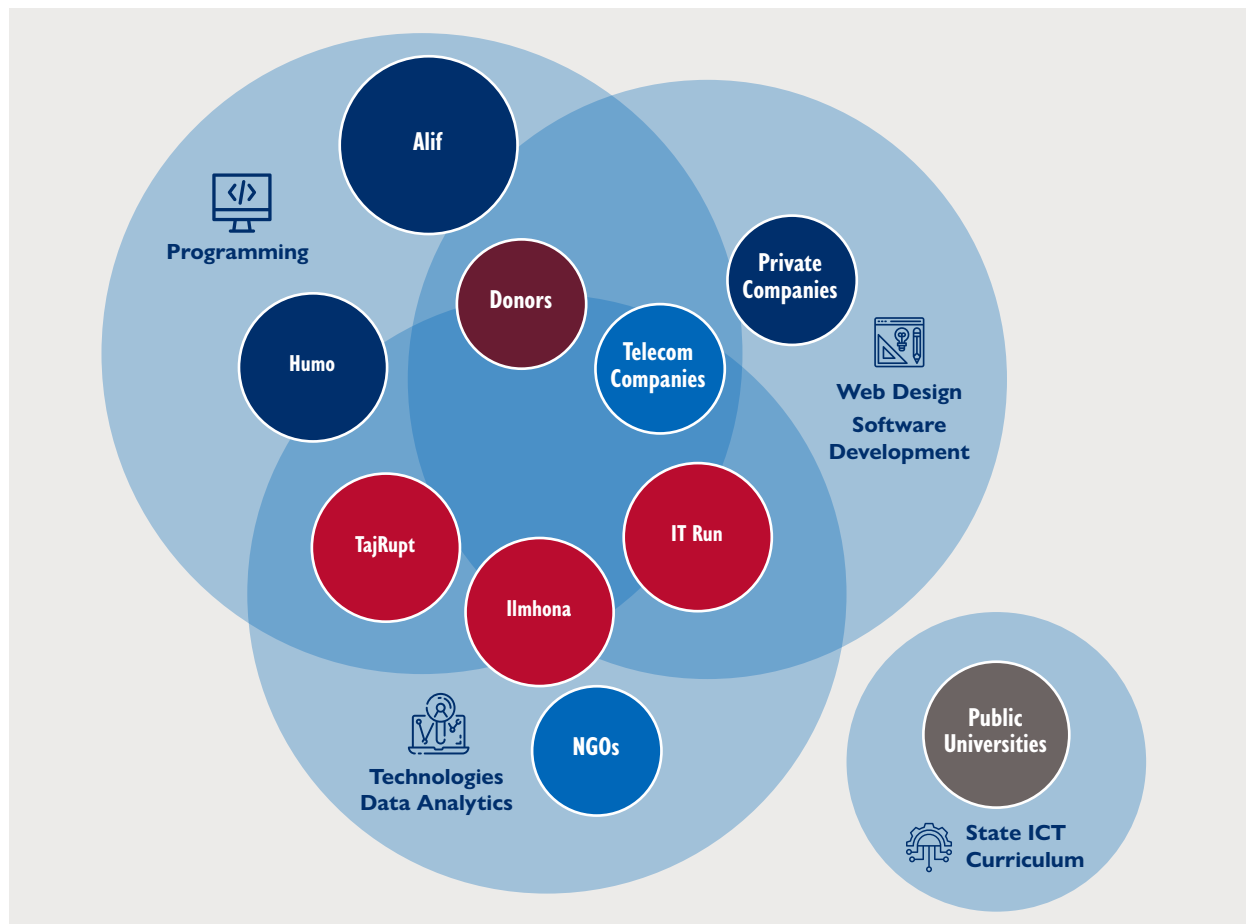
Nonprofits such as the Civil Initiative on Policy of Internet (CIPI) and TajRupt conduct training on cyber and emerging technologies. TajRupt, which is based in Khujand, offers youth courses in machine learning, artificial intelligence, and data analytics. Organizations such as the Open Society Foundations and IRODA (Parents of Children with Autism Initiative) promote inclusive education in ICT for children with autism.

Smaller businesses and larger ICT-sector companies' initiatives. Some small businesses concentrated in Dushanbe have noticed a market opportunity to teach more advanced digital skills. These focus primarily on programming, web design, and software development. Specialized private education institutions such as Ilmhona, IT Run, and the Academy of Algorithm organize events aimed at developing the tech community in Tajikistan. They provide basic and advanced courses in STEM fields, mostly for high school students. These are paid, after-school, extracurricular activities that may be out of reach for most Tajiks. Private companies also host educational events and hackathons, and provide masterclasses in addition to the education programs.

In recent years, Tajik ICT companies have begun to develop their own IT programs and introduce short- and medium-term courses of study to meet their own specific needs. Such courses of study are mostly free for students and taught by company employees. DECA interviewees named FinTech and telecom companies as the primary providers of such programs (Figure 25). FinTech companies such as Alif Academy and Humo Academy provide programming courses. Telecom operators Babilon, TCell, and Megafon also invest in capacity building, offering various trainings, sometimes free of charge. For example, Babilon created the Babilon Academy, an educational platform for the exchange of knowledge, experience, and skills in the e-commerce field.

While this approach helps alleviate some of the shortages in specialists for those particular companies, it does not provide a long-term solution to the challenge of educating the full ICT workforce needed for digital transformation in Tajikistan as a whole.

Compensation and brain drain issues. While the efforts of international donors, nonprofits, and businesses are helping, they amount to a stop-gap approach that is not sustainable for business or supportive of the broader ICT ecosystem. A serious, exacerbating factor is that those trained specialists who exist are highly valuable on markets both inside and outside of Tajikistan. Consequently, the compensation scale of ICT specialists is a concern for both public institutions and private firms. Skilled specialists can migrate between companies or to neighboring countries once they have needed skills. Only financial institutions, including the National Bank, can offer the highest ICT salaries (exceeding about six times the national minimum wage). Thus, the number of ICT specialists in Tajik organizations is low. Without increasing the supply of skilled IT professionals in a more sustainable manner, these challenges are likely to persist.

FIGURE 25: Digital Talent Training Efforts in Tajikistan

Source: Authors.

Note: Size of the bubbles reflects popularity according to the estimates based on DECA interviews.

SECTION 3:

Recommendations for USAID/Tajikistan

USAID can support and strengthen Tajikistan’s digital ecosystem in many ways. This section outlines recommendations for specific actions and partnerships as well as general guidance for digitally enabled programming. The list is organized by DECA pillar and cross-cutting themes and prioritized within each pillar based on USAID/Tajikistan’s 2022–2025 Strategic Framework. USAID/Tajikistan is strongly encouraged to leverage networks and progress made by existing projects and programs in-country when possible.

Table 4 below summarizes each recommendation as follows:

- **What:** Links to the recommendation details
- **Why:** Provides the motivation or intended impact of the recommendation
- **How:** Summarizes the approach USAID/Tajikistan can use to implement the recommendation

The **detailed recommendations section that follows** provides further explanation of how USAID/Tajikistan can implement each recommendation, including:

- Relevant context, recommended partners, and ways to build on existing programming
- Available resources and implementation and funding mechanisms
- Important considerations, including unknowns and potential challenges
- Key opportunities to draw upon and align with the Principles for Digital Development and/or the Sustainable Development Goals

This section concludes with **recommendations for internal processes to USAID/Tajikistan**, including ensuring integration and sustainability of all digitally enabled projects moving forward.

When acting on any of these recommendations, information on best practices in digital development program design can also be helpful. The [Principles for Digital Development](#)¹²⁶ and the USAID [Digital Investment Tool](#) are great resources. The section below provides background and guidance on how to use these them. For guidance or technical support on any of these recommendations, please contact digitaldevelopment@usaid.gov or request assistance through [Unified Technical Request and Mission Support \(UTRAMS\)](#).

¹²⁶ These principles are nine living guidelines that provide best practices for every phase of the project lifecycle. They were created in consultation with various international development organizations, including USAID.

TABLE 4: Summary of DECA Recommendations for USAID/Tajikistan

	WHAT?	WHY?	HOW?
1	Strengthen the government's cybersecurity capacity	To reduce vulnerability of the digital ecosystem	USAID can: help develop the foundational elements of the national cybersecurity framework and support establishment of a national CERT to increase government's capacity to identify and respond to cyber threats
2	Facilitate public and private sector collaboration and investment in the ICT sector	To expand connectivity infrastructure, access to equipment, and last-mile service delivery	USAID can: help bridge the communication gap between business and government and identify specific measures for improvement; stimulate investment in connectivity infrastructure; and improve last-mile internet accessibility
3	Prioritize bridging the gender digital divide	To support women's equal rights and inclusion in economic activity	USAID can: integrate behavior change across the portfolio to address gender-related social norms, stimulate digital literacy and digital skills uptake among girls and women; encourage relevant content production; combat technology-facilitated gender-based violence and gender-based discrimination; and support initiatives to allow access to high-quality fixed internet for women, especially in remote locations
4	Help grow digital adoption by improving digital literacy education and expanding digital content in local languages	To build the population's confidence and interest to adopt digital technologies	USAID can: support the Ministry of Education and Science in its implementation of the <i>Concept on Transition to Digital Education until 2042</i> ; help to upskill teachers to use digital technologies in the educational process; diversify ICT education opportunities for the adult population; encourage local content production; and support creation of a positive image of ICT
5	Bolster data privacy, protection, and cyber hygiene at all societal levels	To enable actors (government, civil society, media, business, and individuals) to access and use the Internet more safely	USAID can: leverage international mechanisms to systematically collect data and bring attention to human rights online; increase general awareness on data protection, cyber hygiene, online safety, and general media literacy; educate and engage the private sector to improve data privacy protections; and work with government agencies across multiple issues to build dialogue and trust with civil society
6	Build the capacity of civil society and independent media to use digital technologies safely and effectively	To empower civil society and media to engage in the digital public square and increase their resilience	USAID can: work with independent media and civil society organizations to strengthen media and digital literacy among journalists, and support development and scaling of successful digital media business models that can serve local communities

	WHAT?	WHY?	HOW?
7	Support realization of the government's digital transformation agenda	To improve coordination across government institutions and donors to ensure sustainability and continuity of digital initiatives	USAID can: support coordination and implementation of the government's digital transformation agenda and state financing of digital programs; support government efforts to implement digital identity and data exchange; and encourage the government to increase transparency and accountability. USAID can also improve ICT-related donor coordination to improve efficiency of investments by aligning programs.
8	Support the development of a tech startup ecosystem	To encourage greater entrepreneurship, spur innovation, and facilitate broader ICT sector growth	USAID can: support the streamlining of tax and regulatory requirements; facilitate the launch of the IT park; support access to finance for SMEs and startups; and support the development of a culture of innovation with accessible business development services
9	Increase trust in and the uptake of digital financial services and payments	To support a shift from a cash-based economy to a digital economy	USAID can: build digital skills in and trust of digital payments and financial services to enable a cashless culture; support technical assistance for the rollout of a single QR code; and support traceability, monitoring, and transparency of data collection in digital financial services. Additional efforts should be focused on helping to make local financial systems secure.
10	Reshape the approach to ICT workforce development	To better align curricula to market needs for digital skills to develop the workforce of tomorrow	USAID can: facilitate nation-wide discussion of ICT competencies and strengthen linkages between academia and business; stimulate demand for STEM and ICT programs and support ICT students in post-education career pursuits; and provide targeted support for ICT teachers and professors

DETAILED RECOMMENDATIONS

1. STRENGTHEN THE GOVERNMENT'S CYBERSECURITY CAPACITY.

Tajikistan requires the strategy, mechanisms, and capacity to identify, monitor, and protect its critical information infrastructure (CII) and assets, and the capability to ensure business continuity and disaster recovery in case of incidents.

USAID/Tajikistan has an opportunity to support the government to move in this direction, and to encourage the U.S. standard in cybersecurity while helping the Government of Tajikistan to establish core elements of a national cybersecurity framework from several angles:

A. Help develop the foundational elements of the national cybersecurity framework

As the legislation around cybersecurity is dated, USAID/Tajikistan can support the government to develop a national cybersecurity strategy, update the legislation (to include a more comprehensive definition of cybercrime), and promote enactment of data protection legislation. In parallel, it is important to support the government to define cybersecurity-related institutional roles for governance, and to create a dedicated cybersecurity agency that can coordinate cross-institutional efforts to strengthen the security of Tajikistan's cyberspace.

B. Support establishment of a national CERT to increase government's capacity to identify and respond to cyber threats

USAID/Tajikistan could leverage the Digital Connectivity and Cybersecurity Partnership (DCCP) or similar programs to strengthen Tajikistan's cybersecurity capabilities by creating, equipping, and training a national computer emergency response team (CERT) to monitor Tajikistan's CII and to protect it by building the CERT's capacity.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data gathering

- Support development of a national cybersecurity strategy
- Policy paper on regional and international cybersecurity partnerships and collaboration
- Policy paper on establishing a cybersecurity agency and national CERT

Technical assistance and advisory support

- Help update and align cybersecurity-related legal and regulatory framework to government needs, and facilitate the government's approval and adoption of relevant standards
- Help the government identify and approve its list of CII
- Support development of a classification system for government data to protect data confidentiality, integrity, and availability
- Support the establishment of a national CERT in partnership with the private sector
- Support conducting periodic audits and penetration testing for CII
- Support the government in combating and prosecuting cybercrime, online sexual shaming, and harassment of women

Partnerships, investment, and convening

- Facilitate cybersecurity collaboration at the regional level
- Support better collaboration of public and private sectors on sharing information on cybersecurity incidents

Capacity-building and awareness

- Train government institutions and owners on cybersecurity and protection of CII

USAID sectoral programming approaches

- Include cybersecurity and data protection-related trainings for program beneficiaries where digital components are under development or implementation
- Leverage USAID's Digital Connectivity and Cybersecurity Partnership (DCCP) to strengthen cybersecurity capacity in target sectors

PARTNERS

- **Government:** Communication Service, ICT Center under the Executive Office of the President, the Ministry of Economic Development and Trade, Ministry of Internal Affairs, Ministry of Education, Dushanbe Smart City, National Bank of Tajikistan, Head Unit for Protection of State Secrets
- **Donors:** ITU, World Bank, European Union, ADB
- **Private sector, academia and CSOs (examples):** media organizations, higher education institutions, ICT industry

RESOURCES

USAID resources

- [USAID Cyber Primer](#)
- [USAID: Digital Connectivity and Cybersecurity Partnership](#)

Other resources

- [Digital Resiliency Framework for Future Enterprise Success, IDC e-book](#)
- [Cybil's Toolkit for Inclusive and Value-based Cybersecurity Policymaking](#)
- [UK Council for Internet Safety, The Digital Resilience Framework, 2019](#)
- [NIST: Cybersecurity Framework](#)

2. FACILITATE PUBLIC AND PRIVATE SECTOR COLLABORATION AND INVESTMENT IN THE ICT SECTOR TO EXPAND CONNECTIVITY INFRASTRUCTURE, ACCESS TO EQUIPMENT, AND LAST-MILE SERVICE DELIVERY.

Accessible, affordable, and quality connectivity is key for Tajikistan's digital transformation efforts and for developing the digital economy in accordance with the country's strategic plans. However, constraints not only prevent further development of the communications sector, but also hinder the ability of operators to provide adequate levels of service. There is virtually no dialogue among the MNOs, ISPs, and the government focused on improving connectivity or the enabling environment that would encourage investment in connectivity infrastructure, improved service delivery, or in the development of the broader ICT sector.

USAID/Tajikistan can help bridge communications between business and government and support joint identification of specific measures for improvement. By opening lines of communication on a neutral platform, government and business can better understand each other's needs and challenges in order to work together toward the shared goal of harnessing digital transformation for Tajikistan's economic development. At the same time, USAID/Tajikistan can also work closely with public and private sector actors to mobilize capital and design initiatives to reach the broader population and encourage adoption of internet technologies.

Possible activities include:

A. Help bridge dialogue between business and government

USAID's Future Growth Initiative successfully created a platform for the private sector and the government to discuss e-commerce issues and advance the adoption of the Law on E-commerce. USAID/Tajikistan can establish a similar but permanent platform for dialogue pertaining to the constraints of the telecommunications sector and the identification of mutually beneficial solutions. Initially, USAID can assume the secretariat and knowledge management roles by developing and moderating discussions on various policy papers on improving connectivity and market conditions; sharing and presenting good practices from relevant countries; and, overall, creating a more trustful climate. For better sustainability of this initiative, USAID should ideally encourage co-creation of a jointly led structure that would establish consistency and demonstrate value of public-private dialogue to both government and private sector actors.

B. Stimulate investment in connectivity infrastructure

Some policies, e.g., related to taxation and inspection, have the unintended consequence of discouraging investment in 4G network development and expansion. MNOs' financial resources are often directed towards more lucrative areas such as laying fiber optic networks in larger cities and connecting urban population, while investments in the deployment of 4G infrastructure are reduced to a minimum to keep the network operational. To reduce equipment costs, MNOs increasingly prioritize affordability over quality or reliability. USAID/Tajikistan could help catalyze low-cost resources for private sector investment in the sector.

USAID/Tajikistan can identify solutions and opportunities to unlock low-cost capital to finance private sector investment in network quality and expansion. This can include exploring opportunities for U.S. International Development Finance Corporation (DFC) credit guarantees, designing pay-for-results grants mechanisms, working with the regulator to explore policy alternatives that could encourage modernization of networks or leveraging its convening power to attract other sources of capital.

C. Improve last-mile internet accessibility

Lastly, USAID/Tajikistan can also work closely with public and private sector actors to play an important role in encouraging further adoption of internet technologies by the broader population by promoting investment in connectivity infrastructure and internet accessibility. Despite the significant increase in the number of internet users, Tajikistan is still far behind regional and world averages.

Price is an important impediment for greater adoption of internet technologies. USAID/Tajikistan can facilitate dialogue with the government on policy aspects such as excise tax and identify further measures that can stimulate connectivity of the unconnected, such as implementation of a Universal Service and Access Fund (USAF),¹²⁷ and number portability.

In partnership with the private sector, USAID/Tajikistan can identify ways to encourage acquisition of smart devices in installments for certain categories of population by (partly) covering the interest rates.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data gathering

- Policy for Ministry of Transportation to implement the standard for road and railroad construction to include infrastructure for fiber optic
- Policy on the use of BarkiTojik and Tojik Gaz as infrastructure providers for dark fiber
- Policy development on the use of satellite internet
- Assessment of the impact of potential taxation models on the ICT sector
- Study on implementing Universal Service and Access Fund (USAF) for last-mile connectivity

Technical assistance and advisory support

- Build the capacity of the government to engage with the private sector
- Support private sector investment in improving last-mile connectivity (e.g., with conditional low-cost loans)
- Support implementation of sector reforms (e.g., taxation and USAF implementation)

Partnerships, investment, and convening

- Support establishment of a permanent discussion platform for state institutions, ISPs and MNOs, and wider ICT industry on identifying and overcoming major obstacles to sector development

Capacity-building and awareness

- Train and increase the capacity of the Communication Service to conduct sectoral reforms
- Organize workshops with stakeholders on the impact of various taxation models and levels on sector development
- Facilitate knowledge exchange of government and telcos with good practices from other countries that can improve the government-to-business relations

USAID sectoral programming approaches

Education and Healthcare

- Assist in connecting educational and healthcare facilities in the geographic focus areas

¹²⁷ USAFs are designed to promote network infrastructure development in areas that commercial access providers deem uneconomical. Essentially established as subsidy programs, USAFs are resourced through contributions drawn from the revenues of telecommunications operators. USAFs are often applied to help de-risk otherwise complement network investments in underserved (or unserved) areas. In many cases, USAFs target projects that serve schools, hospitals, and other anchor institutions where demand for services can be aggregated.

PARTNERS

- **Government:** Communication Service, Ministry of Transportation, Ministry of Finance, Tax Committee, Customs Committee
- **Donors:** World Bank, ITU
- **Implementing partners (programs):** Palladium (USAID Future Growth Initiative (FGI))
- **Private sector, academia and CSOs (examples):** Association of Mobile Network Operators, MNOs, ISPs, CIPI, Cybernetics, CyberStar

RESOURCES

USAID resources:

- [USAID: Investing to Connect](#)
- [USAID: Better Connectivity, Better Programs](#)
- [USAID, Caribou Digital, and the Digital Impact Alliance: Closing the Access Gap: Innovation to Accelerate Universal Internet Adoption.](#)

3. PRIORITIZE BRIDGING THE GENDER DIGITAL DIVIDE.

Although data on the gender digital divide in Tajikistan is very limited, most DECA interviewees and international organizations acknowledged a substantial and deepening digital gender gap. In Tajikistan, the share of women in ICT is low, at around 10–15 percent, which prevents the country from fully tapping into its talent pool.

Women mostly participate in the informal economy with relatively lower salaries, and have no access to social benefits or opportunities for skills development. Early or polygamous relationships and domestic violence against women further thwart women’s pursuit of equal rights and economic participation.

Bridging the gender digital divide requires a multi-faceted approach. Some activities that USAID/Tajikistan can pursue include:

A. Integrate behavior change across the portfolio to address gender-related social norms

Addressing social norms that view women as housewives and technology as a danger to family values will require difficult and consistent work across USAID/Tajikistan’s portfolio. This includes investing in community-level activities, where such biases are inculcated and propagated. USAID/Tajikistan should design campaigns and programs with embedded male influencers that advocate for women’s equality and engagement. Similarly, activities should target private sector companies, large and small, and encourage a culture of equality, non-harassment, and non-discrimination.

B. Stimulate digital literacy and digital skills uptake among girls and women

USAID/Tajikistan can work together with the Ministry of Education and Science, private educational institutions, and the ICT industry to stimulate girls’ enrollment into ICT programs and pursuit of ICT careers by popularizing ICT as a women-friendly domain, showcasing successful women in ICT and their journeys, and identifying and issuing financial stimuli in the form of scholarships, funds, awards, etc. It will also be critical to engage parents and build their awareness about ICT career opportunities for women, while combating social pressures related to traditional gender roles. USAID/Tajikistan can support civil society organizations to incorporate messaging and deliver digital literacy training to their beneficiaries, especially women.

C. Encourage relevant content production

There are very few digital resources available in Tajik that target women’s digital skills development or feature content relevant to women’s needs and interests. There is thus enormous potential for USAID/Tajikistan to partner with educational providers, training companies, multimedia companies, and civil society to expand the

breadth of accessible, user-friendly, and useful content that engages women. USAID/Tajikistan can also support women bloggers, content creators, and women-owned startups from the femtech and beauty tech sectors, while highlighting their achievements to serve as role models for women and girls.

D. Combat technology-facilitated gender-based violence and gender-based discrimination

Gender-based discrimination is a significant problem in Tajikistan, and it often affects women's access to digital technologies and discourages them from using technology. USAID/Tajikistan can assume a leadership role to promote a culture of equality and to counter violence and discrimination. USAID/Tajikistan can support the government to develop a gender-based violence (GBV) policy, which would provide a legal framework to address today's concerns around online GBV and would include legal norms and definitions about different forms of cyber violence. With a more comprehensive and up-to-date legal framework, USAID/Tajikistan can also build the capacity of law enforcement to prosecute cases of online GBV. Lastly, USAID/Tajikistan can partner with the Ministry of Education and Science to develop and include in school curricula a lesson on cyber ethics and cyber hygiene for students and families to build awareness.

E. Support initiatives to allow access to high-quality fixed Internet for women, especially in remote locations

According to the ITU, women in Tajikistan have less access to internet and digital technologies than men. This is due to various reasons such as a lack of infrastructure, limited financial resources, and cultural barriers that prevent women from accessing technology. With the limited opportunities to support digital infrastructure development in the country at this stage, USAID/Tajikistan can prioritize refurbishing public places such as libraries to be equipped with publicly accessible computers and connected 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.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data gathering

- Implement gender-disaggregated data collection across USAID/Tajikistan programs

Technical assistance and advisory support

- Promote skills acquisition opportunities at the local community level in collaboration with MNOs, ISPs, and other partners
- Finance production of local content that teaches digital skills and promotes ICT as a career choice
- Create a (multistakeholder) fund for girls and women to access scholarships for STEM degree programs or ICT courses, including scholarships for adult women if they want to pivot to careers that require digital skills
- Run awareness campaigns on GBV featuring testimonials from male influencers delivered through multiple media
- Develop a school lesson for students and families on cyber ethics and cyber hygiene
- Support government in policy development against cybercrime, online sexual shaming, and harassment of women
- Conduct informational campaign against harassment and violence online

Partnerships, investment, and convening

- Partner with ICT content providers and educators on promoting women in ICT
- Partner with private sector tech companies to promote equal employment principles

Capacity-building and awareness

- Conduct media and social campaigns on the importance of women's digital literacy
- Create a coalition on gender nondiscrimination, promoting values of equality in communities and workplaces
- Conduct trainings for independent civil society and media to introduce the concepts of gender digital divide and to develop targeted, gender-specific content aimed at bringing more women/girls online by overcoming social stigmas (e.g., around health topics)
- Develop and administer training for judges and enforcement agencies to ensure their ability to enforce online GBV laws and norms

USAID sectoral programming approaches

- Integrate behavior change activities related to gender across USAID/Tajikistan portfolio
- Incorporate gender inclusion activities across the USAID/Tajikistan portfolio

Agriculture and SME development

- Train women in agriculture, handicrafts, and other sectors to use digital technologies to produce, safeguard, and sell products.
- Develop digital platforms for promoting and selling locally-produced products, especially from women-led enterprises and SMEs

PARTNERS

- **Government:** Ministry of Education, Ministry of Labor and Social Protection, Ministry of Justice
- **Donors:** ITU, World Bank, UNICEF, UNDP, UN Women, ADB
- **Implementing partners (programs):** ACDI/VOCA (Market Driven Rural Development Activity)
- **Private sector, academia and CSOs (examples):** National Association of Business Women of Tajikistan, higher education institutions, Ilmhona, Alif, Humo, Innovation Development Fund (IDF), Women in Digital Transformation

RESOURCES

USAID resources

- [USAID Gender Digital Divide Primer](#)
- [USAID Gender and ICT Survey Toolkit](#)
- [Addressing the Gender Digital Divide in USAID Project and Activity Design](#)

Other resources

- [Women-Owned Businesses in Cross-Border E-Commerce: A Diagnostic Toolkit](#)
- [IFC Digital2Equal](#)
- [Feeding the Future: Catalyzing Financing for Women-Owned Enterprises](#)
- [UNICEF Policy Brief on Gender-responsive Remote Digital Learning](#)
- [UN Women Gender Analysis in Technical Areas: Digital Inclusion](#)
- [Gender Digital Divide Index](#)
- [ITU Child Online Protection](#)
- [Sweden antiharassment initiative](#)
- [Digital Citizenship](#)
- [HeForShe Campaign](#)

4. HELP GROW DIGITAL ADOPTION BY IMPROVING DIGITAL LITERACY EDUCATION AND EXPANDING DIGITAL CONTENT IN LOCAL LANGUAGES.

Gaps in digital literacy, technophobia, and a dearth of digital content in Tajik dampens demand for digital technologies and slows transformation that could otherwise support job creation, income generation, and inclusion. USAID/Tajikistan could help create a positive image of ICT as a key economic driver and support digital education. With youth being one of the major population segments, they will represent the backbone of the working-age population in 2030 and thus it is critical for USAID/Tajikistan to help equip them with appropriate digital skills and increase their potential to engage in the digital economy.

Priority intervention areas could include:

A. Support the Ministry of Education and Science in its implementation of the Concept on *Transition to Digital Education until 2042*

USAID/Tajikistan could partner with the Ministry of Education and other development partners in their efforts to transition to digital education, including measures such as implementation of digital education programs, providing educational institutions with broadband access and computing equipment, introduction of interactive

forms of education using ICT, and distance (online) education. At the same time, USAID/Tajikistan could support implementation of a digital competencies framework.

B. Help build capacity of teachers in using digital technologies in the educational process at all levels

As the success of transition to digital education depends largely on the capacity of teachers to use technologies in the educational process, USAID/Tajikistan can help by supporting teacher training facilities to teach both new and existing teachers, creating interactive educational content to help teacher develop technology-rich didactic materials, or even creating ready-made high-quality content that teachers can use in class. ICT should be used not only in teaching digital classes, but also in any other courses. This will be clear proof for the students that technology is everywhere and can help them succeed as adults.

C. Diversify ICT education opportunities for the adult population

In partnership with higher education and TVET institutions, private sector education providers, and the State Agency for Employment, USAID/Tajikistan can help Tajikistan provide more opportunities for the adult population to acquire digital skills, whether basic skills required in a modern office, or professional reconversion of the existing workforce. Special ICT programs can be developed for accountants, office workers, salespeople, supply chain workers, and other groups to maximize their existing potential.

D. Encourage local content production

Most young people living in rural areas only have basic Russian language skills and only 5 percent of the population speaks English.¹²⁸ They have no access to ICT content and courses, which are mostly in Russian and English. USAID/Tajikistan can support and incentivize the generation of content in Tajik to expand reach and build demand for digital content among youth and rural populations.

E. Create a positive image of ICT

USAID/Tajikistan can work with stakeholders to balance the perceived dangers of technologies with the obvious benefits. This can also be complemented by support for media campaigns aimed at showcasing the use of ICT for economic prosperity and presenting success stories of people who use ICT or who pursued ICT education or careers.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data gathering

- Assess the potential breadth of economic opportunities for the people and national economy from increased adoption of ICT
- Produce a study on the digitalization of specific economic sectors and the digital skills gap

Technical assistance and advisory support

- Support development of a center of excellence in digital education
- Support development of digital content and upskilling of teachers to leverage ICT in teaching processes
- Facilitate organizing “open doors days” for some of the top ICT companies to showcase opportunities
- Support mobile training teams to distribute promo materials and run demos in remote areas
- Implement incentives for people undergoing digital trainings (data bundles, discounted equipment, certifications)
- Implement classes in robotics and other innovations in pilot regions and scale as possible

128 Zarangez Navruzshoh, 2014, “We Speak English: Tajik TV Stops Dubbing Hollywood Films,” RadioFreeEurope RadioLiberty, December 7, <https://www.rferl.org/a/tajikistan-film-industry-dubbing-english/26730066.html>.

Partnerships, investment, and convening

- Implement “digital ambassador” programs, working with schools to encourage students to teach basic digital skills to their families, in particular their mothers, sisters, and aunts
- Help develop digital education programs for adults in partnership with public and private education providers and businesses
- Create a discussion platform with the Communication Service, the Ministry of Economic Development and Trade, and other stakeholders from public and private sectors to discuss the dangers and benefits of technologies and together create a more positive image of technologies, advocating for their responsible use

Capacity-building and awareness

- Build digital literacy and skills for teachers
- Design media campaigns promoting the use of digital technologies and services for economic development and job opportunities
- Showcase success stories of young men and women due to their digital skills

USAID sectoral programming approaches

- Connect and equip educational institutions in the areas of intervention or in pilot programs

PARTNERS

- **Government:** Ministry of Education, Ministry of Labor and Social Protection, State Agency for Employment, Televizioni Tojikiston (national TV broadcaster), Khovar Information Agency
- **Donors:** UNICEF, World Bank
- **Implementing partners (programs):** Chemonics
- **Private sector, academia and CSOs (examples):** Ilmhona, 55Group, RobX, IDF, Tajikistan Association of teachers, Tajik State Pedagogical University, Asia Plus, Avesta,

RESOURCES

USAID resources

- [USAID Digital Literacy Primer](#)
- [USAID: COVID-19 and Digital Literacy](#)
- [ICT4E](#)

Other resources

- [Skills Future Singapore](#)
- [The OECD Framework for Digital Talent and Skills in the Public Sector](#)
- [Digital Competence Framework](#)
- [ITU Digital Skills Toolkit](#)
- [ITU Digital Skills Assessment Guidebook](#)

5. SUPPORT DEVELOPMENT OF A FREER, SAFER INTERNET BY BOLSTERING DATA PRIVACY, PROTECTION, AND CYBER HYGIENE AT ALL SOCIETAL LEVELS.

People and businesses need to have proper (and balanced) awareness of the risks associated with technologies, and be able to take simple but effective measures to protect themselves from internet fraud, data loss, and other potential cyber threats. Although behavior change and altering perceptions of digital technologies will take time, there are multiple avenues of potential engagement for USAID/Tajikistan to support actors (from government to civil society and media, business, and individuals) to access and use the Internet more safely.

A. Leverage international mechanisms to systematically collect data and bring attention to human rights online in Tajikistan

USAID can provide technical and financial support to CSOs to help integrate review of rights protections into Tajikistan’s Universal Periodic Review (UPR) process with the United Nations Human Rights Council. The Office of the High Commissioner on Human Rights is increasing attention to human rights in the digital era

and integrating them into its country review processes. The UPR process has been a tool for CSOs to engage with the government on human rights issues. USAID's support to CSOs can be directed both on integrating data collection and assessment into the formal report.

B. Increase general awareness on personal data protection, cyber hygiene, online safety, and general media literacy

Given the increased incidence of cybercrime and fraud taking place online, USAID/Tajikistan can support the government, civil society, and others to increase the population's awareness about how to better protect themselves from cyber criminals and stay safe online. Specific activities could target capacity building and support to civil servants, government officials, and CSOs on rolling out awareness-building initiatives. USAID can also collaborate with the Ministry of Education and Science to integrate cyber hygiene, online safety, and digital wellbeing principles into school curricula. In addition to working through these traditional avenues, USAID/Tajikistan can explore opportunities to build followings and resources on platforms that reach youth with civil society or other interested partners. Young people can also be encouraged (both in school and through campaigns on digital platforms) to train siblings, parents, and grandparents. Areas of awareness-raising and education should include data privacy, protection, cyber hygiene, human rights online, harassment, media literacy, and online risks (both real and perceived).

C. Educate and engage the private sector to improve data privacy protections

Like much of the general population, businesses have limited awareness of human rights online, their own obligations to protect personal data, and the risks of hacking and data exposure. USAID/Tajikistan can develop programs to inform and educate businesses about these topics, which would also have the added benefit of deepening the interest of another stakeholder group that can champion efforts on data protection and improving the digital enabling environment. USAID can also support the private sector in implementing the UN Guiding Principles on Business and Human Rights (UNGPs).

D. Work with government agencies across multiple issues that can build dialogue and trust with civil society

USAID can use its convening powers to bring together government agencies and CSOs to help address realistic online safety and security issues. For example, child online protection is a growing topic globally. In the shorter term, USAID could help bring to Tajikistan the UN resources and initiatives that are focused on creating safe, healthy digital spaces for children. This can include developing any necessary regulations and supporting law enforcement agencies and social service organizations in their implementation.

USAID can also build the advocacy capacity of civil society to analyze regulatory barriers, such as licensing and permit requirements for media and NGOs working in the digital space, and to develop policy proposals for improvement that could be presented in dialogues with the government.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data gathering

- Support preparation of the national UPR report with inclusion of the sections on human rights online and data privacy
- Inventory existing training and materials on human rights online, data protection, and cyber hygiene, and evaluate what worked and what did not in Tajikistan.
- Assess the implementation of the digital rights and data protection policies by online businesses and service providers (i.e., ISPs, FinTechs, banks, e-commerce online platforms, e-shops, etc.)

Technical assistance and advisory support

- Support the government, CSOs, and others to engage in national consultations on issues of data protection and human rights online, the UPR report, and implementation of UPR recommendations.

- Support “know your human rights online” national advocacy and cyber awareness campaigns for the general population (to be delivered in local languages through various mediums such as cartoons or video shorts/reels, and which should be gender-sensitized and accessible for people with special needs)
- Support the government to create curricula and teaching materials on cyber hygiene, online safety, human rights online, and digital wellbeing principles for technical and vocational education and training (TVET) and for general education institutions.
- Support CSOs and media outlets to develop and conduct training courses for government officials, journalists, civil society activists, and legal professionals on human rights online, data privacy, and cyber hygiene.
- Build businesses’ awareness of human rights online, their obligations to their clients, and the Ranking Digital Rights methodology (including creation of relevant indicators)
- Support the private sector to implement the UN Guiding Principles on Business and Human Rights

Partnerships, investment, and convening

- Facilitate consultations among stakeholders regarding improving the knowledge of the population on human rights online, data privacy, and cyber hygiene.
- Partner with private sector organizations to run awareness campaigns on human rights online, cyber hygiene, and data protection.
- Partner with private sector entities, CSOs to develop online social media (e.g., TikTok) followings to disseminate information to youth.

Capacity-building and awareness

- Facilitate knowledge exchanges for government, CSOs, and media organizations to expose them to good practices on data protection, using good practices from other countries on improving collaboration.
- Train government workers, including law enforcement on child online protection, harassment, cyberbullying, and hate speech

PARTNERS

- **Government:** Communication Service, Ministry of Transportation, Ministry of Finance, Office of the President, Ministry of Justice, General Prosecutor’s Office, Ombudsman’s Office, Ministry of Education and Science, Ministry of Industry and Innovation, National Bank
- **Donors:** World Bank, UKAID, ITU, OSCE, European Union, GIZ (Germany), ADB, UN Office of the High Commissioner for Human Rights, WTO, U.S. Embassy Democracy Fund, UNDP, IGF, UNICEF
- **Implementing partners (programs):** Internews, CyberStar
- **Private sector, academia and CSOs (examples):** Consumer Union, Association of Mobile Network Operators, MNOs, ISPs, CIPI, Cybernetics, general education institutions, TVET institutions, FinTechs, Association of Ecommerce, financial institutions, women’s rights organizations, CSOs for people with disabilities (Iroda, Union of People with Disabilities, Open Hearts), Consumer Union, online service providers

RESOURCES

USAID resources

- [USAID: Investing to Connect](#)
- [USAID: Better Connectivity, Better Programs](#)
- [USAID, Caribou Digital, and the Digital Impact Alliance: Closing the Access Gap: Innovation to Accelerate Universal Internet Adoption.](#)
- [USAID Digital Literacy Primer](#)
- [USAID Disinformation Primer](#)
- [ICT4E](#)

Other resources

- [Skills Future Singapore](#)
- [The OECD Framework for Digital Talent and Skills in the Public Sector](#)
- [Digital Competence Framework](#)
- [ITU Digital Skills Toolkit](#)
- [ITU Digital Skills Assessment Guidebook](#)

6. BUILD THE CAPACITY OF CIVIL SOCIETY AND INDEPENDENT MEDIA TO USE DIGITAL TECHNOLOGIES SAFELY AND EFFECTIVELY.

University curricula have not kept up with the fast-changing information landscape and the impact of digital technologies. As a consequence, many individuals working in media, as well as civil society organizations, lack cybersecurity and media literacy proficiency and are unfamiliar with human rights online. This makes both their operations and their employees vulnerable to interference or attacks. At the same time, they struggle to find sustainable business models that capitalize on digital technologies effectively, attracting online audiences while providing quality content in local languages.

USAID already supports organizations such as Khoma that are “training trainers” and teaching journalists media literacy and skills for the digital age. USAID also supports organizations such as Ravzana that are providing critical fact-checking services to the market. Both important programs can be expanded to reach smaller organizations and individual bloggers across regions in Tajikistan. Working with some successful local media outlets, such as the Khatlon newspaper, may offer additional models and lessons learned on successful business models that can be scaled to other regions. USAID can support programming to grow the number of journalists with specialized knowledge to report on key digitalization topics such as technology, business and the economy, education, and healthcare. Ensuring that organizations and individuals are aware of and understand human rights online is also important for empowering journalists and civil society. Helping to develop and implement a media code of ethics might improve trust.

Independent media and CSOs also need more technological capacity and knowledge to defend against cyber attacks. USAID can work with universities to create and implement curricula on cybersecurity and cyber hygiene for media and civil society.

As the needs for building the capacity of civil society and media are great, coordinating work with other existing donors such as the European Union (EU) and the Organization for Security and Cooperation in Europe (OSCE) is important for effective, more sustainable programming. Other international organizations and donors such as the ITU, GIZ, ADB, and the World Bank may also be ready to invest more in helping media and CSOs strengthen their digital and media literacy and cybersecurity.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Technical assistance and advisory support

- Train bloggers, activists, and content creators on their legal rights and build their awareness of a support network of organizations.
- Identify, support, and promote women bloggers and content creators as role models/leaders
- Organize knowledge exchange events and visits to learn more about digital media development, including sponsoring participation in international expositions and conferences
- Support collaborations between media organizations and tech startups that focus on digital/online entertainment (e.g., podcasts, tools for online movie-making, gaming, and virtual reality (VR))
- Support the creation of experimental creative/media products and services using technology such as digital studios and immersive digital marketing
- Design and support a media accelerator to grow media content about digital transformation and innovations
- Sponsor a competition for best science and technology coverage by journalists to raise awareness of digital technologies and highlight high-quality work
- Support the development of online, local content on digital media literacy and ethics
- Cultivate a culture for respecting intellectual property rights in partnership with media and IT companies

Partnerships, investment, and convening

- Design and implement support programs for digital adoption by CSOs in partnership with private IT and FinTech companies
- Partner with media outlets, educational institutions, and others to develop a semi-professional degree program for the creative industry and embed new equipment and technologies into the curricula (like Augmented Reality(AR)/ Virtual Reality (VR), digital production, VFX (visual effects) software)
- Support dialogues to build trust between government and other stakeholders, such as media and CSOs

Capacity-building and awareness

- Develop case studies and train CSOs and digital media on areas such as platform monetization, coverage and impact, digital marketing, digital content, interactive engagement with audiences, and building audiences
- Support trainings for media and CSOs on open data and use of data

PARTNERS

- **Government:** Communication Service, Ombudsman's Office, Ministry of Education and Science, Ministry of Industry and Innovation, Ministry of Economic Development and Trade
- **Donors:** World Bank, ITU, EU, GIZ, ADB, U.S. Embassy Democracy Fund, UNDP, UNICEF, UNESCO, OSCE
- **Implementing partners (programs):** Internews, CyberStar
- **Private sector, academia and CSOs (examples):** General education institutions, TVET institutions, women's rights organizations, Coalition for Protection of Digital Rights, Ibtido, Khoma, CIPI, BHR, Frontline, AccessNow, Internews Network, Center for Democracy and Technology, Digital Rights Watch, Media Democracy Fund, the National Endowment for Democracy, Internet Freedom Foundation, Freedom House

RESOURCES

USAID resources

- [USAID Central Asia Media Program](#)
- [USAID Investing to Connect](#)
- [USAID, Caribou Digital, and the Digital Impact Alliance: Closing the Access Gap: Innovation to Accelerate Universal Internet Adoption.](#)

7. SUPPORT REALIZATION OF THE GOVERNMENT'S DIGITAL TRANSFORMATION AGENDA.

Despite major investments in ICT infrastructure and digital services from development partners, the prospects of a modern and digital government in Tajikistan require the government's leadership, support, and long-term financing for digital infrastructure. Lack of a digital agency with a cross-institutional mandate makes it hard to implement shared and interoperable platforms such as data exchange, digital authentication and e-signature, and the e-payment gateway, which could facilitate development of e-services for people and businesses. USAID/Tajikistan can encourage and support the government to appreciate the benefits of digital transformation, and for the government to serve as an enabler and champion of that transformation. Specifically, USAID can:

A. Help improve coordination and implementation of the government's digital transformation agenda and state financing of digital programs

USAID/Tajikistan can draw from international best practices and case studies to advise and support the government to streamline institutional digital mandates, create a dedicated digital agency with the authority to implement transformation programs and lead coordination, strengthen the IT management capacity of the primary government entities, and budget and plan for long-term operational and maintenance costs of digital infrastructure and systems.

B. Support government efforts to implement digital identity and data exchange

USAID/Tajikistan can help the government develop a trusted framework for data exchange in the public sector and better tools for people and businesses to verify their identities remotely. It will be important to sequence

this activity in parallel with efforts to build the capacity of the Communication Service to exercise its personal data protection mandate, dually ensuring the safeguarding of personally identifiable information while also allowing data to flow as needed.

C. Encourage open government

USAID/Tajikistan can promote the principles of open government, support public sector stakeholders to understand the utility of sharing public data, and encourage the development of citizen engagement mechanisms.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data gathering

- Feasibility study on establishment of a digital transformation fund in collaboration with other donors and the government
- Policy paper on introducing ICT management roles in government institutions (including regions)
- Inventory of ICT projects (government and donors) to increase collaboration and avoid duplication (develop and maintain)

Technical assistance and advisory support

- Support establishment of an agency for innovation and digitalization and a council for development of the digital economy
- Support establishment of a personal data protection unit, either as an independent unit or under the Communication Service
- Support onboarding of chief information officer (CIO) roles in the main institutions with an ICT mandate
- Support the development and monitoring of sectoral ICT strategies/programs
- Improve ICT-related donor coordination to better synchronize efforts and communication with the government to promote reforms
- Help ensure interoperability of health and education data with the civil registration and national ID programs
- Support interoperability of main databases in key intervention sectors
- Encourage government transparency and an open data program

Capacity-building and awareness

- Improve delivery capacity (project management) of key government institutions
- Train government CIOs in enterprise architecture, program management, financing of ICT programs, cybersecurity, and data protection
- Train staff in key sectors on data-driven policymaking

USAID sectoral programming approaches

- Help develop digital transformation vision in main intervention sectors

PARTNERS

- **Government:** Communication Service, Ministry of Economic Development and Trade, Ministry of Finance, Ministry of Education, Ministry of Health, Ministry of Agriculture, National Statistics Committee
- **Donors:** World Bank, UNDP, ADB, ITU

RESOURCES

USAID resources

- [USAID Digital Government Model](#)
- [USAID How-To Note: Addressing the Principles for Digital Development in Project and Activity Design](#)

Other resources

- [World Bank: GovTech Maturity Index: The State of Public Sector Digital Transformation](#)
- [World Bank: A Digital Stack for Transforming Service Delivery: ID, Payments, and Data Sharing](#)
- [The European Interoperability Framework in Detail](#)

8. SUPPORT THE DEVELOPMENT OF A TECH STARTUP ECOSYSTEM TO ENCOURAGE GREATER ENTREPRENEURSHIP, SPUR INNOVATION, AND FACILITATE BROADER ICT SECTOR GROWTH.

Entrepreneurs, small businesses, and even larger IT companies in Tajikistan face a lack of business incentives, have limited access to affordable capital, and do not have the needed support or culture of innovation to ensure a vibrant startup ecosystem. As it stands, a startup culture is beginning to emerge with some limited support by donors and local ICT companies, but it is fragmented and under-developed. Startups and SMEs, particularly in the IT sector, would benefit from simplified taxes and stronger investment incentives, better access to diverse forms of financing, a stronger and more coordinated entrepreneurship culture, and more startup-oriented business development services (BDS).

Key activities USAID may consider include:

A. Support the streamlining of tax and regulatory burdens

As outlined in Pillars 1 and 3, taxation of the IT sector is confusing and burdensome. In addition to generally high tax rates, companies face audits, licensing requirements, and potential fines. In line with recommendation 1, USAID could help address this by promoting public-private dialogue (PPD) among the private sector—especially small businesses—and policy makers to discuss specific policies that, if reformed, would foster investment, innovation, and ultimately economic growth. USAID could also provide technical advisory support to the government to measure and explore the quantifiable impacts of streamlining the tax, licensing, and audit systems, and may consider providing direct support by drafting reforms if the opportunity emerges.

B. Facilitate launch of the IT park

The Government of Tajikistan has indicated that it will launch an IT park with tax preferences in the near future. USAID can provide technical assistance to the government in developing and deploying the IT park in Dushanbe to help promote ICT sector growth and facilitate the enabling environment for businesses. Support for the design and implementation of the IT park could be approached in several ways. USAID could provide technical advisory to the government to draw on best regional and global practices in the design of IT parks and successful incentives for promoting entrepreneurship and innovation; this advisory could range from tax regimes and incentives, to tenancy incentives and virtual registration options, to the design of e-services and integrated business development services. USAID could also leverage its expertise in private sector engagement to help the government co-create a supportive, innovative environment through consultations with private sector actors as it designs the IT park.

C. Support access to finance for SMEs and startups

The conventional bank environment in Tajikistan generally does not offer adequate financial support for startups or small businesses, and it is not well-equipped to work with companies operating in newer industries, like IT, with non-traditional business models. The regulatory environment has also not created a framework supportive of startups or innovative (and potentially riskier) industries. Nonbank investment is also limited, with inadequate venture and seed funding available. USAID Tajikistan can use instruments like grants and pay-for-success models to initiate small-scale venture funds at the seed and angel stages. This would be stronger in partnership with other donors who may be able to offer complementary financing mechanisms and expertise. USAID could also facilitate the participation of other U.S. agencies, like the U.S. International Development Finance Corporation (DFC) (see also recommendation 2), to provide guarantees to bank and nonbank financial institutions supporting startups and IT companies. These tools could also be used to support investment into startups in priority sectors, like green tech/clean tech, FinTech, health tech, education technology, and last-mile connectivity.

D. Support the development of a culture of innovation with accessible business development services

As outlined in Pillar 3, beyond structural challenges to starting and operating a business, Tajikistan has limited support for entrepreneurs, which curtails a broader culture of innovation. Through investments in physical spaces; promoting mentorship and support services; and strengthening connections among current and interested entrepreneurs and successful businesspeople, USAID can promote an environment for entrepreneurs that accelerates the growth of the startup ecosystem.

Startups are lean operations and space in Tajikistan for small businesses is costly. USAID can work with local companies to launch and expand co-working spaces or leverage activities associated with the IT park (see sub-recommendation B) to ensure space is accessible to new and small companies. Co-working spaces can support early operations for businesses, but proximity to other startups as well as business development services can facilitate knowledge sharing and growth and strengthen the culture of innovation.

Accelerators are few in Tajikistan. This is a concerning gap because accelerators play an important enabling role to provide startups with access to information, advice, and mentorship and they can also provide facilitated opportunities for growth capital, in addition to often housing pre-seed and seed stage startups at no or low cost. Through providing financial support via grants or pay-for-success mechanisms to business development services, including accelerators and incubators, USAID could increase the number of startups that are able to access these services.

Knowledge sharing, mentorship, events, and building connections are also an important part of a culture of innovation. While startup events have started to pop up around cities like Dushanbe, they could be better connected. A USAID program with a focus or component on entrepreneurship and startups could act as a convening actor in the space to facilitate better information sharing among entrepreneurs and startup enablers, increase the number and quality of events, and facilitate mentor-mentee programs. Such a program could also help share success stories about ICT startups, getting the word out to potential entrepreneurs as well as popularizing Tajik technologies; it could also support activities like supporting companies to go to regional industry events or promoting companies nationally through activities such as a national ICT week.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data-gathering

- Policy report on virtual/extraterritorial IT parks (without residency requirements for specific locations) for promoting ICT sector.
- Tax assessment study and policy recommendations.
- Policy report on favorable tax regimes and other non-financial incentives for digital startups and SMEs globally
- Policy report on the adequacy of existing business incubators and accelerators to support all stages of the startup lifecycle (incubation, startup, and growth) and IT SMEs in Tajikistan
- Report with live mapping of existing incentives and opportunities of SMEs support in Tajikistan conducted on a periodic basis.

Technical assistance and advisory support

- Initiate creation of a small-scale venture fund and involve other donors for specifically digital SMEs and startups ensuring collaboration of donors
- Provide a platform for and initiate discussions between ICT sector stakeholders (banks, policymakers, firms, telecom operators)
- Support creation of coworking spaces available at affordable prices for IT businesses in select cities (i.e., Dushanbe and Khujand)
- Support introduction of e-commerce bylaws and promote policy dialogue
- Promote and facilitate access of merchants to e-commerce platforms

Partnerships, investment, and convening

- Support promotion of Digital Tajikistan branding by organizing regional events and facilitating networking and mentorship
- Develop deep-dive e-commerce maturity assessment together with donors in Tajikistan and initiate an e-commerce accelerator program
- Develop a live portal that gathers information about existing incentives for IT SMEs and startups in Tajikistan

Capacity-building and awareness

- Support digital business and startup culture awareness-building by developing educational campaigns targeting the government and society
- Conduct deep-dive capacity-building trainings on e-commerce for local merchants and startups, inviting international experienced specialists
- Introduce the experience of international best practices and innovative approaches to form a venture capital culture and community

PARTNERS

- **Government:** Ministry of Industry and Innovation, Dushanbe Municipal Government, Investment Committee (GUP Business Incubator), Tax Committee, Investment Counsel of Khatlon, Ministry of Economic Development and Trade
- **Donors:** Aga Khan Development Network, the Foreign, Commonwealth & Development Office (FCDO), IFC, World Bank, UNICEF, United Nations Development Program (UNDP), EBRD, American Chamber of Commerce, Open Society Foundations
- **Implementing partners (programs):** US Embassy/American Space, Palladium (USAID Future Growth Initiative), Chemonics
- **Private sector, academia and CSOs (examples):** IDF (Ipark), Babilon-M, 55Group, Alif, Humo, National Association of Business Women of Tajikistan, E-Commerce Participants Association, National Association of Small and Medium Business of the Republic of Tajikistan (known as SME association), Imon Foundation in Khujand

RESOURCES

USAID resources

- [USAID Development Innovation Ventures](#)
- [USAID Women-Owned Businesses in Cross-Border E-commerce: A Diagnostic Toolkit](#)

Other resources

- [UNDP Gender Digital Divide Assessment: Uzbekistan](#)
- [Startup Estonia Initiative](#)
- [Accelerating Startups in Emerging Markets: Insights from 43 Programs](#)
- [How Digitalization is Accelerating the Growth of MSMEs in Indonesia](#)
- [Tax incentives for the Venture Capital Industry](#)

9. INCREASE TRUST IN AND THE UPTAKE OF DIGITAL FINANCIAL SERVICES AND PAYMENTS.

Growth in DFS and FinTech solutions in Tajikistan has been visible, particularly in the use of e-wallets and QR codes for digital payments. These tools enable growth of the digital economy as transacting online becomes commonplace. Despite growth, use of DFS and e-commerce are low among businesses and consumers alike. This in part stems from a lack of digital skills and literacy but is largely rooted in lack of trust in the digitally-enabled banking system. To support the growth of the digital economy, trust needs to be built in DFS through education, promotion of the benefits of digital payments, and better data collection on the use and impact of DFS.

USAID could consider activities in the following areas:

A. Build digital skills in and trust of digital payments and financial services to enable a cashless culture

Building digital skills to promote digital payments and financial services should be approached from the enterprise and user sides. On the enterprise side, building the skills of SMEs to integrate digital payments will be critical

and could be combined with training programs focused on the e-commerce sector. USAID could capitalize on partnerships across its global portfolio with digital marketing and payments companies to develop open-source trainings to teach SMEs how to sell online, process payments, and protect customer data. Locally, USAID could support the development of easy-to-access content and guides for SMEs to understand digital marketing, sales, and payments technologies. USAID could also support training on the tax implications of e-commerce or subsidize/support the development of tax preparation services for e-commerce.

Trust in the banking sector and a lack of knowledge and understanding of how digital payments work hinder uptake across the board. To encourage users, USAID could support local NGOs to produce educational campaigns on using DFS. Campaigns could be in the form of social media/viral videos/traditional advertisements, as well as practical learning courses, covering what, how, and why DFS is useful for citizens. USAID may also consider working with NGOs to do in-person campaigns in areas where individuals may be able to access DFS and payments but would not engage in online learning or communications. A cyber-awareness education campaign will also be important to mitigate emerging risks of cybercrimes associated with DFS.

On the community level, USAID could also partner in scaling and replicating successful initiatives that have promoted digital payments like the IFC's Cashless Pamir Pilot in GBAO (see Pillar 3), particularly in territories such as Sughd and Khatlon. This could enable targeted work with local stakeholders and civil society to build the skills required to go cashless and roll out interventions while simultaneously building trust. Sharing stories of how digital payments improved efficiency at the individual, business, and community levels could also help.

B. Support further rollout of the single QR code and promote its use

The use of QR codes is one of the most promising integrations of digital payments emerging across Tajikistan. The development of a single QR-code is an important step to expand digital financial services use by businesses and consumers in Tajikistan. USAID could provide technical assistance to the National Bank to further rollout this initiative by bringing in experience to help further develop the enabling framework (policy, legal, and regulatory) as required.

C. Support traceability, monitoring, and transparency of data collection in DFS

With increased uptake of DFS, the government will need support with data collection and annual monitoring of DFS usage, especially at the sub-national level. Data collection on DFS usage is currently managed by the National Bank, but data is still limited and hard to interpret. Supporting the government to better collect and publish data, while keeping individual data secure, will be beneficial for policymakers, local companies in FinTech, researchers, international investors, and donor organizations. USAID specifically could provide technical assistance for the development of a methodological framework for data collection and use, including suggested data collection techniques, reporting, submission, data security and privacy, and publication. USAID could also support capacity building within the Government of Tajikistan to use collected data on DFS to better understand the needs and opportunities for the digital economy at the subnational level, digital financial transactions patterns for policy and regulatory development, and financial cybercrime trends and prevention.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data-gathering

- Tajikistan DFS readiness assessment study at sub-national level
- Policy report on evaluating impact of DFS adoption in Tajikistan
- Policy diagnostics study on DFS channel maintenance costs and transaction commissions (including withdrawals) and the impact on DFS adoption in Tajikistan
- Policy diagnostics study on cyberattacks and cybercrimes in the usage of DFS in Tajikistan
- Case study on mobile money transactions, including adoption of QR-codes experience in emerging economies

- Case study/policy report of good practices of establishing cashless culture nationally and sub-nationally

Technical assistance and advisory support

- Facilitate cashless culture development by replicating good practices (e.g., IFC cashless zone project) in selected regions: Sughd and Khatlon
- Support data collection and annual monitoring of the use of ATMs, kiosks, POS terminals, QR codes, electronic wallets, mobile banking, and use of e-commerce nation-wide
- Support the development of bylaws to the single QR code legislation in order to ensure single QR code integration

Partnerships, investment, and convening

- Support creation of an agency (commercial or NGO) that could offer practical support to, primarily, IT businesses in managing tax submissions (e.g., a business support center)

Capacity-building and awareness

- Develop, localize, and popularize user manuals/guidelines in partnership with local NGOs for use of DFS by citizens and businesses, including materials on areas such as creating bank accounts, online payments, e-wallets, submission of digital taxes, and integration of financial automatization tools
- Partner with the National Bank and develop an all-Tajik cyber awareness education campaign, potentially providing free learning courses, supported by NGOs and/or integrated with applications of the telecom providers (Babilon) or private banks (Alif)

PARTNERS

- **Government:** National Bank, Ministry of Economy and Trade, Tax Committee, Communication Service, Ministry of Education and Science
- **Donors:** IFC, World Bank, ADB
- **Implementing partners (programs):** Palladium (USAID FGI), Chemonics
- **Private sector, academia and CSOs (examples):** Public Fund Civil Internet Policy Initiative, Cybernetics Research and Development Center, CyberStar Project (Secdev Foundation), Alif, Humo, Babilon-M, Tcell

RESOURCES

USAID resources

- [USAID Digital Payments Toolkit](#)
- [USAID FinTech Partnerships Playbook](#)

Other resources

- [Women Entrepreneurs Finance Initiative \(We-Fi\)](#)
- [Singapore Quick Response Code](#)
- [Ghana Universal QR code system](#)

10. RESHAPE THE APPROACH TO ICT WORKFORCE DEVELOPMENT.

Sustainable digital transformation depends upon the emergence of a highly skilled ICT workforce that can fill the digital skills needs of the government, the private sector, and civil society, and that can lead innovation and entrepreneurship in digital technologies. Though there are more than 10 higher educational institutions in Tajikistan that train specialists in the field of ICT, the quality of that education is low and current curricula are not aligned to market needs due to a lack of resources, outdated content, conservative teaching methods, and an overall lack of linkages between educational institutions and the private sector. Youth learn ICT either through self-teaching, or by enrolling in schools and courses that are offered by private sector or donor organizations. Many parents are unaware of employment prospects in the ICT sector—especially for girls who suffer from additional preconceptions in the field—and are thus unable to advise their children or seek out opportunities for their children’s digital skills development.

Tajik companies have begun to develop their own IT schools and introduce short- and medium-term courses to fill the skills gap. Donors also support training for ICT specialists. But without a more holistic, nationwide,

and systematic approach to the development of an ICT workforce, these efforts will remain ad-hoc and fragmented.

USAID/Tajikistan could consider the following interventions to jumpstart workforce development in the ICT sector:

A. Facilitate nation-wide discussion of ICT competencies

Leveraging its convening power, USAID/Tajikistan could strengthen linkages between academia, the private sector, banks, and the government (including the Ministry of Education and Science) as a first step toward updating ICT curricula in Tajikistan. Facilitating dialogue among key stakeholders will have a two-pronged objective: (i) address the mismatch between curricula currently delivered in ICT programs and the needs of the market; and (ii) strengthen the education-to-employment pipeline to combat the current pattern of skilled job seekers migrating to other countries after finishing their studies. Stakeholder engagement should unite efforts and accelerate adoption of a nationwide approach to build the ICT workforce.

To kickoff stakeholder collaboration and action planning, USAID/Tajikistan could also conduct a complementary assessment of key competencies required for the growth of Tajikistan's digital economy. This assessment would serve as a rationale for the government to consider approving a state competencies framework (similar to EU Digital Competencies Framework) and to develop strategic plans for developing the local ICT workforce. USAID/Tajikistan could also consider partnering with selected universities to reshape STEM curricula and support those universities to become centers of excellence to encourage replication.

B. Stimulate demand for STEM and ICT programs and support ICT students in post-education career pursuits

In addition to improving curricula to better align to market demand for skilled ICT specialists, there is a simultaneous gap in the demand for STEM programs among youth and students who will be entering the workforce. USAID/Tajikistan could encourage youth to enter local STEM programs by building awareness of employment opportunities. Specifically, USAID could mobilize existing resources and networks to create internship opportunities with local companies, sponsor practitioners to speak at universities, and collaborate with youth groups and other organizations to showcase opportunities. This would entice youth to enter local STEM programs as a means to future employment opportunities.

USAID/Tajikistan could also help local ICT specialists and students discover BPO opportunities or explore networks outside of Tajikistan. For now, the language barrier is a significant barrier for local specialists to communicate with external partners, gain new knowledge in a dynamic and ever-evolving sector, and strengthen cross-border linkages for business ventures. USAID could develop separate English language short- and medium-term programs for youth studying ICT, or potentially support training institutions and universities to embed language courses in existing programs.

C. Provide targeted support for ICT teachers and professors

Many local stakeholders acknowledged the need for improving the competencies of ICT and STEM teachers in universities and updating the teaching methods used. USAID/Tajikistan could issue in-kind grants to the public universities to upgrade learning environments (i.e., equipment). The mission could identify and partner with a select university, contribute to developing a center of excellence, and stimulate replication.

USAID/Tajikistan could also consider deploying a fund for university professors for building study labs, purchasing equipment, and supporting curricula as part of teachers' continuous education program to provide a long-term sustainable mechanism to improve teaching processes. Additional efforts aimed at improving the quality of university-level teaching staff through training and mentoring programs would be beneficial. USAID could also bring in international knowledge of and expertise (e.g., School 42, Coursera) in good teaching practices, methods,

changes in STEM curriculum, etc., and support the development of a sustainable mechanism to deliver training workshops for professors on a permanent basis.

AT-A-GLANCE POTENTIAL INTERVENTIONS

Studies and data-gathering

- Assessment of digital economy competencies that can contribute to development of a national competency framework
- Assessment study of existing educational programs and projects in the ICT sector provided by government, firms, and donors

Technical assistance and advisory support

- Support embedding intensive English courses within ICT curricula to unlock access to better and up-to-date content for continuous learning
- Issue in-kind grants to the public universities to upgrade learning environments (i.e., equipment)
- Create a fund for teachers to access to build labs, procure classroom equipment, develop/adapt/purchase curricula, etc.
- Create a fund to encourage girls to attend private IT schools and academy courses, especially in rural areas

Partnerships, investment, and convening

- Facilitate dialogue between academia, the private sector, banks, and the government
- Contribute to updating ICT curricula
- Identify and partner with a selected public university as a pilot for developing curriculum and for capacity-building to become a center of excellence and stimulate replication
- Facilitate internship and sponsorship programs for STEM students in partnership with ICT industry companies
- Bring in international and local practitioners for lectures at local universities

Capacity building and awareness

- Develop awareness raising campaigns to promote ICT career opportunities for youth
- Support capacity building of teachers in public educational institutions, in collaboration with the ICT industry

PARTNERS

- **Government:** Ministry of Education and Science, Ministry of Industry and Innovations, Center for ICT in Education, ICT Center Dushanbe
- **Donors:** UNICEF, Open Society Foundations, UNESCO, World Bank, ADB
- **Implementing partners (programs):** Chemonics, Palladium (USAID FGI)
- **Private sector, academia and CSOs (examples):** Public Fund Civil Internet Policy Initiative, private sector (Alif, Humo, Babilon-M), IT academies (Ilmhona, IT Run, TajRupt), Technological University of Tajikistan, Lomonosov Moscow State University, Khujand University

RESOURCES

USAID resources

- [USAID: Education Policy Program Cycle Implementation and Operational Guidance](#)
- [USAID Tumaris Tech](#)

Other resources

- [EU Digital Competence Framework for Citizens \(DigComp\)](#)
- [Moldova ICT Excellence Center](#)

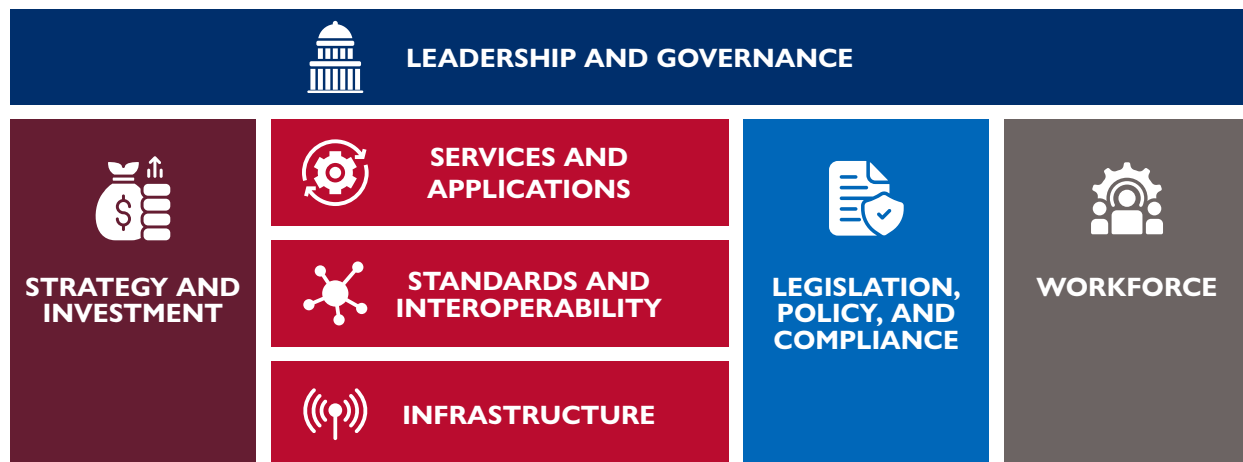
Appendices

A. DEEP DIVE ON DIGITAL HEALTH

The current state of digitalization of the healthcare sector illustrates the general challenges that other public institutions face, as detailed in the beginning of the Digital Government section in Pillar 2 of this report. In Tajikistan, the digital health ecosystem is in its nascent stage. The strategic priorities and sequencing of digitalization of health services, and the design and rollout of those e-health services are just taking shape. Limited digital literacy and skills, as across Tajikistan’s economy, poses a challenge for both creation and operationalization of a digital health vision.

The World Health Organization (WHO) defines digital health as “the systematic application of information and communications technologies, computer science, and data to support informed decision-making by individuals, the health workforce, and health institutions, to strengthen resilience to disease and improve health and wellness for all”¹²⁹ and identifies seven main eHealth building blocks (see Figure 26 below). The current smartphone and internet penetration rates are sufficiently high (see Pillar 1 above for more details) to warrant investment in developing digital healthcare tools. Such tools will allow the design of responsive care models that can improve health and the quality of services while reducing their costs.

FIGURE 26: eHealth Building Blocks from the WHO/ITU National eHealth Strategy Toolkit

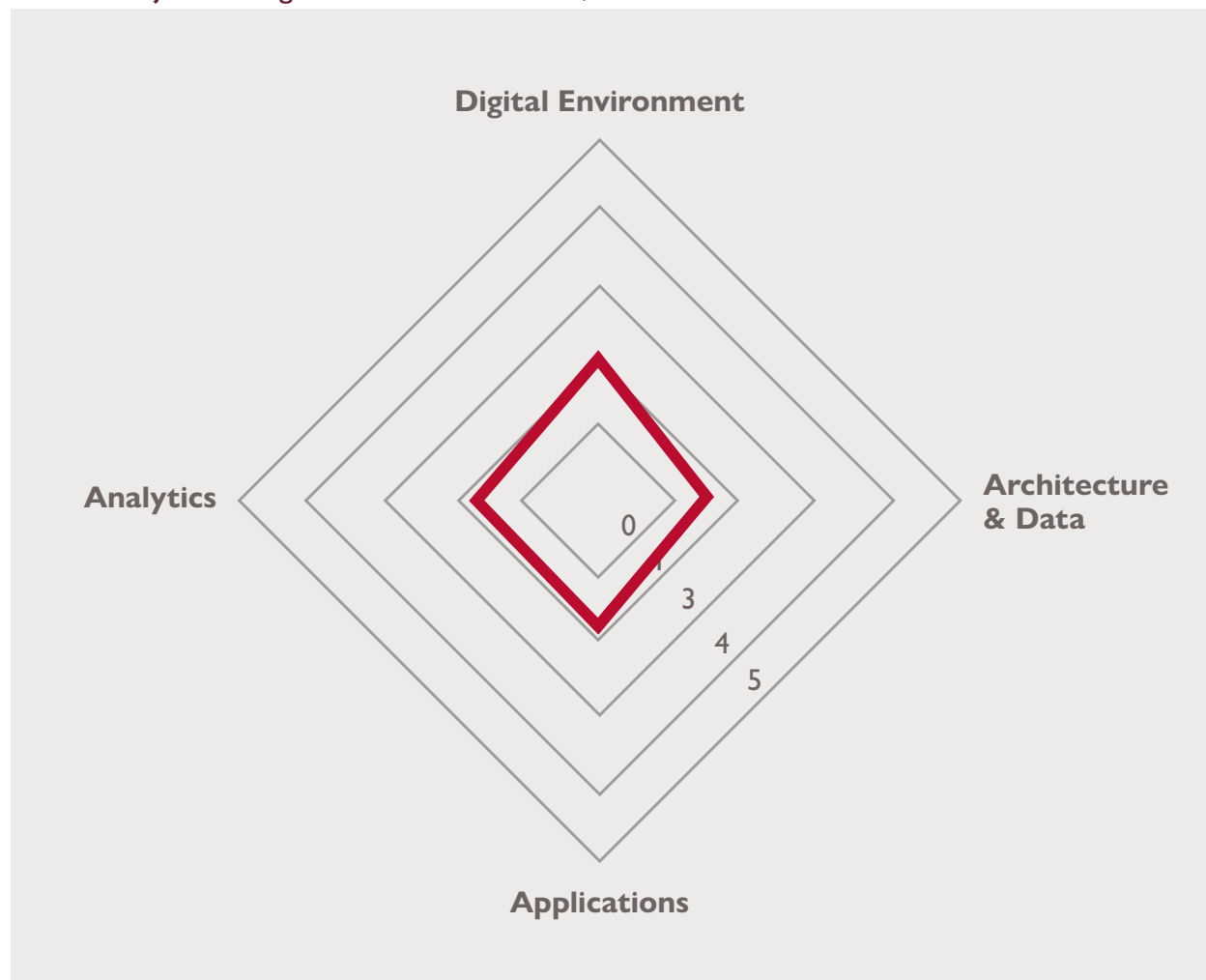


Source: USAID, 2023, *Strengthening Country Digital Health Capacity*.¹³⁰

Based on the World Bank’s Digital Health Assessment Scoring tool, which evaluates the maturity of digital health across Digital Environment, Architecture and Data, Applications, and Analytics, Tajikistan is currently positioned in an emerging stage of digital health (score of 1.8/5 as depicted in Figure 27).

129 World Health Organization, 2018, “Classification of Digital Health Interventions, v1.0: A Shared Language to Describe the Uses of Digital Technology for Health,” World Health Organization, <https://apps.who.int/iris/handle/10665/260480>.

130 USAID, 2023, “Strengthening Country Digital Health Capacity,” Digital Health Vision Technical Guidance Note Series, https://www.usaid.gov/sites/default/files/2023-02/DHV_TGN_Note-1_FINAL_020323.pdf.

FIGURE 27: Tajikistan Digital Health Assessment, 2022

Source: Draft Implementation Plan for Digitalization of the Health System for 2023–2026, Ministry of Health and Social Protection of Population, Republican Center of Medical Statistics, and Information.

Leadership and Governance. The Ministry of Health and Social Protection of Population (MoHSPP) is the main authority in charge of digitalization of the healthcare sector. Although part of the digitization effort is undertaken by the Center for Medical Statistics and Information within the Ministry, the MoHSPP does not yet have dedicated unit responsible for overall sector digitalization; this is an impediment to the development of a holistic e-health vision.

International development partners play a strong role in supporting MoHSPP efforts related to development of the healthcare sector, including e-health initiatives. The most active donors include the World Health Organization, the European Union, UNICEF, and USAID. Currently, however, there is little coordination between the development partners with regards to healthcare sector digitalization, which results in duplication of efforts and systems.

Strategy and Investment. Reform of the healthcare sector in Tajikistan is driven by the *Strategy on Healthcare of Population of the Republic of Tajikistan for the Period to 2030*.¹³¹ As part of strategy implementation, the MoHSPP is working on developing an implementation plan for digitalization of the healthcare system for 2023–2030.

131 Government of the Republic of Tajikistan, 2021, “Strategy on Healthcare of Population of the Republic of Tajikistan for the Period to 2030,” No. 414 of September 30, 2021. <https://moh.tj/wp-content/uploads/2017/07/%D1%81%D1%82%D1%80%D0%B0%D1%82%D0%B5%D0%B3%D0%B8%D1%8F-%D1%80%D1%83%D1%81%D0%B8.docx>

The purpose of the plan will be to leverage digital technologies and health data to transform healthcare delivery and improve the health and wellbeing of the population.

The strategic implementation plan aims to create a national digital health system that supports: (i) universal health coverage in an efficient, accessible, inclusive, affordable, timely, and safe manner through the collation of a wide-range of data; (ii) development of a modern digital infrastructure for the healthcare sector; and (iii) development of interoperable, standards-based digital systems while ensuring the security, confidentiality, and privacy of health-related personal information.

Tajikistan's healthcare system is based on the Soviet Semashko model,¹³² which is characterized by central planning, input-based financing, and relatively limited participation of private healthcare providers. Healthcare funding comes from general taxation, foreign assistance, and informal out-of-pocket payments. Public spending on healthcare currently represents 2.2 percent of GDP, estimated to be two to four times less than the amount needed to provide basic health coverage.¹³³ Public funding accounts for an estimated quarter of total healthcare spending in the country. This leaves the MoHSPP with little to no possibility to earmark funds for e-health initiatives. As disclosed by some interviewees, it is incredibly difficult to ensure sustainability of investments in e-health, including budgeting for modest, basic expenses such as maintenance of domain names or SSL certificates. As estimated by the MoSPP itself, the state funding of digital health currently represents less than 1 percent.¹³⁴

Workforce. There is a limited level of digital literacy among both healthcare professionals and patients, which can make it difficult to effectively implement and use digital health solutions. Despite numerous trainings organized by development partners, digital skills within the MoHSPP are scarce. Decision-makers and mid-managers are unable or unwilling to use existing healthcare information resources to generate reports, relying instead on the capabilities of the teams implementing donor-funded projects. Low salaries in the healthcare sector also do not attract or retain skilled staff. Often, it is the development partners themselves who identify and hire healthcare professionals and MoHSPP employees that exhibit potential and skills. There are grassroot initiatives, such as USAID's Healthy Mother Healthy Baby (HMHB) Activity, that attempt to break this barrier and implement mobile digital data collection tools such as CommCare.

Services and applications. The *Healthcare Management Information System* (HMIS) sits at the core of e-health in Tajikistan. It is based on the open-source DHIS2 platform and has been operational since 2015 through the support of the European Union. DHIS2 (District Health Information System 2) is used mostly for data management and analysis, health program monitoring and evaluation, human resources, and service availability mapping for logistics management. It provides digital reports that aggregate data collected from all 67 country districts.

Despite continuous development, especially in recent years, the HMIS in Tajikistan still has gaps that require its further development. One of the main problems is the prevalence of paper-based medical records; this affects the quality of reporting and requires additional time and resources to input data into the system. But the most notable gap in the current HMIS version is the lack of individual patient-level data, which prevents implementation of an electronic health record (EHR) system. Although elements of what should constitute an EHR are fragmented and scattered across multiple databases, such as those for tuberculosis (TB) and HIV

132 The Semashko model is a single-payer healthcare system where healthcare is free for everyone. The healthcare in this model is funded from the national budget. The model is named after Nikolai Semashko, a Soviet People's Commissar for Healthcare.

133 World Bank, 2021, *Tajikistan – Public Expenditure Review: Strategic Issues for the Medium-Term Reform Agenda*, Washington, D.C.: World Bank Group, <http://documents.worldbank.org/curated/en/099205106242240623/P172237055d557050b3d502de92e8761c2>.

134 Ministry of Health and Social Protection of Population, Republican Center of Medical Statistics and Information, 2022, "Draft Implementation Plan for Digitalization of the Health System for 2023–2026 to Achieve the Goals of the Strategy on Healthcare of Population of the Republic of Tajikistan Up to 2030," September.

programs, they are not easy to connect and link, especially due to the lack of a unique personal identification number issued at birth (see Pillar 2 for details).

In 2021, to better understand the digital health landscape in Tajikistan, HMHB completed an mHealth Tools Assessment which identified other elements of the e-health landscape, the most notable of which include:

- *WFP SCOPE CODA*, implemented by the World Food Program (WFP), digitizes the management of acute malnutrition, reducing paperwork in primary healthcare centers by using personalized smartcards and a mobile application, which are synced with a digital platform.
- *Hospital care e-pocketbook*, developed by WHO, is a mobile app available on Google Play that offers a knowledge hub on how to deal with child illnesses and presents up-to-date evidence-based clinical guidelines. The app has been downloaded more than 50,000 times worldwide, though it is not clear how many of these downloads are attributable to Tajikistan.¹³⁵
- *Healthy Youth (tfpa.tj)*, funded by the International Planned Parenthood Federation and implemented by the Tajik Family Planning Association, is a mobile application accessible through Google Play. It primarily targets young people in Dushanbe, Kulyab, and Vahdat to provide access to educational material about sexuality, contraception, and opportunities to access services at youth-friendly centers.
- *mHealth*, funded by USAID, with contributions from UNICEF and the MoHSPP and implemented by Mercy Corps and TCell, uses mobile technology to share important health information with women and their families in 12 project districts in Khatlon province through text messages, voice recordings, and an information hotline that women can call to ask additional questions related to health and nutrition.
- *Yakdu (yakdu.tj)*, developed by a company with the same name with support from WHO, Salomat, TajRupt, and Alliance Tech, is an online platform that connects doctors, patients, and clinics. The platform enables people to get answers to their medical questions without revealing their identities and provides a service to search for medical doctors in a particular location. It also enables its users to store medical data and share it with their doctors. Yakdu also provides a unified database of clinics in the city to help users find the necessary services and specialists on demand. With further support, the platform has the potential to be turned into a full-fledged national telemedicine platform.
- The COVID-19 pandemic motivated the government to establish a hotline call center with doctors. Supported by the MoHSPP, over 30 Tajik doctors were engaged in 24/7 work to provide information on symptoms and prevention of COVID-19, and to advise on the availability of medicines in pharmacies. The doctors' hotline closed when the quarantine ended.

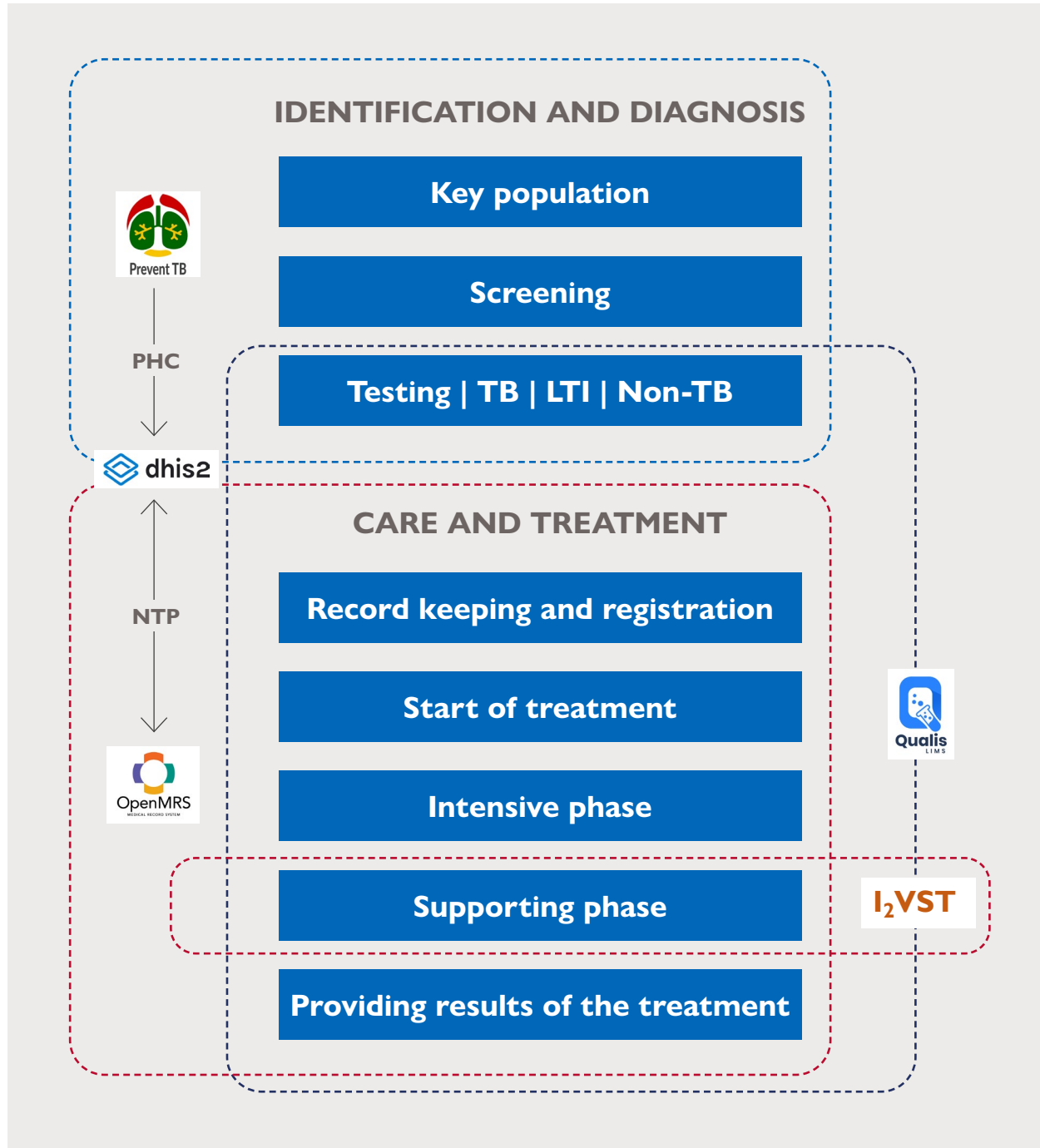
Standards and Interoperability. There is no exchange of data between DHIS2 and any other healthcare information system. DHIS2 supports health data standards such as Fast Healthcare Interoperability Resources (FHIR), SNOMED GPS (Global Patient Set), LOINC (Logical Observation Identifiers Names and Codes), and ICD-10 (International Classification of Diseases – 10), as well as the generic ADX (Aggregate Data Exchange) format for aggregate data exchange. The DHIS2 data model and platform are generic by design (not specifically tailored to the health context), to facilitate the application of DHIS2 to a variety of use cases. The DHIS2 system and data used by the MoHSPP are stored locally on servers that are collocated in Tajik Telecom's datacenter.

USAID/Tajikistan support for e-health. USAID has been one of the key MoHSPP partners for developing e-health in Tajikistan. Notable efforts include the digitalization of the Tuberculosis Service through the USAID's Eliminating TB in Central Asia (ETICA) activity, which covers all 67 districts and the entire lifecycle, from

¹³⁵ The original, non-digital version of the pocketbook has been translated into at least 18 languages according to various online sources. Research has not disclosed whether the mobile version has similar multi-language options or if Tajik is among them.

identification and diagnostic to care and treatment, using a suite of tools such as DHIS2, OpenMRS (Open Medical Record Solution), Qualis, and I₂VST (I too use video supported treatment) (Figure 28). Currently, the TB infrastructure is not interoperable with the HMIS system for data exchange. ETICA infrastructure is currently collocated in the Babilon-T datacenter in Dushanbe.

FIGURE 28: Coverage of Services and Systems for Tuberculosis Services

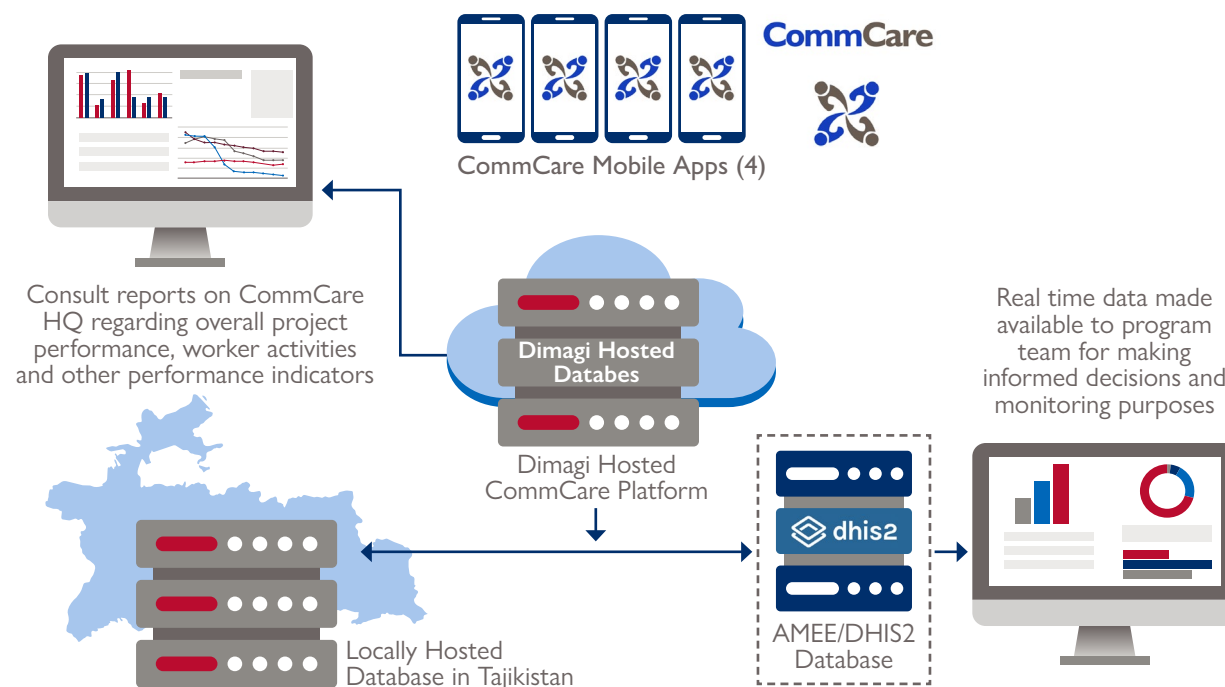


Source: ABT Associates, USAID ETICA, 2022. Draft Concept on Digitalization of TB Service in Tajikistan.

Another important USAID e-health program is the Healthy Mother Healthy Baby (HMHB) Activity, which aims to improve maternal and child health in Tajikistan through digitalization. HMHB developed a suite of

applications built using CommCare, an open-source mobile data collection and service delivery platform designed to improve data collection and the quality of health services (Figure 29).

FIGURE 29: Digital Architecture of the Healthy Mother Healthy Baby Program



Source: ABT Associates, USAID HMHB Activity, 2022. *Digitalization Improves Maternal and Child Health in Tajikistan* presentation.

Data captured in CommCare is integrated into a separate DHIS2 instance, which HMHB uses as its platform to manage and analyze routine project data. The DHIS2-CommCare integration helps avoid increased costs and error rates associated with maintaining two disparate data systems. By using the same software, HMHB can more easily share data and makes it easier to ensure long-term sustainability by reducing the post-project burden of administration and maintenance.

Tajikistan's digital health private sector. Local digital solutions in the health sector are emerging. Private startups, medical health clinics, and civic society organizations develop digital applications and information portals that facilitate increased health service delivery and reduce bureaucracy for medical workers. Mature initiatives, however, are very few and are concentrated mainly in Dushanbe.

An important trend in private sector development is the emergence of online drugstores. Over the last two years, Tajikistan witnessed the appearance of online pharmacies such as Yalla.tj, Vitamin.tj, and Salomat.tj that intermediate between offline pharmacies and clients. For example, Yalla.tj works as an aggregator platform of connected pharmacies and delivers medicines upon request. The creation of these platforms is a market reaction to low digitalization of Tajik pharmacies. According to the interviews, there are more than 2,400 pharmacies in Tajikistan, 90 percent of which do not even have a website. Yet, the imperfection of the existing online market sometimes leads to market failures, such as double taxation or illegal delivery of prescription medicines. As for the former, both the platform and the pharmacy connected to the platform can be charged VAT twice for the delivery of the same product. For the latter, because of the lack of e-signature, to place an order a patient can just send a photo of the prescription medicine, the authenticity of which cannot be verified.

Table 5 summarizes the current constraints and potential USAID intervention areas for digital health development in Tajikistan based on international best practices.

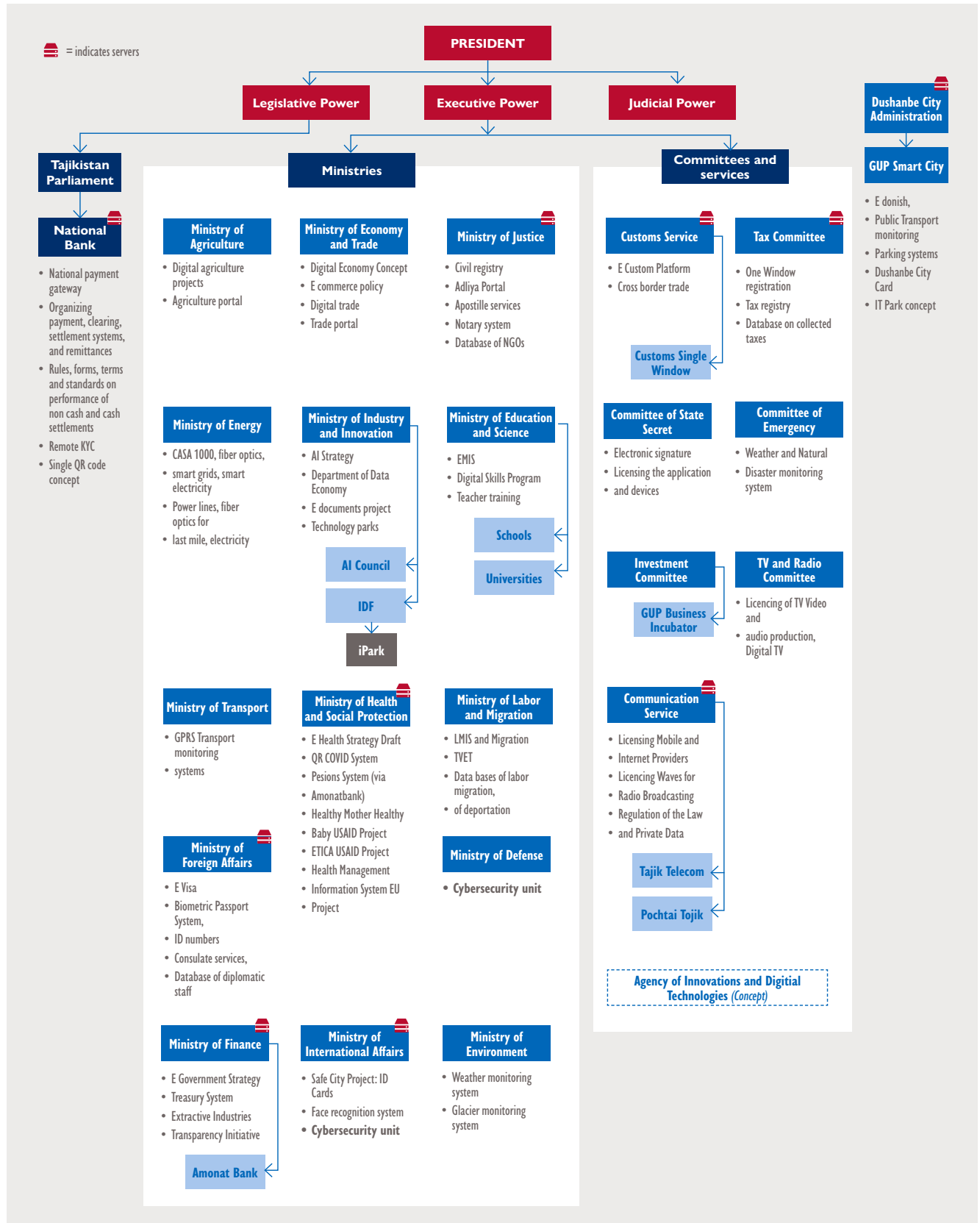
TABLE 5: Issues and Inventions, Digital Health Tajikistan

CONSTRAINTS	INTERVENTION AREAS	INTERVENTION ACTIONS
Lacking legislation to support implementation of e-health	Strategy and investment Legislation, policy, and compliance	USAID can encourage the government to consider digital public health a national security issue to support readiness and response (in light of the recent pandemic). USAID can support digital health policies and legislation development, including an e-health strategy and a costed implementation plan. An example is Kazakhstan's digital health program aimed at adopting digital technology for public health.
Lack of coordination between the main stakeholders, including international development partners	Leadership and governance	USAID can help establish a coordination group, convened by the MoHSPP, to ensure better governance and alignment. This will improve implementation of an e-health strategic implementation plan and help avoid duplication. USAID can also support interventions focused on data use culture and use of data in decision making.
Excessive requirements for data and reporting	Legislation, policy, and compliance Standards and interoperability	USAID can support harmonization of national standards on data collection, reporting, and exchange of health information, and can develop guidelines for data and ICT standards, interoperability, and sharing of healthcare data.
Fragmentation of healthcare information systems	Standards and interoperability	USAID can support development of a national digital health architecture and support improved governance of digital health initiatives, leveraging synergies among development partners and following the principles of the digital health strategy. USAID can develop an inventory of implemented digital health applications and systems.
Underdeveloped ICT infrastructure and administration capacities	Services and applications	USAID can further explore the potential of mobile device applications that can be used in remote areas and continue establishing health data collection mechanisms at the grassroots level (e.g., family doctors).

CONSTRAINTS	INTERVENTION AREAS	INTERVENTION ACTIONS
Limited digital literacy and digital skills	Workforce development	<p>USAID can support collaboration with regional players, government, and the private sector to develop a national digital skills program for the healthcare sector and for marginalized communities, using digital technologies to extend training coverage and to provide better user experience.</p> <p>Healthcare professionals can increase their clinical knowledge and performance with the help of digital training tools. These options have shown promise in delivering community health workers remote training during the COVID-19 pandemic. According to the Global Digital Health Index, few countries reported having integrated digital health in their in-service and pre-service training for healthcare professionals. Some international examples include VRonica (Uzbekistan), which was supported by USAID and uses virtual reality for medical staff training to use mechanical ventilators, and the AMREF Virtual Training School (Kenya), which tests e-learning methodologies and innovations for training nurses and shares lessons learned with the health sector in Africa.</p>
Insufficient use of digital technologies and limited partnership with private IT sector	Services and applications	<p>USAID can support the adoption of digital technologies for solutions delivery of medical services and products, and for emergency response. International examples include:</p> <ol style="list-style-type: none"> 1. DariKZ (Kazakhstan) – The drug search mobile application was developed by the National Center for Expertise of Medicines and Medical Devices to obtain detailed information about all registered medicines in Kazakhstan. 2. Zipline (Ghana) – Zipline drone delivery is a central part of the Ghanaian medical supply chain, operating four distribution centers that serve 2,000 health facilities with routine medical supplies and emergency blood and essential medicines.

CONSTRAINTS	INTERVENTION AREAS	INTERVENTION ACTIONS
Undeveloped field of telemedicine	Services and applications	<p>USAID can invest in the development of telemedicine services. The COVID-19 pandemic had a strong impact on telemedicine services development. Private sector companies, including startups, partnered with the government to test and roll out solutions.</p> <ol style="list-style-type: none"> 1. For example, in the first half of 2022 in Kazakhstan, regional hospitals and national clinics conducted 12,257 telemedicine consultations. 2. Another application, DoctHERs (Pakistan), is a hybrid healthcare model bringing together the best of telemedicine and in-person care, and also reaching low-income populations. The project was supported by USAID. <p>USAID can use the WHO 2022 Consolidated Telemedicine Implementation Guide and the Pan American Health Organization's 2020 COVID-19 Telemedicine Tool for assessing the maturity level of health institutions to implement telemedicine as further guidance on leveraging telemedicine.</p>
Low level of population awareness and access to information	Workforce development	<p>USAID can support the use of digital technologies to facilitate health-related awareness building and knowledge dissemination. The COVID-19 pandemic underscored the need to quickly and effectively share information. Examples from other countries include:</p> <ol style="list-style-type: none"> 1. COVID-19 WhatsApp Chatbot partnership with Infobip (Kazakhstan), the official WhatsApp chatbot to inform the public about the coronavirus (COVID-19). This free service collects accurate, reliable, and up-to-date information. 2. Pensa (Mozambique), available via USSD (Unstructured Supplementary Service Data) and online, provides information on the origin, causes, and ways to prevent the transmission of COVID-19.

B. TAJIKISTAN DIGITAL TRANSFORMATION: RELEVANT GOVERNMENT ORGANIZATIONS



Source: Authors based on research and inputs from local experts.

C. ICT-RELATED STRATEGIES, LAWS, POLICIES AND PLANS

NATIONAL STRATEGIES

NAME	YEAR OF APPROVAL	SOURCE		
		TJ	RU	EN
National Development Strategy of the Republic of Tajikistan up to 2030	December 1, 2016; No.636	Url	Url	Url
Payment System Development Strategy of the Republic of Tajikistan for 2015-2025	October 31, 2014; No.679	Url	Url	Url
National Strategy for Financial Inclusion of the Republic of Tajikistan for 2022-2026	July 1, 2022; No. 314	Url	Url	N/A
The Concept on the Digital Economy in the Republic of Tajikistan	December 30, 2019; No. 642	Url	Url	Url
The Concept on Transition to Digital Education in the Republic of Tajikistan for the Period up to 2042	August 31, 2022; No. 439	Url	Url	N/A
The Concept on Forming an Electronic Government in the Republic of Tajikistan	December 30, 2011; No. 643	Url	Url	N/A
The Concept on Forming a “Single Window” for Export-Import and Transit Procedures in the Republic of Tajikistan	December 31, 2008; No. 659	Url	Url	N/A
The Concept on Information Security of the Republic of Tajikistan	November 7, 2003; No. 1175	N/A	Url	N/A

LAWS

NAME	YEAR OF APPROVAL	SOURCE		
		TJ	RU	EN
About Electrical Communication	May 10, 2002; No. 56	Url	Url	Url
About Education	July 22, 2013; No. 1004	Url	Url	Url
About Personal Data Protection	August 3, 2018; No. 1537	Url	Url	Url
About Counteraction to Terrorism	December 23, 2021; No. 1808	Url	Url	Url
About Counteraction to Extremism	January 2, 2020; No. 1655	Url	Url	Url
About the State Secrets	July 26, 2014; No. 1095	Url	Url	Url
About Periodicals and Other Mass Media	March 19, 2013; No. 961	Url	Url	Url
About the Right to Information Access	June 18, 2008; No. 411	Url	Url	Url
About Licensing of Separate Types of Activity	May 17, 2004 No. 37	Url	Url	Url
About the State Services	April 2, 2020; No. 1690	Url	Url	Url
About the Technological Park	July 21, 2010; No. 629	Url	Url	Url
About Electronic Trading	December 24, 2022; No. 1921	N/A	Url	Url
About Consumer Protection	December 9, 2004; No. 72	Url	Url	Url
About Payment Services and Payment System	February 24, 2017; No. 1397	Url	Url	Url
About State Registration of Legal Entities and Individual Entrepreneurs	May 19, 2009; No. 508	Url	Url	Url
Criminal Code of the Republic of Tajikistan	May 21, 1998	Url	Url	Url
Tax Code of the Republic of Tajikistan	March 18, 2022; No. 1867	Url	Url	Url

OTHER RELEVANT PROVISIONS, POLICIES, AND PLANS

NAME	YEAR OF APPROVAL	SOURCE		
		TJ	RU	EN
Mid-term Development Program of the Republic of Tajikistan for 2016-2020	December 28, 2016; No.678	Url	Url	N/A
Medium-term Program for the Development of the Digital Economy in the Republic of Tajikistan for 2021-2025	October 26, 2021; No.460	Url	Url	N/A
Strategic Plan on Development of Digital Healthcare in the Republic of Tajikistan for 2023 – 2028	Draft	N/A	N/A	N/A
State Program for the Development of Exports of the Republic of Tajikistan for 2021–2025	April 30, 2021; No.169	N/A	Url	N/A
Action Plan for the Implementation of 300 Days of Reforms to Support Entrepreneurship and Improve the Investment Climate in the Republic of Tajikistan	March 1, 2019; No.95	Url	Url	N/A
Information Security Program	June 30, 2004; No. 290	Url	Url	N/A
Single Rules for the Official Websites of Ministries and Departments, Local Executive Bodies of the Government and Self-Government Institutions of Settlements and Dekhot on the Internet	July 10, 2017; No. 344	Url	Url	Url
Government Decree “On the Creation of a Single Switching Center”	December 30, 2015; No.765	Url	Url	N/A
Address on Key Aspects of Tajikistan’s Domestic and Foreign Policy by the President of the Republic of Tajikistan, the Leader of the Nation, H.E. Emomali Rahmon to the Parliament of the Republic of Tajikistan	January 26, 2021; Dushanbe city	Url	Url	Url
Address on Major Aspects of Tajikistan’s Foreign and Domestic Policies by the President of the Republic of Tajikistan, Leader of the Nation, H.E. Emomali Rahmon	December 21; 2021, Dushanbe city	Url	Url	Url

D. INTERNATIONAL DONOR PROJECTS IN TAJIKISTAN'S DIGITAL ECOSYSTEM

DONOR	PROGRAM/PROJECT/ACTIVITY TITLE	DEVELOPMENT OBJECTIVE(S)/RELEVANCE	DECA PILLAR
WORLD BANK	Tajikistan Digital Foundations Project	Expand access to broadband connectivity in selected areas and increase the usage of selected digital public services.	Pillar 1
WORLD BANK	Modernizing the National Statistical System in Tajikistan	Support the Agency for Statistics to modernize statistical production, dissemination, and improve user engagement. The project aims to support internal IT processes and systems of gathering, processing, and visualization of statistical data in Tajikistan.	Pillar 2
WORLD BANK	Public Finance Management Modernization Project 2	Improve effectiveness, control, and accountability of public expenditure of the Republic of Tajikistan. The project aims to support additional functionalities (modules) of TFMIS (Tajikistan Financial Management Information System) including the implementation of the accounting and payroll modules.	Pillar 2
WORLD BANK	Resilient and Sustainable Tajikistan Development Policy Operation (DPO) for Tajikistan	To support the authorities in increasing resilience and sustainability of growth by improving the business environment, the integrity of the financial sector, and financial inclusion through digitalization of services.	Pillar 2
UNDP	Strengthening Supportive Environment and Scaling up Prevention, Treatment and Care to reduce the burden of HIV and TB in the Republic of Tajikistan	TB contact tracing. As an innovation of this project, protocols for contact tracing, screening for LTBI, and preventive treatment protocols will be developed and a web-based recording & reporting system will be established.	Pillar 2
UNDP	An integrated landscape approach to climate resilience of small-scale farmers and pastoralists in Tajikistan	Strengthen existing knowledge centers/platforms/hubs in Tajikistan through the support of project activities and data on KRB (Kofirnighan River Basin) and specifically climate risk information, by providing technical support for the modernization of automated weather stations in the most vulnerable districts of the KRB.	Pillar 2
UNDP	Accelerating Post-COVID19 Economic Recovery through Improved Livelihood, Employability and Regional Cooperation in Ferghana Valley	Decrease digital divides, and improve affordability and digital literacy of young people from remote rural areas for better education and professional orientation by: implementing an online mapping and needs assessment of VTI/Adult Education facilities; assessing the opportunities of the World Skills integration, professional education centers, and apprenticeship providers in target areas; establishing a database of students who passed vocational education courses, VTIs, etc.; and by creating a digital volunteer platform for community outreach work to engage young people from remote rural areas in employment promotion events and youth empowerment activities in their communities.	Pillar 1

DONOR	PROGRAM/PROJECT/ACTIVITY TITLE	DEVELOPMENT OBJECTIVE(S)/RELEVANCE	DECA PILLAR
UNDP	Civil registry system reform project in Tajikistan - Phase II	Develop a One-Stop-Shop (Front and Back offices) model for ZAGS offices in Tajikistan. The project aims to develop e-government G2G and G2C models.	Pillar 2
UNDP	Youth Empowerment through Skills Development and Promotion of Innovations in Tajikistan	Support ICT infrastructure of the VTIs to develop equal opportunities and increase inclusion in digital spaces by equipping education and vocational training institutions with modern equipment and creating a database platform for internship programs in public and private sector companies.	Pillar 1
UNDP	Improved access to public services (IAPS) through civil registry reform	Support ICT infrastructure upgrades and develop e-government G2G and G2C models for Civil Registry Offices (CROs). Formalize front and back office models, apply these models to 30 existing CROs, and provide assistance for internal renovation, including to increase accessibility for persons with disabilities. Deliver mentoring, capacity building, and provide IT equipment to 58 CROs. Integrate CRO system with the electronic data systems of other state institutions.	Pillar 2
UNDP	Strengthening rule of law and human rights to empower people in Tajikistan	Improve delivery of e-judiciary services to citizens by: increasing access to information for the public through the development of an information system; strengthening access to information and internal processes within the judiciary through greater utilization of e-justice and other digital solutions; creating and upgrading an e-system of data, document and information exchange among the courts; strengthening the system for the online registration of appeals; and improving court websites to facilitate access to information.	Pillar 2
IFC	TajCEP	Under Component 2, consolidate and reduce inspections and introduce an e-business portal (linking e-Registry, e-permit and the Inspection Information Management System into one portal).	Pillar 2 , Pillar 3
UNICEF	Remote employment model for vulnerable youth in Tajikistan	Empower young people by providing new employment opportunities using the best world experience, modern technologies, and the virtual and digital economy. Supports development of teaching approaches based on digital instruments that can reduce the digital divide.	Pillar 1
UNICEF	Professional guidance and creation of a youth portal	Develop the competencies of students and employees in the field of information technology and artificial intelligence.	Pillar 1
UNICEF	Literacy among vulnerable youth in institutions in conflict with the law or from poor families	Instill transferable skills, entrepreneurship and digital literacy among vulnerable youth.	Pillar 1

DONOR	PROGRAM/PROJECT/ACTIVITY TITLE	DEVELOPMENT OBJECTIVE(S)/RELEVANCE	DECA PILLAR
GIZ	Promoting the health of pregnant women, mothers and newborns	Develop standards, monitor quality, manage referrals and maintain medical equipment. Provide basic equipment, technical training (in topics such as infection control), and organizational capacity building to primary health care facilities. Support hospitals' access to digital facilities and equipment.	Pillar 1
GIZ	Technology-based Adaptation to Climate Change in Rural Tajikistan and Kyrgyzstan	Support relevant authorities in Tajikistan and Kyrgyz Republic to develop/use digital systems for planning climate adaptations.	Pillar 1
GIZ	Tackling the impacts of climate change through regional cooperation	Build competencies for science-based data collection and decision-making on the issues of conflict prevention and cooperation to address the consequences of climate change in Central Asia.	Pillar 1
GIZ	Improving employment and income for Tajik migrant workers	Deliver technical and agricultural training courses complemented by modules on financial and digital literacy as well as management skills.	Pillar 1
GIZ	Promoting professional education and vocational training for growth sectors in Central Asia	Develop training courses for specialists and managers on green technologies in food production or on green logistics.	Pillar 1
EU	Ready4Trade Central Asia	Enhance the transparency of cross-border requirements by removing regulatory and procedural barriers, strengthening business capabilities in order to comply with trade formalities and standards, as well as by improving cross-border e-commerce.	Pillar 3
EU	Strong Civil Society Organizations and multi-stakeholder partnerships for active and prosperous youth in Tajikistan - ProYouth	Develop the Youth Online knowledge hub & networking platform with tailored learning tools.	Pillar 1
EU	Dialogue and Action for Resourceful Youth in Central Asia (DARYA)	Enhance the monitoring and assessment of VET and skills development, with a focus on improving linkages between job seekers, skills information systems, and career guidance services. The project supports digital methods for monitoring and assessing VET.	Pillar 1
EU	Young people for climate solidarity - DYNAMO	Support the development of technical skills and knowledge related to energy-efficiency and green construction of TVET (Technical and Vocational Education and Training) students, with a focus on ICT instruments to support green growth.	Pillar 1

DONOR	PROGRAM/PROJECT/ACTIVITY TITLE	DEVELOPMENT OBJECTIVE(S)/RELEVANCE	DECA PILLAR
EU	No one left behind (Farogir): Inclusive and sustainable Youth empowerment through e-governance and opportunities	Expand access to digital education and help train youth with disabilities on adaptive skills and income-generating activities.	Pillar 1
EU	Silk-Road CBT Initiative: Connecting Central Asian Community-Based Tourism and European Markets	Support development of digital instruments to bolster tourism such as a comprehensive and interactive online destination map with information on natural, cultural, and historical heritage sites, CBT services, and transportation options.	Pillar 1
EU	Supporting and Strengthening the Women's Resource Centres in Tajikistan	Develop and improve access and use of digital platforms to strengthen Women's Resource Centers.	Pillar 1
ADB	Finance Sector and Fiscal Management Improvement Program, Subprogram 2	Improve banking sector stability, financial sector oversight and development, and fiscal management. Support Tajikistan Financial Management Information System's modules for accounting and debt monitoring.	Pillar 2
ADB	Tajikistan: Preparing the Improving the Science, Technology, Engineering, and Mathematics Secondary Education Project	The proposed project will support the government to improve equal access to quality secondary education in STEM from grades 5 to 11, and will support access of the secondary education institutions to equipment and facilities for computer science and engineering.	Pillar 1
ADB	Regional: Delivering a Climate Change Strategy for Central and West Asia	Support development and use of digital instruments for climate monitoring and assessment at departmental, sectoral and country levels with key activities including development of a regional strategy, upstream climate assessments, climate pipeline development (i.e. based on ICT), government dialogues and capacity building.	Pillar 1
SWISS SDC	Cryospheric Observation and Modelling for improved Adaptation in Central Asia (CROMO-ADAPT)	Strengthen the glacier, snow and permafrost monitoring systems and capacities in Central Asia, develop user-oriented climate information services, and support the planning of adaptation measures to increase resilience to climate change. The project supports development and use of digital instruments for monitoring and adaptation.	Pillar 1
SWISS SDC	Civil Registry System Reform Project in Tajikistan (CRR)	Assist the Ministry of Justice in its efforts to replace the paper-based civil registry system with a more efficient electronic civil registry system. The project includes development of the back-end and front-end of the civil registry system.	Pillar 2

DONOR	PROGRAM/PROJECT/ACTIVITY TITLE	DEVELOPMENT OBJECTIVE(S)/RELEVANCE	DECA PILLAR
SWISS SDC	Global Financial Infrastructure Programme, Phase II	Support financial infrastructure reforms based on digital instruments for fostering financial inclusion of individuals and responsible access to finance for SMEs. It supports digital instruments for strengthening credit information systems, secured transaction reforms, as well as insolvency and debt resolution.	Pillar 2
SWISS SDC	Technical Assistance in Macroeconomic Planning and Management, Phase IV	Support targeted countries to use digital tools for macroeconomic forecasting and modeling, negotiate with third parties such as the IMF, and establish a good foundation for deeper commitment to prudent macroeconomic policy management.	Pillar 1
EU, CAREC	Central Asia Nexus dialogue project: fostering water, energy and food security nexus and multi-sector investment (Phase II)	Support academic knowledge exchange, research development, and adoption of modern methods and technologies in the field of sustainable management and use of natural resources.	Pillar 1
IDA, CAREC	Climate adaptation and mitigation program for aral sea basin (CAMP4ASB)	Support establishment of a unified regional analytical platform to ensure sustainable climatic development in Central Asia. Develop of a number of tools for data visualization, receipt of new knowledge and capacity building to ensure efficient decision making in the area of climate change.	Pillar 1
INITIATIVE FOR CLIMATE ACTION TRANSPARENCY (ICAT), CAREC	Regional climate action transparency hub for Central Asia (RECATH)	Support access to digital instruments for climate actions transparency. ICAT has created a toolkit with methodologies and transparency modeling tools that can be adapted to country needs. Activities include direct country support and the establishment of regional support centers and networks such as the Climate Action Transparency Center for Central Asia.	Pillar 1
UNCCD, CAREC	Regional approaches for combating sand and dust storms and drought	Provide support for countries to develop national drought plans, methodology frameworks, and tools, including the Drought Toolbox. Provide access to digital and technical tools for modeling drought preparedness and resilience.	Pillar 1
GIZ, RAMSAR, CAREC	RAMSAR Regional initiative for Central Asia (RRI-CA)	Create and maintain a platform for the regular and effective sharing of information related to the implementation of the Ramsar Convention in Central Asia. Develop and apply digital common monitoring mechanisms for evaluating the status of existing and future Ramsar Sites.	Pillar 1
FCDO, ACTED	Activating Civil Society to demand Inclusive, Evidence-Based Economic Growth in Central Asia	Build the capacity of individuals, civil society organizations, and journalists and media professionals to collect, analyze, and advocate based on data and evidence. Also support access to and use of modern digital tools for data processing, analysis, and visualization.	Pillar 1

DONOR	PROGRAM/PROJECT/ ACTIVITY TITLE	DEVELOPMENT OBJECTIVE(S)/ RELEVANCE	DECA PILLAR
USAID	Central Asia Media Program	Increase media and information literacy among youth and adults so they become more critical consumers and producers of information by delivering training courses at Media and Digital Literacy Houses.	Pillar 1
USAID	Entrepreneurship and Business Environment Project	Support the development of digital start-ups and accelerators related to the teaching of IT qualifications necessary for the development of business projects.	Pillar 1
USAID	E-commerce development project	Support the development of e-commerce policy and mechanisms for its implementation.	Pillar 3

E. DEFINITIONS

Accelerators: Organizations that provide intensive support and resources to help startup companies grow and scale quickly. Accelerators often involve intense, focused periods of training and support, such as a several-month-long program, that culminates in a pitch competition or demo day.

Angel Investment: A type of early-stage investment in startups or small businesses by individual investors who provide financial support in exchange for equity in the company. Angel investors typically invest their own personal funds and often provide mentorship and guidance to the startups they support. They are usually interested in high-growth, high-potential ventures and may invest at various stages of the startup's growth, from seed funding to later rounds of financing. Angel investment is considered a critical source of funding for startups and small businesses, particularly in the technology and innovation sectors.

Cache Servers: Servers that store frequently accessed website data, such as images and web pages, to reduce the time it takes for users to access that data when they request it. Instead of loading the data from the original source every time, the caching server can quickly deliver the data to the user from its local cache. This can improve website performance and reduce network congestion.

Cyberspace: The virtual domain created by the interconnection of digital devices and networks that allows the processing, storage, and transmission of vast amounts of information across geographic borders and across diverse socio-economic, cultural and political systems.

Cybersecurity: The prevention of damage to, protection of, and restoration of computers, electronic communication systems, electronic communication services, wire communication, and electronic communication, including information contained therein, to ensure its availability, integrity, authentication, confidentiality, and non-repudiation.

Cybersecurity Capacity: The ability of organizations or governments to effectively protect their computer systems and networks from cyber threats. This includes having the necessary policies, regulations, institutions, and trained personnel in place to prevent, detect, respond to, and recover from cyber incidents.

Cyber Hygiene: The practices and steps that users of computers and other devices take to maintain system health and improve online security. These practices are often part of a routine to safeguard identities and other details that could be stolen or corrupted.

Data Breaches: Incidents where sensitive or confidential data is accessed or disclosed without authorization. This can happen as a result of cyberattacks, hacking, human error, or other causes. Data breaches can have serious consequences, including financial losses, damage to reputation, and harm to individuals whose personal information is compromised.

Data Privacy: The right of an individual or group to maintain control over, and the confidentiality of, information about themselves, especially when that intrusion results from undue or illegal gathering and use of data about that individual or group.

Data Protection: The practice of ensuring the protection of data from unauthorized access, use, disclosure, disruption, modification, or destruction, to provide confidentiality, integrity, and availability.

Digital Identity: The widely accepted Principles on Identification define identity as “a set of attributes that uniquely describe an individual or entity.” Digital identification (ID) systems often require registering individuals onto a computerized database and providing certain credentials (e.g., identifying numbers, cards, digital certificates, etc.) as proof of identity. Government actors can set up these systems to create foundational, national ID programs, or donors or non-governmental organizations (NGOs) for functional purposes to identify beneficiaries, e.g., for humanitarian assistance and service-delivery.

Digital Inclusion: The process of ensuring that individuals and communities, particularly those who have been historically marginalized and excluded, have access to and are able to effectively use information and communication technologies (ICTs) and digital platforms. This includes providing access to affordable and reliable internet connectivity, digital devices, and relevant content, as well as building digital literacy and skills. The goal of digital inclusion is to ensure that everyone has equal opportunity to participate in the digital economy and society.

Digital Rights: The set of rights that individuals have in relation to accessing, using, and sharing information and communication technologies (ICTs). These rights include the freedom of expression, the right to access information, the right to privacy, and the right to participate in digital society. Digital rights also encompass issues related to digital security, such as protecting personal data and preventing cybercrime.

Digital Literacy: The ability to “access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately through digital devices and networked technologies for participation in economic and social life. This may include competencies that are variously referred to as computer literacy, information and communications technology (ICT) literacy, information literacy, and media literacy.”

FinTech Companies: Companies that use digital technology to provide financial services and products to customers. These companies typically operate in areas such as payments, lending, investment, and insurance, and often leverage mobile and online platforms to offer their services.

Free Economic Zones (FEZs): Designated areas within a country where businesses can operate with favorable tax and regulatory policies to encourage investment and economic development.

Gender Digital Divides: The disparities between men and women in access to and use of digital technologies. The gender digital divide creates disparities in access to information and opportunities for men and women, which can result in further marginalization of women in the economic, social, and political spheres.

Human Capacity: “The knowledge, skills, abilities, and other characteristics (KSAOs) of individuals that are relevant to their work in a particular organization or industry.” In the context of the digital ecosystem, human capacity refers to the level of expertise, knowledge, and skills that individuals possess in areas such as cybersecurity, digital literacy, and ICT-related skills.

Incubators: Organizations that provide resources and support to startup companies in their early stages of development including office space, mentoring, training, access to financing, and networking opportunities. These organizations help entrepreneurs and start-up companies develop their products or services and bring them to market.

Institutional Frameworks: The structures, policies, laws, and regulations that govern and guide the operations of institutions such as governments, businesses, and organizations. In the context of digital development, institutional frameworks would include those that govern issues such as digital rights, data protection, cybersecurity, and ICT infrastructure, among others.

Legal Recourse: The ability of an individual or entity to seek legal action or remedy in the event of harm or violation of their rights. It is the legal right to obtain a judicial remedy, such as compensation or other legal redress, when a party has suffered harm or injury. It implies that the justice system is accessible, affordable, and fair to all.

State Owned Enterprises (SOEs): Companies that are owned, wholly or in part, by a government or other state entity. These enterprises are often created to provide essential services to citizens, such as electricity, water, and transportation, or to promote economic development in specific industries.

Startup Support Ecosystem: The network of organizations and resources that support the growth and development of startup companies.

Venture Capital: Financing provided by investors to startup companies and small businesses that are believed to have long-term growth potential. This type of financing is typically provided by investors who are looking to take an equity stake in the company, and who are willing to take on a higher level of risk in exchange for the potential for high returns on their investment.

F. METHODOLOGY

The Tajikistan DECA included the following components:

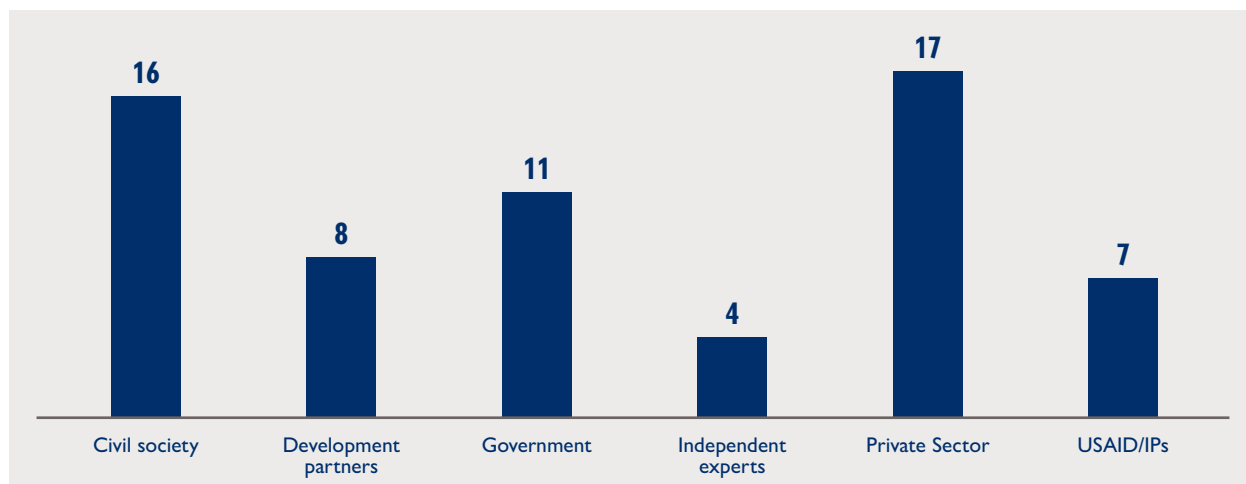
USAID/Tajikistan engagement: USAID/Tajikistan designated a Mission DECA Point of Contact (POC) from the USAID/Tajikistan Economic Growth office. The Mission DECA POC helped identify stakeholders and reviewed relevant documents during planning, interviews, and the analysis and report-writing stages. The Mission DECA POC also helped organize the introductory, post-interview, and recommendation workshops presentations with USAID/Tajikistan. These meetings were important to socialize the DECA's purpose and preliminary findings and initial recommendations across various USAID/Tajikistan technical offices. This engagement was critical not only for ensuring an appropriate mix of interviewees but also for building the Research Team's understanding of USAID/Tajikistan's priorities.

Desk research: The desk research used a standardized template organized around three pillars (digital infrastructure and adoptions; digital society, rights, and governance; and digital economy). The desk research included three components: (i) review of USAID/Tajikistan's Strategic Framework, funding allocations, and digitally relevant programming; (ii) quantitative analysis of open-source data and indices to produce regional comparisons (e.g., GSMA, World Economic Forum, International Telecommunication Union); and (iii) internet research guided by high-level questions under each pillar about the state of Tajikistan's digital ecosystem. The Research Team shared the desk research with the Mission DECA Team before conducting key informant interviews and used it to inform the interview guide questionnaires.

Interviews: The Research Team collaborated with USAID/Tajikistan to compile a list of target stakeholders across civil society, academia, international organizations, the private and public sectors, and within USAID/Tajikistan. The Research Team and USAID/Tajikistan networks secured initial interviews. Additional interviewees were added throughout the research process through referrals from completed interviews.

During the interview phase, the Research Team conducted two or three online interviews per week during the first two weeks of the interview phase and 3–6 interviews per day while in-country on the field visit. Most interviews were attended by at least two team members, with a lead interviewer and a notetaker. To best triangulate findings and to test different interview styles, team members rotated whom they paired with on interviews. Each interviewee was asked a general set of questions, which were developed before the interview phase, tailored to be targeted to interviewees, and based on learnings from previous interviews.

To ensure a diverse mix of interviewees, the Research Team evaluated the list of scheduled interviews and conducted additional outreach in an attempt to fill identified gaps.

FIGURE 31: Interviews Conducted

Analysis: The Research Team conducted the bulk of the preliminary analysis while in-country. Every day during the three weeks completing interviews, the team conducted debriefs of key findings. These meetings not only ensured that all team members were briefed on each interview but also facilitated the triangulation of emerging themes that could then be tested in subsequent interviews. Midway through the interviews, the team identified primary themes based on these initial findings. Upon completing the interview phase, the team convened to revisit these themes, confirmed their validity against some interview notes, and proceeded to organize the findings around the three pillars outlined in this report.

Limitations: Research Team members were limited, to an extent, by their technical expertise. Team members were chosen to provide coverage of key technical areas identified in a preliminary review, particularly around digital infrastructure, human rights online, digital government, digital financial services, e-commerce, and digital trade. This may introduce some bias—weighting the specializations of team members more heavily than areas such as cybersecurity, emerging technologies, digital inclusion and digital divides, and startup ecosystems.

Many interviewees were selected through USAID/Tajikistan and Research Team networks, which may have excluded stakeholders who are less comfortable engaging with U.S. government representatives. Most interviews took place in Dushanbe; as a result, information is limited to Dushanbe-based interviewees' knowledge and work across the country, although four interviews were conducted by phone to stakeholders in other regions of the country. Rather than rigorous qualitative methods (e.g., thematic coding), analysis of interview notes depended on Research Team members triangulating findings and attempting to balance thematic gaps by consulting technical experts and seeking additional interviewees.

Research Team: The Research Team was composed of digital development generalists and specialists with technical expertise in the telecommunications sector, digital government transformation, digital inclusion, online human rights, digital and data economies, data ethics, and digital platforms. Team members who were technical experts attended most interviews that were relevant to their expertise.

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