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DIGITAL ECOSYSTEM COUNTRY ASSESSMENT (DECA)

Peru

JULY 2022



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Peru

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ACRONYMS

	English	Spanish
ADI	Affordability Drivers Index	Índice de Impulsores de la Asequibilidad
ASBANC	Peruvian Banking Association	Asociación de Bancos del Perú
B2C	Business-to-Consumer	Empresas al consumidor
BAA	Broad Agency Announcement	Anuncio a nivel de Agencias
BCP	Credit Bank of Peru	Banco de Crédito del Perú
BCRP	Central Reserve Bank of Peru	Banco Central de Reserva del Perú
BiM	Mobile Wallet	Billetera Móvil
CBDC	Central Bank Digital Currency	Moneda Digital del Banco Central
CBI	Cash Based Intervention	Intervención basada en el efectivo
CCE	Electronic Clearing House	Cámara de Compensación Electrónica
CDCS	Country Development Cooperation Strategy	Estrategia de Cooperación al Desarrollo de USAID
CEDRO	Information and Education Center for Drug Abuse Prevention	Centro de Información y Educación para la Prevención del Abuso de Drogas
CISA	U.S. Cybersecurity and Infrastructure Security Agency	Agencia de Ciberseguridad y Seguridad de las Infraestructuras de Estados Unidos
CODESI	Multisectoral Commission for Development of the Information Society	Comisión Multisectorial para el Desarrollo de la Sociedad de la Información
COFIDE	Peru Development Finance Corporation	Corporación Financiera de Desarrollo
COOPAC	Savings and Credit Association	Cooperativa de Ahorro y Crédito
CPPTP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership	Acuerdo General y Progresivo de Asociación Transpacífico
CSIRT	Computer Security Incident Response Team	Equipo de Respuesta a Incidentes de Seguridad Informática
CSO	Civil Society Organization	Organización de la Sociedad Civil
DECA	Digital Ecosystem Country Assessment	Evaluación del Ecosistema Digital del País
DFS	Digital Financial Services	Servicios financieros digitales (SFD)
DHIA	Digital Health and Interoperability Assessment	Evaluación digital de la salud y la interoperabilidad
DNI	National Identity Document	Documento Nacional de Identidad
DO	Development Objective	Objetivo de Desarrollo
ENAHO	National Household Survey	Encuesta Nacional de Hogares
ENIF	National Strategy for Financial Inclusion	Estrategia Nacional de Inclusión Financiera
ENRM	Environmental and Natural Resource Management	Gestión Ambiental y de Recursos Naturales
FAP	Financial Access Point	Puntos de Acceso Financiero
FCEI	Venture Capital Fund of Funds	Fondo de Fondos de Capital Riesgo
FENACREP	National Federation of Savings and Credit Cooperatives	Federación Nacional de Cooperativas de Ahorro y Crédito

	English	Spanish
FGD	Focus Group Discussion	Discusión de Grupo Focal
FSP	Financial Service Provider	Proveedor de servicios financieros (FSP)
G2P	Government-to-Person	Gobierno-a-persona
GDP	Gross Domestic Product	Producto Interno Bruto
GoP	Government of Peru	Gobierno de Perú (GdP)
GSMA	Global System for Mobile Association	Asociación del Sistema Global para Móviles
IADB	Inter-American Development Bank	Banco Interamericano de Desarrollo (BID)
ICT	Information and Communications Technology	Tecnología de la Información y las Comunicaciones (TIC)
IGF	Internet Governance Forum	Foro Peruano de Gobernanza de Internet
INDECOPI	National Institute for the Defense of Competition and Intellectual Property	Instituto Nacional de Defensa de la Competencia y de la Propiedad Intelectual
INEI	National Institute of Statistics and Informatics	Instituto Nacional de Estadística e Informática
IOT	Internet of Things	Internet de las Cosas
IpT	Internet for All	Internet para Todos
ISP	Internet Service Provider	Proveedor de servicios de internet (PSI)
KII	Key Informant Interview	Entrevista con Informante Clave
KYC	Know Your Customer	Conozca a su cliente
LAC	Latin America and the Caribbean	América Latina y el Caribe
MEF	Ministerio de Economía y Finanzas	Ministerio de Economía y Finanzas
MIDIS	Ministry of Development and Social Inclusion	Ministerio de Desarrollo e Inclusión Social
MNO	Mobile Network Operator	Operador de Red Móvil (ORD)
MSME	Micro-, small, and medium enterprises	Microempresas, pequeñas y medianas empresas
MTC	Ministry of Transportation and Communication	Ministerio de Transportes y Comunicaciones
NGO	Non-Governmental Organization	Organización no gubernamental (ONG)
NIST	National Institute of Standards and Technology	Instituto Nacional de Normas y Tecnología
O-RAN	Open-Radio Access Network	Red de acceso abierto a la radio
OECD	Organization for Economic Cooperation and Development	Organización para la Cooperación y el Desarrollo Económico (OCDE)
OIMR	Rural Mobile Infrastructure Operators	Operadores De Infraestructura Móvil Rural
ONGEI	National Office of Electronic Government	Oficina Nacional de Gobierno Electrónico
OSIPTEL	Supervisory Body for Private Investment in Telecommunications	Organismo Supervisor de Inversión Privada en Telecomunicaciones
OT	Operational Technology	Tecnología Operativa
P2P	Peer-to-Peer	red de pares

ACRONYMS

	English	Spanish
PCM	Presidency of the Council of Ministers	Presidencia del Consejo de Ministros
PeCERT	Peruvian Digital Security Incident Response Team	Equipo Peruano de Respuesta a Incidentes de Seguridad Digital
PNAD	National Strategy Plan of Government of Peru on Digital Literacy	Plan Estratégico Nacional del Gobierno del Perú sobre Alfabetización Digital
POC	Point of Contact	Punto de Contacto
PPGIS	Public Participatory Geographic Information System	Sistema Público de Información Geográfica Participativa
PRIDER	Inclusive Program for Rural Business Development	Programa Inclusivo de Desarrollo Empresarial Rural
PRODUCE	Ministry of Production	Ministerio de la Producción
PROMUC	The Consortium of NGOs for the Promotion of women and the Community	El Consorcio de ONG's Promoción de la Mujer y la Comunidad
PRONATEL	National Telecommunications Program	Programa Nacional de Telecomunicaciones
RDNFO	National Fiber Optic Dorsal Network/Red Dorsal project	Red Nacional de Dorsales de Fibra Óptica/Proyecto Dorsal Rojo
RENIEC	National Registry of Identification and Civil Status	Registro Nacional de Identificación y Estado Civil
RSF	Reporters Without Borders	Reporteros sin Fronteras
SBS	Banking Superintendence	Superintendencia de Banca, Seguros y Administradoras Privadas de Fondos de Pensiones
SDGs	Sustainable Development Goals	Objetivos de Desarrollo Sostenible
SEGDI	Secretary of Government and Digital Transformation	Secretaría de Gobierno y Transformación Digital
SINACTI	National System of Science, Technology and Innovation	Sistema Nacional de Ciencia, Tecnología e Innovación
SIP	Secretary of Public Integrity	Secretaria de Integridad Publica
SMV	Superintendency of the Securities Market	Superintendencia del Mercado de Valores
STEM	Science, Technology, Engineering, and Mathematics	Ciencia, Tecnología, Ingeniería y Matemáticas
SUNAT	Customs Enforcement Agency	Superintendencia Nacional de Aduanas y de Administración Tributaria
TA	Technical Assistance	Asistencia técnica
TIP	Telecom Infra Project	Proyecto de infraestructura de telecomunicaciones
UNCTAD	United Nations Conference on Trade and Development	Conferencia de las Naciones Unidas sobre Comercio y Desarrollo
UPU	Universal Postal Union	Unión Postal Universal
USF	Universal Service Fund	Fondo de Servicio Universal (FSU)
UTRAMS	Unified Technical Request and Mission Support	Solicitud Técnica Unificada y Apoyo a la Misión

Executive Summary

BACKGROUND

USAID's [Digital Strategy](#) was launched in April 2020 with the goal of supporting our partner countries through their digital transformations. It aims to improve measurable development and humanitarian assistance outcomes through the responsible use of digital technology and to strengthen the openness, inclusiveness, and security of partner country digital ecosystems.

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) Infrastructure and Adoption; (2) Digital Society, Rights, and Governance; and, (3) Digital Economy. The DECA is intended to inform how USAID/Peru programming can understand, work with, and strengthen the country's digital ecosystem. The DECA was guided by USAID/Peru's [2020-2025 Country Development Cooperation Strategy \(CDCS\)](#), which includes three development objectives:

USAID/Peru development objectives:

1. Expanding economic and social development in post-eradication regions to sustain coca reductions.
2. Increasing public integrity to reduce corruption.
3. Strengthening sustainable environment and natural resource management to expand economic and social benefits.

KEY FINDINGS

Peru's digital ecosystem is one of many contrasts. There have been sustained advances over the last 30 years in connectivity, digital literacy, digital rights, digital government, and the digital economy.

Peru was one of the [first countries in Latin America](#) to establish a permanent connection to the internet in the early 1990s. Throughout that decade it achieved early widespread internet access thanks to public internet booths. Over the last 20 years, the country has promoted digital government policies aimed at modernizing the administration and improving public services for citizens, albeit irregularly. In the regulatory sphere, Peru was one of the first in the region to regulate digital financial transactions, which enabled and provided greater security to e-commerce.

Challenges in digital policy implementation and coordination capacity slow efforts to remedy digital divides and secure important digital safeguards. In 2021, a considerable percentage of the population was still without internet access, especially in rural areas. During the COVID-19 pandemic, virtualization of classes in basic education was impossible in many parts of the country, especially in the Andean and Amazon regions, not only due to connectivity issues, but also due to the [lack of equipment](#) (e.g., computers, tablets). Digital rights violations including technology-facilitated gender-based violence have increased and although various branches of the government have tried to remedy this, their efforts are siloed and multi-stakeholder governance

mechanisms to address this and other digital related issues are weak or non-existent. Although Peru's digital economy has grown, it is handicapped by a lack of trust. This is mainly due to the proliferation of [digital fraud](#), which authorities have failed to control.

The dense Amazon and the Andes mountains challenge the success of traditional models for rural connectivity. The government has demonstrated a consistent commitment to modernizing internet infrastructure since the 2012 initiation of the national fiber optic network, the *Red Dorsal*. Attention has also been dedicated to improving rural connectivity through Peru's universal service fund, [PRONATEL](#), and through alternative solutions led by rural mobile infrastructure operators (*operadores de infraestructura móvil rural* - [OIMRs](#)).¹ However, many of these solutions use costly satellite technology that disincentivizes telecom operators to provide connectivity in hard-to-reach areas through experimentation with new technologies. Alternatively, small-scale innovation exists in pilots like [USAID/Peru's work with CEDRO](#) testing O-RAN technologies to help close the rural and Amazonian connectivity gap. While Peru ranks relatively high in terms of mobile broadband affordability, national averages mask geographic disparities. The cost of coverage in rural and Amazonian areas may be higher due to limited competition. The government is also pursuing 5G rollout plans, which have been delayed due to a lack of clarity around spectrum auctions.

Improving digital literacy for all Peruvians is a central element of the government's strategy for inclusive digital transformation. The main approach over the last three decades focused on provision of digital hardware like laptops and tablets to unconnected populations. The success of such initiatives was repeatedly undercut due to a lack of complementary digital skills training. The COVID-19 pandemic reignited the government's efforts to improve digital capabilities among educators and school children. Laptops and tablets as well as online learning modules for students and resources for their parents were quickly deployed and paired with online training to orient and increase awareness of remote learning best practices for teachers.

Regulations in the digital space are at odds with the protection of basic digital rights like freedom of expression online. Over the past decade, the Government of Peru introduced a range of regulations on internet infrastructure, personal data protection, cyber crime, and government digital transformation. Between 2016 and 2021, more than 180 bills were presented in the Peruvian Congress to regulate the internet and other emerging technologies. To date, only 29 of those proposals have been enacted into law. This speaks to the trend of rapid and high-volume regulation that does not always come with the needed follow-through and enforcement, due in part to administration changes at all levels of government. Actors from civil society and the private sector criticize the government for introducing regulation without sufficient transparency, and concerns have been raised about the role of the executive branch in digital policymaking as it relates to *Secretaría de Gobierno y Transformación Digital* (SEGDI), the government body leading all digital transformation efforts. Civil society stakeholders have serious reservations about proposed bills that enable content moderation, internet shutdowns, and censorship.

Civil Society Organizations (CSOs) struggle to carve out a role to influence the digital ecosystem. With limited space for multi-stakeholder dialogue on digital policymaking and internet governance, older, well established CSOs that traditionally do not focus on the digital ecosystem lack the technical knowledge and skills to engage in these conversations. Newer, smaller organizations focused on digital rights are hyper-localized and do not have the financial or human resources to engage in more complex or regional-to-national level digital rights issues. This results in fragmented and smaller-scale short-term efforts by civil society when

¹ The acronym OIMR is used throughout the report to refer to "rural mobile infrastructure operators", or in Spanish, *operadores de infraestructura móvil rural*. OIMR is a commonly recognized acronym in Peru, therefore it is used instead of the English version, RMIO.

it comes to digital rights. Even if civil society had a stronger voice in Peru, there is no significant platform for multi-stakeholder dialogue. Existing platforms are either dominated by government actors or lack widespread recognition.

Peru's enabling environment for digital financial inclusion in terms of policy and regulation is positive, but challenges remain in terms of product offerings and customer uptake. Weak coordination across actors and geographies and an overreliance on private sector investment hinder solutions to problems such as last-mile connectivity that fall within the remit of the government. The marketplace for digital financial services, e-commerce, and digital talent are Lima-centric and dominated by commercial banks. The large urban-rural disparity in digital financial inclusion is further challenged by weak physical banking infrastructure, low merchant uptake of mobile money, and a dearth of disaggregated data on financial behavior and inclusion related to gender and Indigenous peoples.

International and regional players dominate Peru's growing e-commerce landscape. Technology startups are hitting their stride, but continue to face a multitude of challenges. Technology remains out of reach for the country's large base of informal micro-, small, and medium enterprises. E-commerce thrives in urban areas, but is hindered by low levels of trust and a weak logistics infrastructure in rural areas. Social commerce—a subset of e-commerce whereby sales and purchases of products and services are conducted on social media channels—is on the rise and may offer opportunities for entrepreneurs to expand their customer bases. Technology startups face challenges including an underdeveloped regulatory framework for entrepreneurship and limited access to finance. Entrepreneurial activity is largely concentrated in the informal sector, which makes it challenging to leverage technology.

The report makes ten recommendations for the international development community covering topics across the three DECA pillars. There is opportunity for international development actors to promote alternative connectivity solutions and apply a [territorial approach](#) using human centered design principles to increasing connectivity for rural, Amazonian, and Indigenous populations. Such actors can also focus on digital literacy programming focused on strengthening cybersecurity awareness, capacity, and policy. Similarly, there is a need for capacity building for CSOs including around cyber hygiene and digital skill building. There is opportunity for actors to come together and participate in multi-stakeholder dialogues around digital policymaking and internet governance. In terms of the digital economy, the international development community can help foster a culture of research and development for increased digital financial inclusion, enable partnerships between traditional financial service providers (FSPs) and FinTechs, and promote the digital transformation of Micro-, small, and medium enterprises (MSMEs).

ROADMAP FOR THE REPORT

Section 1 provides background on the DECA framework and goals.

Section 2 presents key findings on Peru'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 to work with and support the digital ecosystem to achieve improved development outcomes.

Section 1:

About this Assessment

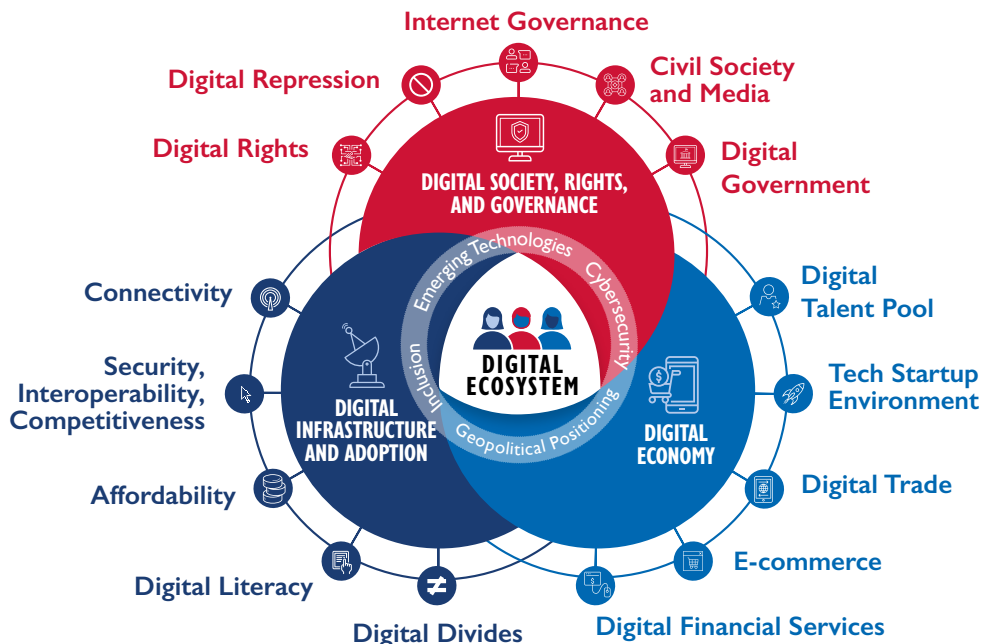
USAID's Digital Strategy aims to improve USAID development and humanitarian assistance outcomes through the responsible use of digital technology and to strengthen the openness, inclusiveness, and security of country digital ecosystems. The Digital Strategy and the DECA are part of USAID's holistic approach 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:

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

The Peru DECA took place between mid-July 2021 and February 2022. It included desk research, consultations with USAID/Peru, and 8 weeks of virtual key informant interviews, which included [9 focus group discussions](#) with USAID Peru project participants and [63 interviews](#) with stakeholders from civil society, academia, the private and public sectors, international development organizations, and USAID/Peru technical offices.

The DECA is intended as a rapid assessment of opportunities and challenges tailored to USAID's programmatic priorities. It does not serve as an authoritative source on the country's digital ecosystem.



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 literacy²) — who uses and does not use digital technologies and why.

KEY TAKEAWAYS

DIGITAL INFRASTRUCTURE AND ADOPTION	
<ul style="list-style-type: none">• A lack of clarity around spectrum auctions has delayed 5G deployment.• High satellite costs in the Amazon and rural areas pose economic hurdles for telecom operators resulting in coverage gaps. PRONATEL and rural mobile infrastructure operators (OIMRs) are initiating promising alternatives to cover connectivity gaps.• Past government digital literacy initiatives have focused on providing tools without any resources on how to use the tools. <i>Aprendo en Casa</i> (MinEdu's distance learning platform) has been more holistic in providing classes and resources to students, teachers, and parents in many parts of Peru.	RELEVANT RECOMMENDATIONS <ul style="list-style-type: none">• Promote alternative connectivity solutions that foster digital inclusion• Apply a human-centered approach to connectivity expansion with Indigenous populations• Increase digital literacy across Peruvian society including for marginalized and vulnerable populations

INTRODUCTION

Peru's journey in digital transformation began in the early 1990s during the [privatization of the telecommunications sector](#) under the Fujimori administration. The telecommunications sector was seen as a national priority and as a market opportunity for the national economy to help build national competitiveness, employment, and economic growth. In 2018, [the sector contributed](#) 4.8 percent to the country's gross domestic product (GDP).

² Digital literacy is 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 variously referred to as computer literacy, information and communication technology literacy, information literacy, and media literacy.

The [2005 Digital Strategy](#) (*La Agenda Digital Peruana*), [2011 Digital Strategy](#), National Plan for Competitiveness and Productivity 2019-2030 (*Plan Nacional de Competitividad y Productividad 2019-2030*), and [Law of Digital Government of 2018](#) have served as the guideposts for Peru's digital transformation, facilitating an increase in mobile phone use and available digital services such as e-commerce, e-governance, and digital financial services. With the onset of COVID-19, the sudden demand to shift to digital services has highlighted the need to enhance connectivity in rural areas, as well as to pair last-mile investments with training on digital literacy to ensure that users have the necessary skills to safely and equitably utilize digital technology.

Connecting all of Peru will require a whole-of-government effort, as well as investments by private multinational companies and international cooperation. Peru's *Organismo Supervisor de Inversión en Telecomunicaciones* (OSIPTEL) regulates the telecommunications industry, while the Ministry of Transport and Communications (MTC) covers the management of digital infrastructure and the deployment of new technology. These agencies have the support of Peru's new president, Pedro Castillo, who has prioritized modernizing the telecommunications industry and stated that his administration will ensure that digital services [are available to all Peruvians](#) regardless of location or income. However, Peru's repeated reshuffling of government administrations and ministers may slow down or change regulatory processes, which may in turn affect private sector incentives to innovate when it comes to providing connectivity in hard-to-reach geographies.

KEY TERMS BOX 1: ISPs and MNOs

[Internet Service Providers \(ISPs\)](#) deliver access to end-users using both fixed-line and wireless technologies. Wireless ISPs (especially those in rural areas) often try to take advantage of low licensing and equipment costs by delivering service using unlicensed spectrum. ISPs range in size and scope from small, local providers to providers with international and even global reach.

[Mobile Network Operators \(MNOs\)](#) provide voice and data services primarily via wireless terrestrial networks. MNOs typically utilize licensed spectrum bands, which tend to deliver a higher quality, more reliable (and more cost-intensive) service due to the fact that they are not shared.

The key difference between ISPs and MNOs is that MNOs provide internet service through a particular medium—licensed spectrum. ISPs deliver internet service through other means, including fixed-line connections and unlicensed spectrum (such as WiFi).

2.1.1 MOBILE PHONE AND INTERNET CONNECTIVITY

Mobile phones and internet connectivity are the foundation of Peru's digital ecosystem. Since the inception of the country's telecommunications sector more than 30 years ago, public and private sectors in Peru have [invested in digital infrastructure](#) as a source of economic growth and social development.

As Peru's telecommunications industry has grown, mobile phone use has steadily increased. According to GSMA data, about [73 percent](#) of the population actively used a mobile phone in 2020, [compared to 50 percent](#) in 2013. [Mobile broadband networks](#) covered 83 percent of the population as of 2017. More than 50 percent of the population was covered by 4G (fourth generation) networks and 74 percent was covered by 3G (third generation) networks. The [majority of network](#) coverage is concentrated in the populous cities along the nation's coast. The [National Institute of Statistics and Informatics](#) reported that mobile phones are the primary avenue through which individuals connect to the internet, with 82 percent of Peruvians ages six years and up using a mobile phone to connect to the internet in 2018.

Organismo Supervisor de Inversión Privada en Telecomunicaciones ([OSIPTTEL](#)) is the regulatory body responsible for supervising and establishing service standards for the telecommunications industry, and the Ministry of Transportation and Communications (MTC) focuses on how to improve telecommunications infrastructure across the nation. The [leading mobile network providers](#) (MNOs) based on market size are *Telefónica Movistar* (33.4 percent), *América Móvil Claro* (29.7 percent), *Entel* (20.2 percent), and *Viettel Bitel* (16.7 percent). According to a 2014 GSMA analysis, each MNO targets a unique population segment for customers. *Entel* [targets](#) higher-income individuals living in Lima, *Claro* focuses more on Lima and higher income groups, and *Movistar* targets all cities and rural areas. This is in line with [GMSA's Network Coverage maps](#) (Figure 1) where *Entel* and *Claro*'s networks are most concentrated across the coastline but *Movistar* has some network coverage (although mostly 2G and some 3G/4G deeper into the country). *Viettel* (which launched around) 2014 seems to be mostly focused in Lima. There is limited to no coverage in the eastern Amazon Basin.

According to the [Alliance for Affordable Internet](#) (A4AI), Peru reached the “1 for 2” measure for affordable internet in 2020, providing 1GB of data at 1.51 [percent of the GNI](#). A4AI considers Peru's mobile broadband more affordable than broadband in surrounding Latin American nations (See Figure 2). In 2021, the A4AI gave Peru an 83.89 on the [Affordability Drivers Index](#) (ADI).³ Only two other Latin America nations scored higher, Costa Rica (87.15 ADI Score) and Colombia (87.82 ADI Score). However, these national averages may mask geographic disparities. According to the World Bank, Peru's rural population earns less than [50 percent of the average monthly income](#), restricting their ability to afford mobile broadband costs. The cost of expanding network coverage may be higher in rural and last-mile communities where there is limited competition. This would make mobile services and data less affordable, further restricting the ability of low-income households to use mobile broadband services. A telecoms expert interviewee referred to mobile broadband's high cost as a barrier to increased mobile internet use, particularly in rural and Amazonian areas.⁴ Since *Movistar* is the dominant MNO in rural areas, the lack of competition for rural markets has not led to a decrease in prices and more affordable rural broadband (see Figure 1).

3 The Affordability Drivers Index (ADI) is a composite measure that summarizes in a single score an assessment of the drivers of internet affordability in various countries. Benefiting from the research framework established by the Web Index, the 2020 ADI covers 72 countries and focuses on two key aspects driving affordability: telecommunications infrastructure and access to the internet.

4 Telecommunications expert. Interview with DECA Team, September 2021, online.

FIGURE 1: Geographic network coverage, Telefonica Movistar, America Movil Claro, Entel, and Viettel



Operator: Telefonica Movistar



Operator: America Movil Claro



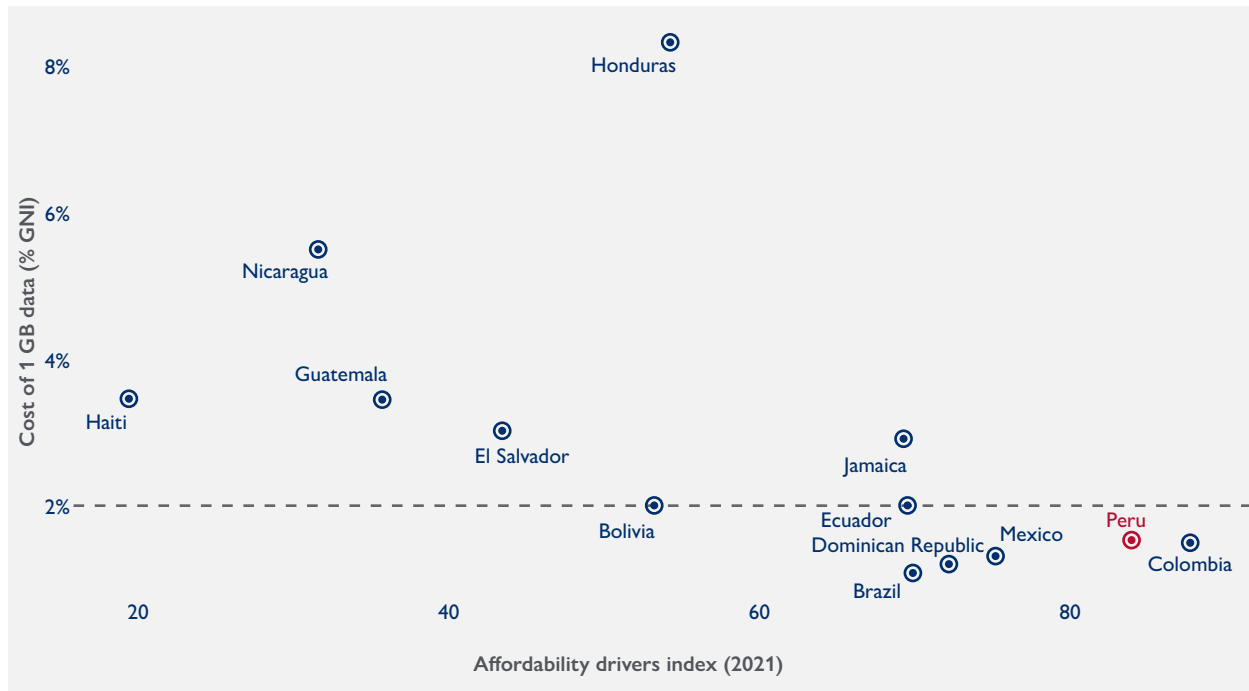
Operator: Entel



Operator: Viettel

KEY: ■ 2G (GSM) ■ 3G ■ 4G (LTE)

Source: [GSMA Network Coverage Maps, 2021](#)

FIGURE 2: Comparison of 2021 ADI Scores vs. Latest Affordability (2020)

Source: [A4AI](#)

PERU'S NEXT GENERATION OF MOBILE BROADBAND - 5G

KEY TERMS BOX 2: Spectrum

Radio Spectrum refers to the range of frequencies of electromagnetic radiation used to deliver radio transmissions.

Telecommunications sector regulatory authorities designate specific frequency ranges (or bands) for different purposes.

These purposes include telecommunications as well as applications such as radio astronomy or other industrial uses. Some bands (e.g., WiFi) are unlicensed, meaning that anyone can use them without seeking explicit prior permission. [Licensed spectrum](#) requires users (e.g., mobile network operators or FM radio broadcasters) to secure a regulator's approval prior to use. Licenses are typically assigned through spectrum auctions, which seek to establish the economic value of spectrum as a finite natural resource.

In November 2020, MTC announced the largest spectrum auction in Peru's history. The [proposals included](#) awarding frequencies that would allow [deployment of 5G](#) services and WiFi 6 in homes.⁵ After several delays, the Peruvian government began to lay the groundwork for 5G deployment in 2021. In March 2021, the [MTC granted permission](#) to existing MNOs to offer 5G new radio (NR) fixed-wireless internet services via existing 3.5GHz spectrum.

[Peru's 5G development](#) will likely take place on top of its existing 4G network, a non-standalone ([NSA](#)) standard.⁶ Peruvian MNOs have turned to two international corporations to acquire 5G technology. Huawei is supporting

5 Although WiFi operates on unlicensed spectrum—meaning operators do not require licenses from the regulator to operate—the regulator will need to approve use of the 6GHz band for broadcasting purposes since it is a relatively new technology. Learn more about [how WiFi 6 works](#) and [how licensing for WiFi 6 typically works](#).

6 [Non-Stand Alone \(NSA\)](#) 5G is where 5G services are built over an existing 4G core network. Standalone (SA), on the other hand, is independent and connects directly to a 5G core network without any interaction with an existing 4G core.

América Móvil Claro and *Entel*, Ericsson is supplying *Telefónica Movistar*, and *Viettel* is [using their own 5G](#) technology.⁷ According to a telecoms sector interviewee, Peru's MNOs are still in the very early stages of 5G deployment and are not yet offering genuine 5G connections. MNOs are reluctant to invest in the large capital expenditures required for 5G before knowing what the final frequency will be, slowing the technology's rollout.⁸ One telecom sector interviewee questioned the profitability of continuing to invest at high prices when the returns have increasingly become low—especially with the push to offer free spectrum to a few applications.⁹ The eventual adoption and expansion of 5G will increase mobile broadband speeds, and could help to lower prices. This advancement in turn can [support emerging technologies](#) such as applications that operate on the internet of things (IoT) and smart city initiatives.

Similar to other country's experiences with 5G deployment technology, there is a fair amount of misinformation about 5G and COVID-19, leading to incidents such as the June 2020 [detainment of eight MNO technicians](#) in a rural region after the community feared they were installing 5G antennas to spread COVID-19. Educating the public about such misconceptions is an important part of gaining users' trust and business. Misinformation could inadvertently contribute to a larger digital divide if rural communities do not feel safe using 5G.

KEY TERMS BOX 3: Open RAN

Mobile networks consist of two key components: a Radio Access Network (RAN) and a Core Network (Core). The RAN includes antennae and the base stations. When calls are made or when someone is watching a YouTube video, the antennae transmits and receives signals to and from mobile devices. This signal is digitalized in a RAN base station and connected to the Core. The Core does many things including enabling operators to charge for data use and calls, connecting users to the internet, and ensuring that users are authenticated for the services they are using. In most cases, it is difficult at present to use different vendors for RAN components and interoperability between RAN equipment from different vendors is challenging.

Open RAN is an effort to establish industry standards for RAN equipment interoperability so mobile operators are not locked into a single vendor to manage their networks. Open RAN interfaces allow interoperable hardware and software from multiple vendors to be combined. If the security of a specific vendor's hardware or software becomes a concern, the operator can find alternatives.

Disaggregating the RAN is expected to create new network deployment scenarios, spur innovation, facilitate local equipment assembly, enhance security transparency, and minimize risks facing the industry as it scales up its networks for the future. Opening up proprietary elements and interfaces in the RAN will diversify the network equipment and software ecosystem, bringing in new suppliers and additional market competition. Open RAN may also reduce base station costs which is critical for mobile operators when deploying 5G due to the very large number of base stations that will be required.

A number of challenges must be overcome to enable mass deployment of these technology principles. Business challenges include those typically faced by many new products such as higher prices as compared to more mature solutions plus the risk and effort associated with integrating new technology. Security challenges include navigating the geopolitical issues that can delay or scuttle the industry's development efforts and addressing concerns that opening the market to more vendors becomes a security threat multiplier.

Resources:

- [Open RAN explained \(Nokia, October 2020\)](#)
- [Open and Virtualized Radio Access Networks: An Explanatory Guide for Policymakers \(GSMA, 2021\)](#)
- [O-RAN Alliance](#)
- [Open RAN and 5G: Looking Beyond the National Security Hype](#)

7 Telecommunications expert. Interview with DECA Team. September 2021, online.

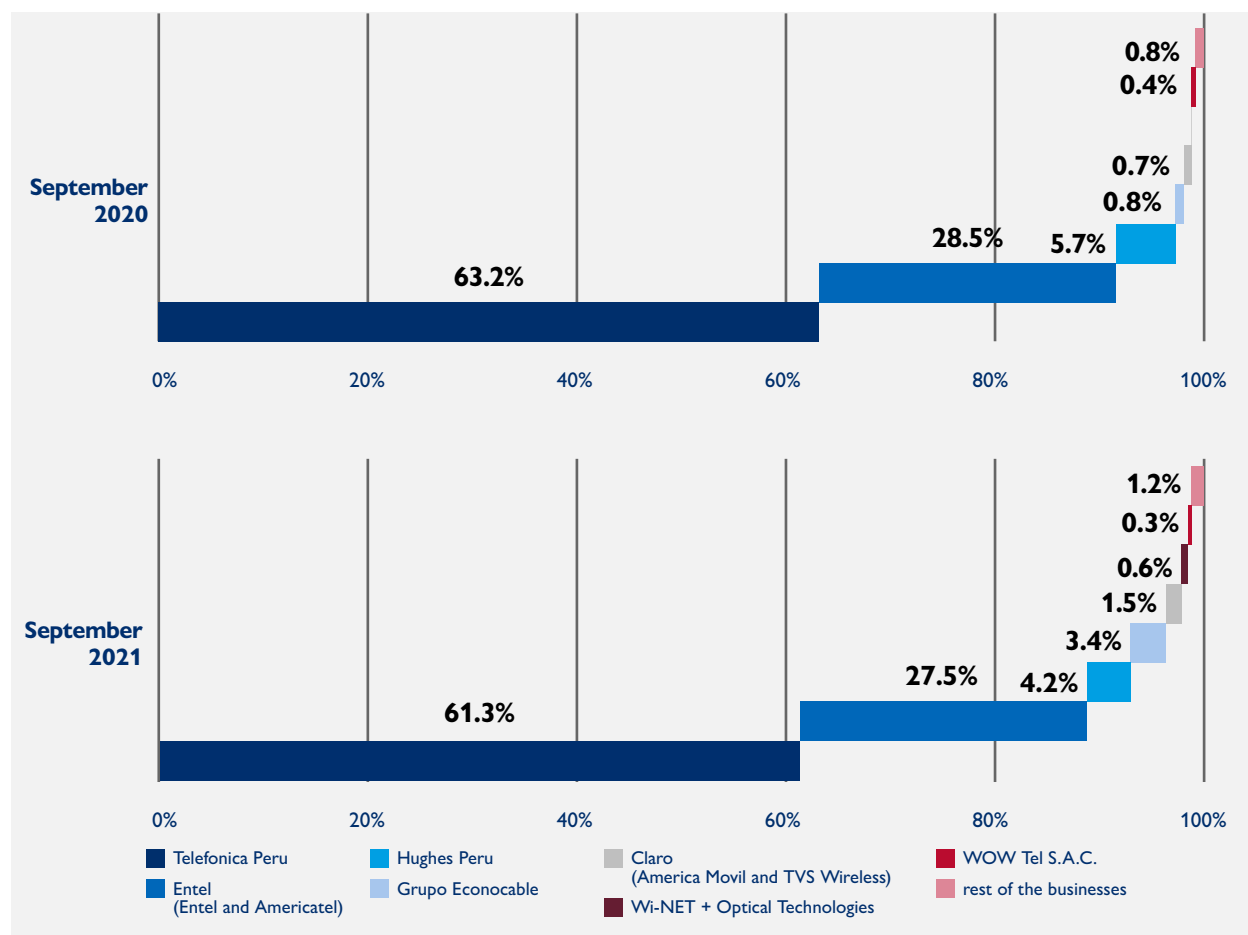
8 Telecommunications expert. Interview with DECA Team. September 2021, online.

9 Telecommunications expert. Interview with DECA Team. September 2021, online.

2.1.2 FIXED INTERNET CONNECTIVITY

Peru lags behind neighboring countries in access to and speed of fixed broadband, with only a small segment (39 percent) having [access to fixed broadband](#) in 2020. *Telefónica Movistar* and *América Móvil Claro* are the leading internet service providers (ISPs) for fixed broadband (see Figure 3), with *Movistar* reporting the [fastest broadband speeds](#). Increased competition between ISPs has resulted in a lowering of fixed broadband costs as well as [improved access](#). In its 2021 analysis, OSIPTEL noted that Peru's fixed broadband networks were further modernizing and also noted that fiber optic cables continued to increase in volume and total market representation, while lower performance telephone line-provided internet continued to [lose market share](#). In addition, an internet performance analysis by Speedtest found that Callao and Lima had the highest fixed broadband speeds in Peru, and less populated regions in the Andes and the Amazon recorded [significantly lower speeds](#) (see Figure 4).

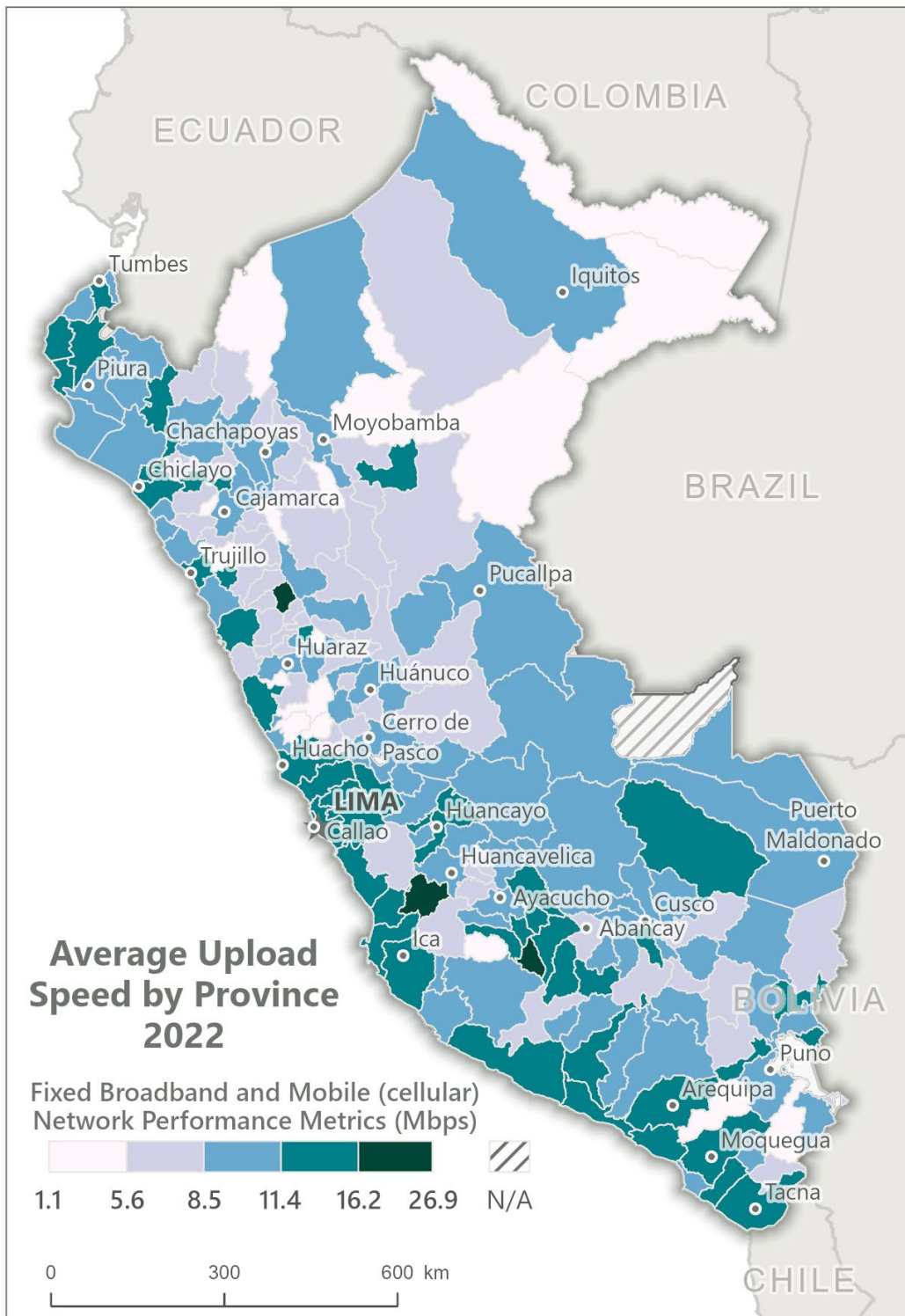
FIGURE 3: Market Share for Fixed Internet



Source: [OSIPTEL, 2021](#)

While all of Peru's regions showed an increase in fixed broadband access in 2021, especially in rural areas, urban areas still outperform in terms of quality and internet speed. For example, the [northern region of Amazonas](#) had the highest percentage increase in access to fixed internet (97 percent), but [Callao and Lima](#) maintain the highest fixed broadband speeds and daily use (See Figure 4). This illustrates that ISPs are making headway in providing fixed internet access in rural areas compared to previous years, but their core market remains in urban locales.

FIGURE 4: Peruvian Fixed Broadband Performance by Region (2021)



Names and boundary representation are not necessarily authoritative.

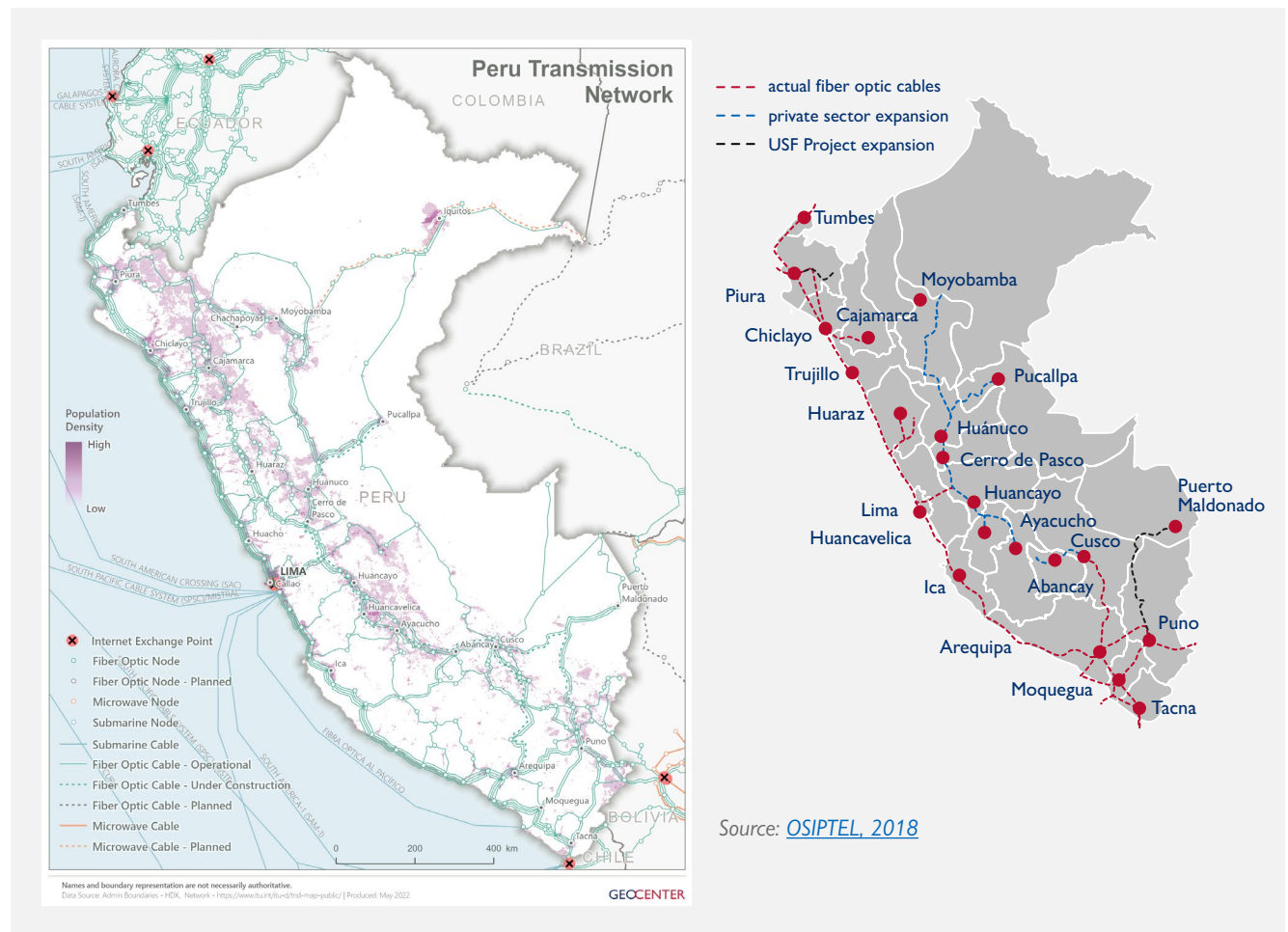
Data Source: Admin Boundaries - HDX, Network Speed - <https://github.com/teamookla/ookla-open-data> | Produced: May 2022

GEOCENTER

GOVERNMENT INITIATIVES TO IMPROVE FIXED BROADBAND

MTC's commitment to modernizing internet infrastructure and expanding access throughout the country is illustrated through the Deployment of the National Fiber Optic Dorsal Network (RDNFO), also known as the [Red Dorsal](#) project. Initiated in 2012 and completed by 2016, [the Red Dorsal was a national infrastructure development plan](#) included in the 2012 National Broadband Law, that commissioned a 13,500 kilometer fiber optic line across Peru's diverse geographic terrain to 180 provincial capitals and 22 capital regions. The [Red Dorsal's stated objectives](#) were to extend broadband access to remote areas; reduce internet costs by 80 percent; and bring e-government, digitized health, and digital education to municipalities. Since the project's completion, there have been ongoing complications. Utilization rates have not met expected levels and non-competitive pricing resulted in the implementing operator [Azteca Communications backing out](#) of a deal with the MTC in 2020. A Peruvian telecommunications expert interviewee expressed skepticism about the *Red Dorsal's* ability to reach the most vulnerable in rural areas and questioned whether having the *Red Dorsal* integrated with the 2012 Broadband Law was restricting its ability to function as a profitable and commercial model.¹⁰ As of 2021, the *Red Dorsal* still did not have an implementing operator, and the National Telecommunications Program (*Programa Nacional de Telecomunicaciones*, PRONATEL) had temporary responsibility over the project.¹¹ Figure 5 below shows the geographic location of where fiber optic cables were placed as part of the deployment of the *Red Dorsal*.

FIGURE 5: Red Dorsal Deployment and Transmission Network



10 Telecommunications expert. Interview with DECA Team. September 2021, online.

11 Telecommunications expert. Interview with DECA Team. September 2021, online.

2.1.3 ADDRESSING CONNECTIVITY CONCERNS IN RURAL PERU AND THE AMAZONIAN REGION

KEY TERMS BOX 4: The digital divide explained

The digital divide is the distinction between those who have access to and can use digital products and services and those who are excluded from these products and services. Overlapping digital divides that stem from inequities in literacy, cost, social norms, or availability of relevant content. Digital divides may be associated with gender, economic status, geography, and age, among other factors.

Geography and income are the two main contributors to Peru's rural connectivity challenges. The Andes mountain range (which runs through the middle of Peru) and the Amazon rainforest (along the eastern border) present significant geographical obstacles for constructing telecommunications infrastructure and providing connectivity for rural residents. [According to the World Bank](#), Peru's rural population earns less than 50 percent of the country's average monthly income, restricting their ability to afford mobile broadband costs. The *Instituto Nacional de Estadística e Informática* (INEI) reports that mobile and internet penetration in rural Peru has been growing steadily throughout the last decade. In 2010, the gap between rural and urban areas in terms of mobile phone ownership was 36 percent. In 2015, the gap had shrunk to 18.6 percent. Meanwhile, in 2016, [mobile internet penetration among rural populations](#) was at 38 percent. The expansion of Peru's universal service fund, licensing of rural mobile infrastructure operators (RMIOs), and alternative telecommunications systems such as satellites have been key to expanding communities' increased access to the internet.

UNIVERSAL SERVICE FUND

KEY TERMS BOX 5: Universal Service Fund

A Universal Service Fund (USF) is a mechanism designed to promote network infrastructure development in areas that commercial access providers deem uneconomical. USFs are essentially subsidy programs, resourced through contributions drawn from the revenues of telecommunications operators. USF funds are often applied to help de-risk or otherwise complement network investments in underserved (or unserved) areas. In many cases, USFs target projects that serve schools, hospitals, and other anchor institutions where demand for services can be aggregated.

Peru's current Universal Service Fund, known as PRONATEL, was created by the MTC in 2018. [PRONATEL](#) is funded by one percent of MNO profits, and the fund's goal is to expand high-speed internet throughout the country, with an emphasis on providing access to rural residents. It has made [measurable progress](#) in expanding connectivity in the Loreto region, home to a large Amazonian, Indigenous population. PRONATEL supported the Napo-Putumayo Broadband Project and Broadband Project of the Manseriche district, [providing connectivity to more than 50,000 citizens](#). In 2019, PRONATEL signed an agreement for the national broadband cooperation project to be carried out with the PRC-based Yangtze Optical Fiber and Cable (YOFC) company. The [project plans to deploy fiber broadband services in rural areas](#) of Ancash, Arequipa, La Libertad, and San Martin.

Despite PRONATEL's progress, Peru's USF [has problems similar](#) to those experienced elsewhere in the region, such as regulation-related complexities which impede implementation or the exclusion of small operators, cooperative, and other local projects. In their evaluation of PRONATEL, the [Inter-American Development Bank](#)

(IDB) found that local stakeholders do not participate in decision-making and management processes of USFs and recommends community members take on a more significant role.

RURAL MOBILE INFRASTRUCTURE OPERATORS (OIMRS)

Rural mobile infrastructure operators (*operadores de infraestructura móvil rural* - OIMRs), are special mobile operators who receive unique financing to offset the financial risks traditional MNOs face when setting up digital infrastructure in low-revenue producing areas. OIMRs [use incumbent operators' networks](#) to run their own networks. OIMRs do not own the final customer base, the MNOs do. From a business standpoint, OIMRs are able to deploy value-added infrastructure in an area with no competition and make a compelling case for MNOs to partner with them. MNOs do not have to worry about the initial cost of investment and can still capture a larger client base that they previously had access to.

In 2013, the MTC passed a law that strengthened competition in the mobile public services market ([Law No. 30083](#)) and approved OIMRs to carry a license to provide voice and broadband services at a differentiated cost to rural residents or locations deemed in the public interest.

BOX 1: OIMR Case Study: Internet para Todos Peru

In 2019, [Facebook](#), [Telefónica Movistar](#), Inter-American Investment Corporation (IDB Invest), and the Development Bank of Latin America (CAF) [announced](#) the launch of [Internet para Todos \(IpT\) Peru](#), an open-access OIMR focused on bringing mobile broadband to rural areas where traditional MNO models were not yet economically feasible. The project's design allows all MNOs in Peru to utilize IpT's 3G and 4G base stations through a revenue sharing model, commonly referred to as Network as a Service (Naas),¹² which lowers set-up costs and allows MNOs to deliver mobile phone and broadband services into rural communities (See Figure 6).¹³ [These last-mile connectivity efforts](#) help private sector partners such as Facebook build a greater customer base since their business model is based on advertisements.

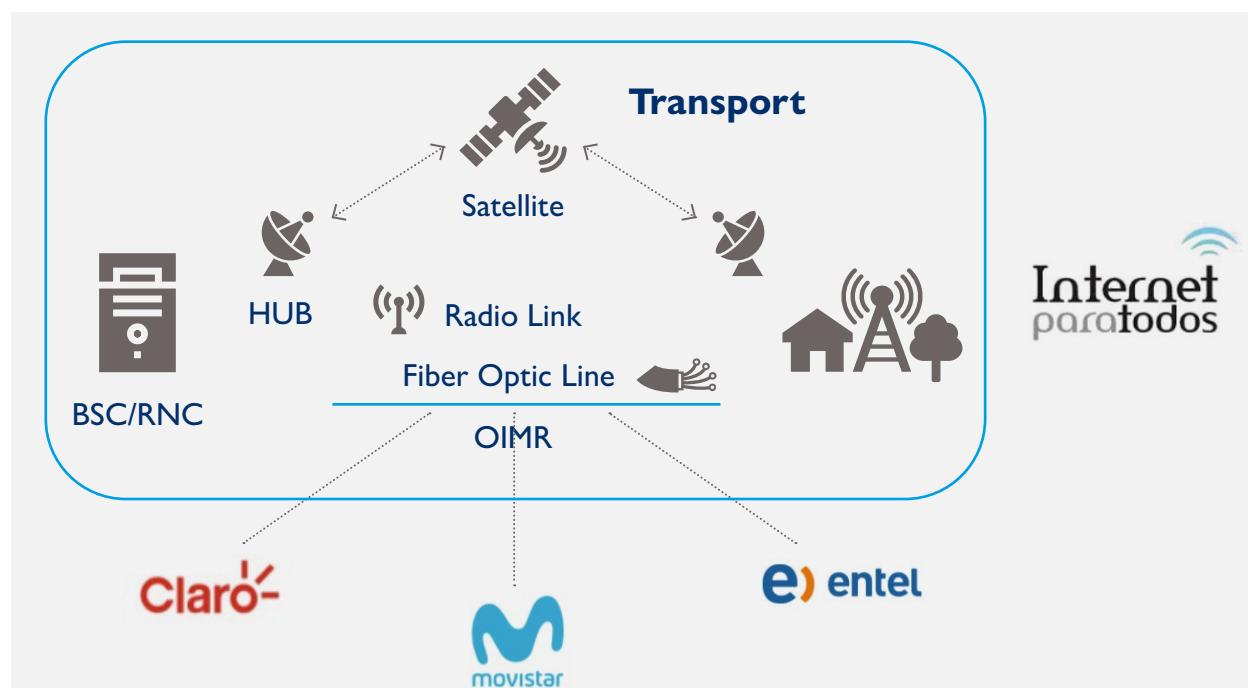
As of 2020, IpT has connected [1.6 million Peruvians](#) across 10,000 rural communities. IpT has used a variety of innovative technologies to achieve its connectivity ambitions, such as open radio access solutions (Open RAN), which were [introduced by](#) the Open RAN Project Group, and supplied to [Telefónica](#) by AltioStar, Gigatera Communications, Intel, Supermicro, and Xilinx. IpT intends to use Open RAN technology to provide 4G and eventually 5G coverage to more than [13,000 remote towns](#).

As part of the USAID-led CR3CE Alliance, [Centro de Información y Educación para la Prevención Del Abuso de Drogas](#) (CEDRO) and IpT [signed an agreement](#) to continue and expand 4G services in AD areas where CR3CE will work on issues like digital financial inclusion to promote effective use of the internet. IPT plans to connect 53 locations to directly benefit more than 15,000 people by the end of 2022.

According to technology experts, [IpT is the first time](#) a technology company, development bank, and a telecommunications company have worked together to provide mobile broadband in rural communities. For other stakeholders and donors working to close the digital divide, this initiative illuminates the benefits development finance paired with public-private partnerships (PPPs) have for expanding telecommunications access, and can serve as a model to replicate elsewhere in Latin America.

12 [Network as a Service \(Naas\)](#) is a model for organizations in using network infrastructure that allows for flexible operating expense (OpEx) subscriptions including hardware software, management tools, licenses, and lifecycle services. Traditional network models require capital expenses (CapEx) for physical networks made up of switches, routers, and licensing.

13 [Internet Para Todos](#) is active in three USAID priority regions; Loreto (Mariscal Roman Castilla, Requena, Alto Amazona, Putumayo, Maynas); Madre de Dios (Tambopata, Many, Tahuamanu); and Ucayali (Coronel Portillo, Atalaya, Padre Abad). As of October 2021, IpT in the Amazon had 424 2G sites (covering a population of 320,961), 6 3G sites (5,344), 192 4G sites (385,795), and 198 3G/4G sites (391,139). Greenfield had 100 4G sites (covering a population of 137,544).

FIGURE 6: *Internet Para Todos*, Shared Infrastructure Model¹⁴

Source: J. Aguilar Reátegui (2021)

TABLE 1: Comparative Analysis of 3 OIMRs (Operators of Mobile Rural Infrastructure) in Peru

	INTERNET PARA TODOS	MAYU TELECOMUNICACIONES	ANDESAT
Technology Used	Satellite, Fiber, Microwave Technology	Fiber, Microwave Technology, Satellite	Satellite
Partners	Facebook Connectivity, IDB Invest, Telefónica, CAF	Facebook Connectivity (former partners), EHAS-Project Napo	Te Conectamos Peru

EXPANSION OF SATELLITES AND ALTERNATIVE CONNECTIVITY SOLUTIONS

Some of Peru's most geographically isolated areas are testing the deployment of satellites, Open RAN, microwave systems, and other modern technology to improve internet connectivity. The Peruvian satellite companies [Andesat and Intelsat worked with the MTC](#) to identify sites, build towers, and then use high-throughput satellite (HTS) to provide 3G services in rural Peru. Operating as an OIMR, the program shares a built-out satellite network with MNOs on a pay-per-use basis, delivering quality broadband service to last-mile communities. A review of the initiative showed that it has provided [154 rural communities](#) with 3G and led to an increase in mobile voice and broadband traffic.

Conecta Selva is another Amazon region-specific initiative that [PRONATEL supports](#) in the USAID priority regions of Loreto, Amazonas, Ucayali, and Madre de Dios. The program focuses on providing disadvantaged Amazonian communities with connectivity to satellite-provided internet and establishing public-facing institutions in those regions with free internet services.

¹⁴ Original figure on digital infrastructure from Jose Aguilar Reátegui, telecommunications expert in Lima, Peru. This graphic shows the shared infrastructure model of *Internet Para Todos* created by DECA author.

Traditional satellite technologies provide low-capacity connectivity but the sunk costs associated with their deployment do not offer robust economic justification for their increased usage. According to a World Bank report, they “are not considered effective substitutes for fiber-optic cables and are currently second-best options for broadband service deployment.” This may call for stakeholders to consider alternative models that do not involve satellite technologies.

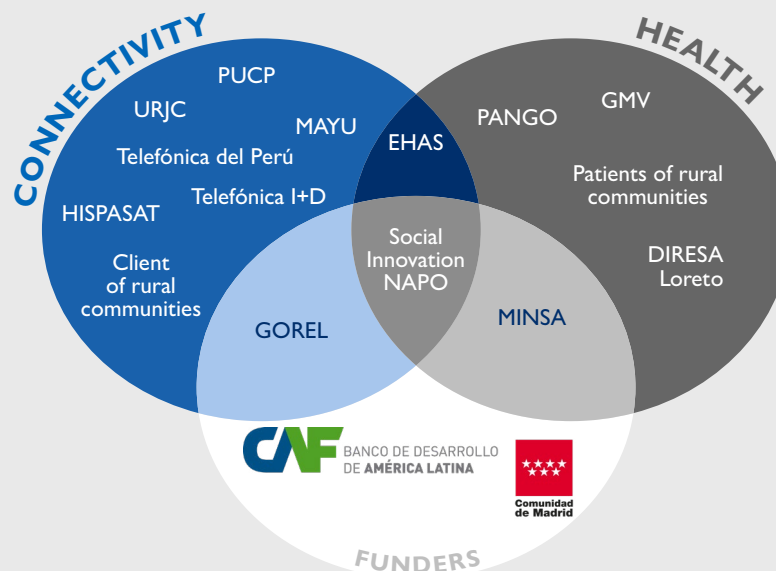
In looking toward alternatives in technological development to satellite costs, the [Telecom Infra Project](#),¹⁵ a partner of IpT, is exploring other types of enabling technologies that can [bring broadband services to rural areas](#). One such [partnership between IpT and Alphabet](#) was launched in 2020 to use LOON balloons to provide 4G/LTE coverage to the Amazonian Loreto region. However, the project was short-lived and [shut down in January 2021](#).

BOX 2: Project Napo - Expanding Mobile Broadband for Health Purposes

The Hispanic-American Health Link Foundation (EHAS) [launched Tucan3G](#) in the Napo river basin in 2013 to improve the healthcare of rural Peruvians by increasing their access to telecommunication technologies. Tucan3G [used local 3G access points](#) to connect to existing Wi-Fi for Long Distances (WiLD) networks to help improve connectivity in rural communities, which in turn would increase the number of mobile users and attract traditional MNO investment in the area. An evaluation of Tucan3G found that the program [successfully engaged](#) with local community members but struggled to finance the high infrastructure costs associated with building in such remote terrain.

Launched in 2016, Project Napo was the follow-on project to Tucan3G and applied the same concept throughout the entire Napo River basin in the Loreto region. Through a PPP with Social Innovation, CAF, the EHAS Foundation, and the Pontifical Catholic University of Peru (PUCP), Project Napo was able to reach a wider geographic area. The project provided mobile broadband services to [3,000 residents](#) in six remote communities and internet connectivity to 13 healthcare facilities. In 2019, [Project Napo received praise from President Vizcarra](#) and Minister of Health Tomás for expanding broadband coverage, strengthening telemedicine to support remote healthcare workers, and helping Peru meet its commitments to the Sustainable Development Goals (SDGs). The figure below shows the partnership model used in Project Napo.

FIGURE 7. Project Napo partnership model



Source: [EHAS](#)

15 The [Telecom Infra Project](#) is partnered with *Internet Para Todos* and with the O-RAN Alliance, aiming to re-shape the RAN industry to more fully interoperable mobile networks. It aims to foster competition and vibrancy to the RAN Supplier ecosystem with a faster and more improved user experience and to improve efficiency around RAN deployments.

2.1.4 DIGITAL LITERACY - A BARRIER TO DIGITAL TRANSFORMATION

Providing Peruvians with access to digital technologies and the skills to use them is a central element of the government's strategy to facilitate inclusive digital transformation and [close the digital divide](#). The [territorial approach](#), a concept accepted and applied in inclusion-oriented policymaking and service delivery in Peru, provides a framework for approaching development efforts that center around people and where they live.

BOX 3: Territorial Approach and Localization in context

Locally-led development is a key component of the continued and inclusive evolution of Peru's digital ecosystem. This is underscored by the territorial approach (*enfoque territorial*) to development, a commonly understood term in Peru that recognizes the diversity of the country and the importance of solutions that respond to the unique needs of each region while also calling for an integrated, multisectoral, multidimensional approach. This approach overlaps, in part, with USAID's recent push for the mainstreaming of localization efforts.

Territorial approach: A framework that involves multiple sectors and stakeholders and recognizes complex economic and social transformation processes in a given geographic space. Territorial approaches are place-based, people-centered, multi-actor, multi-level, and cross-sectoral.

Localization: A recent USAID approach to development that includes three objectives: building the capacity of local institutions, enhancing the use of local institutions as implementing partners, and advancing locally led development.

Over the past three decades, the government's primary approach has been to provide digital hardware, such as laptops and tablets, to unconnected individuals, oftentimes [without complementary digital skills training](#). Government-run programs such as the Huascarán Project and One Laptop per Child provided school children in underdeveloped areas with computers, laptops, and improved internet access in order to [modernize their educational experience](#). However, these programs [did not offer a curriculum](#) on the use of such devices for educational purposes and thus largely failed to produce results in improved digital literacy. According to one interviewee from a non-governmental organization (NGO) working in digital literacy, providing laptops to disadvantaged school children is a powerful move politically, as it demonstrates to the public that their government is concerned with improving children's education and modernizing the education system. Failing to simultaneously provide assistance on developing digital capacity severely undercuts successful digital transformation.¹⁶ A Peruvian sociologist interviewee highlighted the need for digital literacy interventions to incorporate locally relevant content and avoid taking a homogenous approach, particularly when designing programs for communities that may be distrustful of digital technologies.¹⁷

¹⁶ Peruvian NGO. Interview with DECA Team. October 2021, online.

¹⁷ Peruvian sociologist. Interview with DECA Team, September 2021, online.

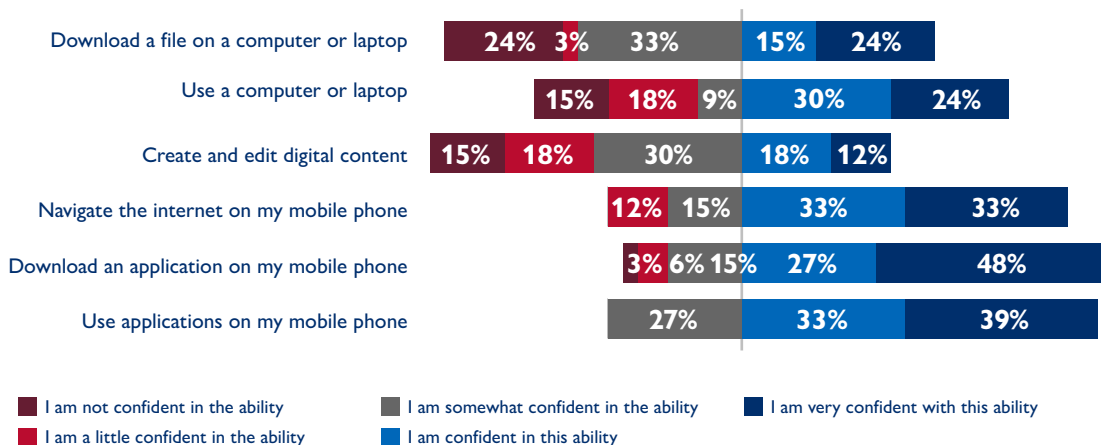
BOX 4: Digital Competencies - Findings from Focus Group Exercise

In November 2021, in partnership with the non-profit *Centro de Informacion y Educacion para la Prevención del Abuso de Drogas (CEDRO)*, the DECA research team conducted a focus group with 34 participants including members of youth groups, female entrepreneurs, and other clients of CEDRO. One purpose of the focus group was to gather information through a digital competencies exercise to determine individuals’ comfort and knowledge on how to use digital tools for various purposes.



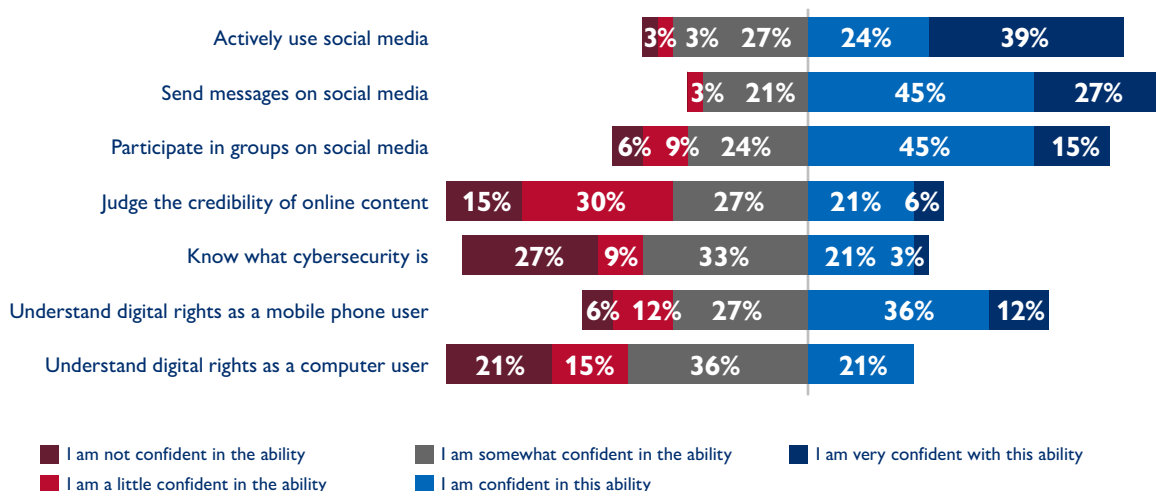
According to results from the digital competencies exercise, a majority of participants were confident in their ability to use basic digital tools such as a mobile phone. More specifically, 39 percent of participants reported that they were very confident and 33 percent reported they were confident of their ability to use applications on a mobile phone. Respondents used their mobile phone to conduct basic activities, such as downloading mobile applications onto their phone (48 percent) and sending or receiving text messages (28 percent).

DIGITAL COMPETENCIES ACTIVITY: DIGITAL LITERACY



A large percentage of participants reported that they were less confident in their ability to use digital tools for more advanced purposes, such as to judge the credibility of online content (e.g., ability to detect fake news). According to focus group results, 30 percent of participants reported that they were a little confident and 15 percent reported they were not confident in their ability to judge the credibility of online content. Only 12 percent of participants felt very confident in their ability to create and edit digital content and 46 percent felt confident (15 percent felt very confident) in their ability to participate in groups on social media (e.g., WhatsApp, Facebook). Lastly, results showed that many respondents were not aware of their digital rights nor did they have an understanding of cybersecurity. Only six percent of participants know their digital rights and three percent felt very confident that they understand the concept of cybersecurity.

DIGITAL COMPETENCIES ACTIVITY: SOCIAL MEDIA USE AND CYBERSECURITY AND DIGITAL RIGHTS AWARENESS



Focus groups results show that although surveyed respondents had access to technology and the basic skills to use it, there is still a need for increased digital literacy to ensure that they are able to use more advanced functionalities on their phone, as well as to navigate the internet safely. Results show that foundational skills exist, but more work is necessary to provide Peruvians with the confidence to continue their journey in digital literacy skill building.

For a more detailed summary of the focus group discussion findings see [Appendix A](#).

The government launched [Formulación del Plan Nacional de Alfabetización Digital](#) (National Strategy Plan of the Government of Peru on Digital Literacy - PNAD) in 2015 to strengthen digital capabilities among educators and young adults. [PNAD](#) is a collaborative strategy plan between the Ministry of Education (MinEdu), Presidency of the Council of Ministers-National Office of Electronic Information—*Oficina Nacional de Gobierno Electrónico e Informática* (PCM-ONGEI), and the MTC. PNAD aims to achieve measurable progress on its efforts by 2030. It aims to [increase the capacity for technological competencies](#) among youth and adults. Another government initiative focused on improving digital literacy in schools is the MinEdu's [Guide to Digital Literacy](#) published in 2016. The guide features MinEdu platforms designed to improve digital capabilities, such as *PerúEduca*, a collaborative online knowledge management system where administrators, teachers, and students can share information about digital literacy and technology. The guide also [outlines the government's current approach](#) to digital literacy and describes the three categories that an individual must develop to achieve digital literacy: digital security, tool management, and information management.¹⁸

Distance learning during COVID-19

The COVID-19 pandemic has reignited the Peruvian government's efforts to improve digital capabilities among educators and school children. In April 2020, the [MinEdu reported](#) the purchase of 840,000 tablets for school children in rural and urban areas due to the reduction of in-person learning and transition to distance learning.

¹⁸ USAID uses the [EU DigComp Framework 2.0](#) which summarizes a variety of skills from browsing information and digital content to programming and solving technical problems. At a high level, the government's framework can be mapped to the EU DigComp Framework 2.0 to some extent: digital security aligns with safety in DigComp 2.0; information management can be mapped to information and data literacy; and tool management aligns with different components of communication and collaboration, digital content creation, and problem solving.

Within a month of the first case of COVID-19 in Peru (March 2020) [MinEdu launched *Aprendo en Casa*](#) (“I Learn At Home”) under its broader *Cierre de la Brecha Digital* (“Closing the Digital Divide”) plan. *Aprendo en Casa* provides daily lessons for students and resources for parents in each grade level using different forms of media including internet, TV, and radio to [reach as many students as possible](#). Although the program does not mirror a classic school day, [MinEdu’s pedagogical team](#) worked to convert existing content into usable formats for the platform. The program tried to overcome many challenges to inclusion by developing radio programs in nine major Indigenous languages; broadcasting programs in sign language; and offering unlimited calls, SMS, and internet access so teachers can stay in touch with students, parents, and other teachers and follow training through a plan called [Recarga Minedu](#) (“Reload Minedu”).

Many school teachers [felt unprepared](#) for the transition to distance learning and reported multiple instances where they did not have the necessary skills to use the government-provided tablets. The [Minedu used the *PerúEduca*](#) platform to orient, train, and increase awareness among teachers about how to use digital technology, distance learning strategies, and social and emotional learning. The government also [partnered with IBM](#) to teach close to 3,000 teachers about digital tools. Individual teacher-led initiatives have also served as a resource for digital literacy throughout the pandemic. [De Profe a Profe](#) (“Teacher to Teacher”) is a teacher-run page on Facebook with some 3,000 members and serves as a source of information on distance learning and digital literacy.

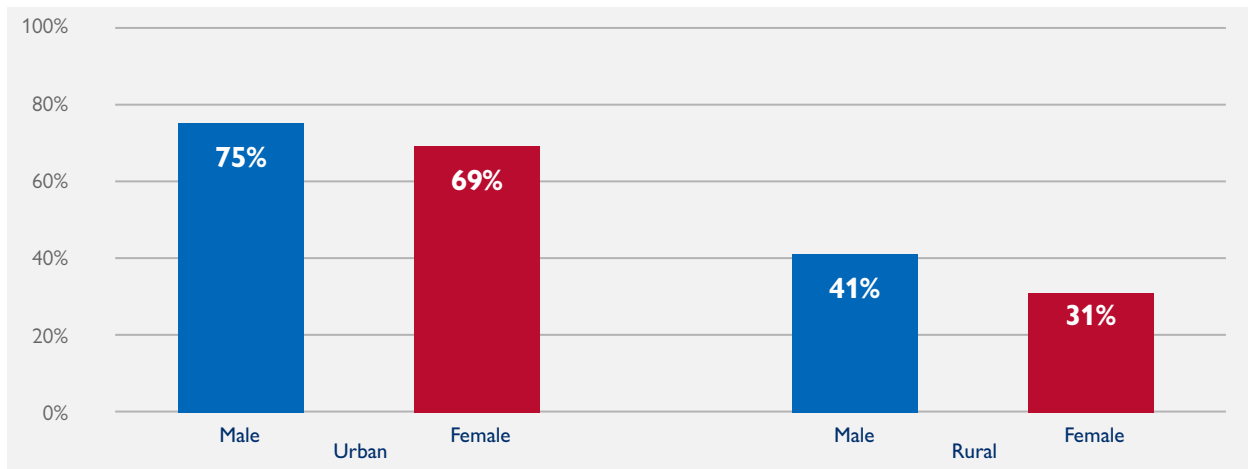
CHAMPIONS OF DIGITAL LITERACY IN PERU

In addition to the Peruvian government’s strategy to address digital literacy, non-governmental organizations (NGOs), private companies, and international donors work in this area. The NGO [Cultura Digital](#) in Lima supports improved digital literacy in Peru through activities such as public forums about digital education, collaboration with rural start-ups, education workshops for teachers, and collaborations with Samsung and the Internet Governance Forum. MNOs are also involved in these efforts, with [Alto Al CiberAcoso](#) managed by *Telefónica*, teaching youth how to interact safely on social media and prevent cyber bullying. *Entel* works to improve Peruvian’s digital capabilities, particularly for people with disabilities, by offering inclusive courses in Peruvian Sign Language via their program [Señas de Conectan](#).

[Telefónica Foundation and Cultura Digital](#) use innovative solutions such as Facebook and mobile applications to implement training in digital capabilities. [Telefónica Foundation uses the app, *Oráculo Matemático*](#), to educate school children about mathematics through a mobile video game and developed the [Educación Digital](#) program to provide teachers and students with digital skills. According to its Director, the *Telefónica Foundation* reached [850,000 children](#) per year in Peru and 40,000 teachers through the 2021 *Educacion Digital* program.

Gender divides in access and capabilities

The gender digital divide in Peru persists when measured in terms of mobile phone ownership and internet use. The [ITU estimates](#) that in 2020, 85 percent of men and 79 percent of women owned a mobile phone. In terms of internet use, 68 percent of men and 63 percent of women use the internet. This divide is more pronounced in rural areas with 41 percent of men and 31 percent of women using the internet (See Figure 8).

FIGURE 8: Percent of individuals using the internet, by gender and rural/urban location

Source: [ITU, 2020](#)

A [2018 INEI study](#) of men and women who are internet users reported that more women used the internet for business purposes, while more men used the internet for entertainment purposes. This difference shows that while access to digital technology is almost equal between genders, women more frequently used technology for professional purposes.

Another instance of women's use of digital technology for professional purposes occurred in donor-funded microlending projects in rural Peru. The [Connect4Change](#) consortium led by the IICD developed two ICT-based microlending applications for women: PROMUC and Text to Change. [According to project managers](#), women were enthusiastic to use their mobile phones for business development and management, and the use of mobile videos allowed trainers to work with illiterate members of the community.

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-sections: 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 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	
<ul style="list-style-type: none"> • There is tension between the need to regulate the internet and the obligation to protect digital rights. • There is a lack of multi-stakeholder engagement in internet governance, which limits transparency and accountability in policy making and implementation. • Digital rights CSOs lack resource, financial and technical capacity, which prevents successful grassroots advocacy. • The SEGDI will have an increasingly important role in the development of digital public policies. 	<p>RELEVANT RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Strengthen cybersecurity awareness, capacity, and policy • Promote platforms for multi-stakeholder internet governance dialogue • Support digital skills capacity-building for CSOs • Advocate for increased effectiveness of SEGDI

INTRODUCTION

Peru was one of the first countries in the region to regulate digital transactions, which enabled and provided greater security to e-commerce. Over the last 20 years, although inconsistently, the country promoted digital government policies aimed at modernizing the administration of and improving public services for citizens. However, in recent years cases of technology-facilitated violence and the spread of misinformation and disinformation have increased. Some government branches have tried to react, but they have not done so in a coordinated manner. Digital policymaking and implementation also lack coordination. Multi-stakeholder governance mechanisms are weak or non-existent and the participation of civil society and the private sector in policymaking processes is limited.

2.2.1 DIGITAL RIGHTS

DIGITAL REGULATION IS COMPREHENSIVE BUT IS PERCEIVED AS INEFFECTIVE

To date, Peru has the necessary laws to regulate the digital space, especially in key sectors such as economic development, education, government, national security, and telecommunications. Internet infrastructure was regulated prior to online content. In 1993, the Fujimori Administration passed Legislative Decree 702 which established conditions for the provision of telecommunications services, including access to the internet. Between

2000 and 2005, the Peruvian Congress approved a number of laws related to infrastructure as well as laws that regulated content for minors to prevent them from accessing inappropriate information. Since 2011, both Congress and the Executive Branch have continued to introduce regulations related to issues such as personal data protection and cybercrime, as well as laws on government and digital transformation.

Interviewees across civil society organizations (CSOs) and the private sector expressed concern about new regulations proposed by different branches of the GoP. Some of the reasons provided were that such regulations are outdated, pose a threat to human rights, prevent economic development, and that the enforcement of such laws is minimal. This limited enforcement creates a perception that the internet is deregulated in Peru, despite the existence of a strong regulatory framework. The following section describes how this perception of lack of regulation is a recurring argument for backing proposals on new digital regulation, especially in the Peruvian Congress. Most of these new regulations focus almost exclusively on regulating the content layer of the internet.

Table 2 below lists the most important laws regulating the digital space in Peru.

TABLE 2: Relevant digital regulation to date¹⁹

1993	Telecommunications Law (Legislative Decree N° 702)
2000	Law to regulate the electronic signature (Law N° 27269)
2000	Law to regulate the expression of the will by electronic means (Law N° 27291)
2003	Law to prevent minors from accessing pornography in public internet booths (Law N° 28119)
2005	Law to promote internet access for people with disabilities (Law N° 28530)
2005	Anti-SPAM Law (Law N° 28493)
2011	Personal Data Protection Law (Law N° 29733)
2012	Broadband Promotion Law and Construction of the National Fiber Optic Backbone Network (Law N° 29904)
2013	Computer Crimes Law (Law N° 30096)
2014	Law to establish access filters to pornographic or violent content for minors in internet services offered to end users (Law N° 30254)
2015	Law to prosecute crimes using mobile phone geolocalization (Legislative Decree N° 1182)
2016	Net Neutrality Law (Board of Directors Resolution 165-2016-CD/OSIPTEL)
2018	Law to prosecute crimes of gender violence online such as harassment, sextortion, and non-consensual pornography (Legislative Decree N° 1410)
2018	Digital Government Law (Legislative Decree N° 1412)
2019	Ratification of the Budapest Convention on Cybercrime
2019	Cyberdefense Law (Law N° 30999)
2020	Digital Transformation Law (Emergency Decree N° 006-2020)
2020	Digital Trust Law (Emergency Decree N° 007-2020)

NEW PROPOSALS FROM CONGRESS TO REGULATE THE DIGITAL SPACE OFTEN MISS THE POINT

Between 2016 and 2021, more than 180 bills were presented in the Peruvian Congress to regulate the internet and other emerging digital technologies such as blockchain, drones, and FinTech. To date, [29 of these proposals have become enacted laws](#), 19 of them were approved in 2020 after the COVID-19 pandemic. Most of the remaining proposals pending discussion focus on four major topics: connectivity, digitalization of public services, digital platforms economy (e-commerce), and regulation of social networks. Almost all interviewees, including

¹⁹ Only laws of national scope that specifically regulate the internet or digital technologies are included.

executive branch representatives, noted that most of the new proposals fail to understand how the internet works, therefore their provisions become unrealistic or unenforceable.

Some of these proposals have generated public debate as they address issues that affect daily life such as digital violence or misinformation. These discussions are often informed by experts, mostly from CSOs and the private sector. In Peru, part of the law-making process in Congress is to have a waiting period after the proposals are presented, during which comments are received from citizens, organizations, and public entities. However, implementation of this rule is limited. An example of this situation was the approval of Law that regulates advertising expenditure (Law N° 30793) in 2018. This law prohibited the government from spending on advertising in private media and obliged them to use social networks instead. Despite substantial public opposition and enforcement issues, the bill was approved by a coalition of different parties. A year later, Tribunal Constitucional (the highest court in Peru) [declared the law unconstitutional](#) and abolished it.

Interviewees from CSOs and the private sector noted that the lack of an office or committee of experts in charge of evaluating the viability of proposals and their regulatory impact is one of the reasons for weak regulation. Having identified this situation, in 2016 a congressman, backed by the non-profit *Asociación Civil Transparencia*, proposed the creation of an Economic Studies Office to carry out preliminary evaluations. [The proposal was not](#) accepted and was archived.

PROPOSALS PERCEIVED AS DANGEROUS FOR DIGITAL RIGHTS OF CITIZENS AND BUSINESSES

Interviewees from CSOs expressed concern about bills related to content moderation, which include proposals to enable internet shutdowns, block online content without due process, and create unconstitutional censorship mechanisms. For example, [PL 05630/2020-CR](#) establishes new measures to fight computer crimes such as the power of the prosecutor to request the blocking of internet domains without the need for a court order. [PL 06567/2020-CR](#) proposes to modify the Organic Law of Elections to “prohibit the dissemination of fake news”. Finally, [PL 7222/2020-CR](#) establishes greater responsibility of internet intermediaries for the content published by their users and prohibits anonymity. On the other hand, interviewees from the private sector identified the regulation of the so-called gig economy platforms as one of the main threats to the digital ecosystem. For example, between 2018 and 2020, multiple bills were presented to regulate platforms that provide taxi services through mobile applications. These regulations would require local registration and security measures for passengers.

BOX 5: The gig economy and regulation in Peru

The [gig economy](#) is defined as one based on flexible, temporary, or freelance jobs, often through an online platform.

The most popular gig economy services in Peru are platforms that connect taxi drivers with passengers and those that connect food delivery riders with restaurants and customers. Some examples of these platforms are: *Cabify*, *DiDi*, *PedidosYa*, *Rappi*, and *Uber*.

The emergence of the gig economy has boosted the growth of e-commerce. Low access requirements have made it an attractive job option, especially for migrants from Venezuela. However, it has also generated debate: concerns have been raised claiming that these platforms do not compete fairly against traditional taxi companies; other debates center around the lack of labor rights for gig economy workers.

Different quantitative and qualitative local analyses have been published between 2020-2021 on the economic and social impact of the gig economy, [supporting](#) or [rejecting](#) the need for new regulations.

THE ROLE OF THE EXECUTIVE BRANCH IN PERU'S DIGITAL AGENDA

The executive branch has also been very active in regulating Peru's digital space. Although the regular procedure to approve a law proposed by this branch is to send the proposal to the Congress to be debated, at least since 2015 it has become a common practice for the executive branch to request special powers to legislate. These special powers allow the executive branch to pass laws without the need for an open public comment period, which could negatively affect their enforcement and sometimes receive criticism from the public. One example is Legislative Decree N° 1182, which allows the Police to geolocate mobile devices in real time without a court order and requires mobile network operators to store users' personal data. This law was strongly opposed by multiple CSOs.

Other proposals approved through executive action include Legislative Decree 1410 that establishes criminal prosecution against different manifestations of gender violence online as well as the current government and digital transformation system approach (Emergency Decrees N° 006-2020 and 007-2020). These changes are considered by the experts we interviewed to be positive developments. However, because they have not been subjected to public debate citizens may not be aware of their benefits or existence.

BOX. 6: Gender-based violence online

In the past 20 years, the government has created several regulations to fight violence against women, a serious problem in Peru that was aggravated by the COVID-19 pandemic. Recently, the government's regulatory efforts have also focused on digital violence against women and girls. In 2018, Legislative Decree N° 1410 was passed, criminalizing recurring behaviors online such as harassment and non-consensual pornography. Ongoing research conducted by the non-profit [Asociación Civil Hiperderecho](#) found that although this new regulation allows victims of this type of violence to report its occurrence, its effectiveness is still very limited due to the lack of understanding and capacity of justice system actors to receive and investigate these cases.

In October 2021, the executive branch requested special powers from Congress to carry out a tax reform to accelerate Peru's economic recovery. One of the laws proposed in the tax reform proposal established new measures to [tax streaming services](#) such as Netflix and Spotify. In December 2021, the special powers to conduct the reform were approved but with limitations, among them [rejection of the proposal](#) to tax streaming services. The reasoning for these limitations was not made public.

Some lower-level regulations on content moderation have been approved and enforced by ministries and other public bodies that have raised questions around freedom of expression online. One is the aforementioned Legislative Decree N° 1182, which requires mobile network operators to store users' personal data. Another example is that *Indecopi*, the public entity in charge of ensuring consumer protection, has been ordering content takedowns by telecommunications companies since 2012. These actions are justified by a stretched interpretation of its powers regarding copyright infringements. The [first and best known case](#) was in 2013 when *Indecopi* ordered *Red Científica Peruana* (the ccTLD .pe administrator) to preventively suspend the Peruvian domain name of The Pirate Bay website. Both mechanisms are little known by the public and according to [research conducted by the non-profit Hiperderecho and the international NGO Internews](#), they could be considered illegal forms of content moderation. In addition, they potentially violate the Peruvian Net Neutrality Law.

BOX 7: A timeline of alleged digital rights violations and relevant case law

- **2010:** In October, a former public official obtained a defamation conviction against a Peruvian blogger who shared a link in his blog that contained criticisms against the public official. The case was dismissed in a second instance under the argument that the blogger lawfully exercised his right to freedom of speech online.
- **2015:** In December, *Indecopi* ordered *Red Científica Peruana* (the Peruvian ccTLD .pe administrator) to suspend the registration of a .pe domain to The Pirate Bay website, to prevent acts that infringe Peruvian copyright laws from being carried out from there. The decision was criticized because it was considered an illegal censorship measure.
- **2015:** In December, the Peruvian Data Protection Authority sanctioned Google for failing to respond to a citizen's request to erase content from its search engine that contained inaccurate information about the citizen's personal life. In its arguments, the Authority recognized the doctrine of the "right to be forgotten" which enables the cessation of data treatment from internet intermediaries, even when they do not have direct control of the information.
- **2017:** In May, the Instituto Nacional de Estadística e Informática (INEI) launched an online survey aimed at the Peruvian LGTBQ+ population in order to make a preliminary recognition of their situation. However, the survey had vulnerabilities that allowed any user to download information that made it possible to identify those who filled out the survey, exposing their gender identity. The vulnerability was corrected, but INEI refused to publicly acknowledge the breach.
- **2017:** In August, the *Tribunal Constitucional* dismissed a lawsuit filed by a citizen who claimed that his right to access to public information had been affected by being blocked from the personal account of a public official on Twitter. In its arguments, the *Tribunal* pointed out that the plaintiff's right was not affected since the official's account was personal and not institutional, and blocking a person in a social network is an act of individual freedom.
- **2018:** In October, the *Tribunal Constitucional* declared Law N° 30793 unconstitutional. This law prevented the Government from paying for advertising in private media. One of the arguments of the *Tribunal* was that by requiring the government to transmit its information through social networks, the right to freedom of information was violated because not all citizens have access to the internet or choose to be informed by this means.
- **2019:** In October, the first conviction for online sexual harassment was issued. The victim was a minor who received constant threats through WhatsApp from her ex-partner demanding the resumption of their relationship. When the victim reported the situation to the National Police, the aggressor was arrested, pleaded guilty, and received a reduced sentence. The conviction was possible thanks to the recently enacted Legislative Decree 1410.
- **2020:** In May it was reported that a group of hackers exploited a vulnerability of the Bono Universal platform and stole more than 1 million soles destined for social assistance to people affected by COVID-19.²⁰ Despite the fact that the National Police initiated an investigation, the public entities in charge of the platform denied the occurrence of the breach. To date, it is not known how many beneficiaries of the Bono Universal were affected.

20 The GoP deployed multiple rounds of bonos to [6.8 million households](#) who do not earn a payroll income. Some of the bonos include the Bono Yo Me Quedo en Casa aimed at the approximately 2.7 million urban households that live in poverty and extreme poverty; the Bono Independiente aimed at the 800,000 households who earn income through independent work; the Bono Rural aimed at 1 million rural households; and the Bono Universal aimed at those who do not belong to any of the listed categories.

2.2.2 CIVIL SOCIETY AND MEDIA

CSO interviewees described various issues that affect their ability to participate in the digital ecosystem, especially in digital policy discussions that impact the communities they serve. The most recurrent problems mentioned were: lack of digital skills, limited resources, little engagement from potential allies like journalists, and a lack of participation in policymaking spaces.

CONSOLIDATED CSOS DO NOT ENGAGE WITH THE DIGITAL ECOSYSTEM AND NEW ONES LACK RESOURCES AND CAPACITY

Older and well established CSOs that focus on more traditional issues like public transparency or political participation rather than technology indicated that although they recognize the importance of digital tools such as social networks, they lacked the skills to engage in the digital ecosystem or were unaware of how to address issues such as open data or disinformation in their work. One interviewee from an international CSO pointed out that in other countries organizations started to coordinate with actors such as Facebook or Google on issues including open data, disinformation, and privacy, but this is not the case in Peru because they have not yet established relations with the representatives of these companies based in Peru.

Smaller, newer organizations focused on digital rights or development agreed that, although they have a greater understanding of the impact of digital technologies, they can only engage in discussions with a low-to-medium degree of complexity and almost exclusively at the local level. This is because these organizations do not have the human or technical capacity to address more complex or regional issues such as those related to disruptive technologies (e.g., artificial intelligence, Internet of Things, robotics). One of these organizations noted that in some cases they rely heavily on the work of more established, non-local CSOs, especially those based in the United States (for example: Electronic Frontier Foundation) and Europe (for example: European Digital Rights, Privacy International). Unlike larger organizations, small CSOs have fewer connections to key players in the technology industry; it is common for these small CSOs to join forces to promote or reject proposals and other initiatives that impact the local digital space.

DIGITAL RIGHTS CSOS FACE PROBLEMS THAT FUNDING CAN'T NECESSARILY SOLVE

CSOs working in digital rights reported challenges around a lack of resources. The challenge does not seem to be that there are no resources at all, but rather that there are not enough resources to enable them to create digital skills or to develop activities to improve their participation in the digital ecosystem. One CSO pointed out that despite having spent several years working on issues related to human rights and technology, only very recently have they been able to build relationships of trust with grassroots movements and with older and more traditional human rights organizations in the country. The COVID-19 pandemic appears to have played an important role in this change.

New CSOs lack technical capacity to create the conditions that allow them to grow and secure funds to continue their work in the medium-to-long term. An interviewee representing a specialized CSO that promotes labor rights of digital platform workers said that she received funds personally to conduct research on working conditions in the gig economy in Peru, but now she wants to develop a broader agenda on this issue and work through her organization, and she is facing trouble finding funding. International funding schemes for CSOs are complicated and often require organizations to be legally registered in their home countries and to meet multiple legal requirements, which is not always possible for grassroots initiatives.

A representative of an organization that makes donations to digital rights CSOs said that this problem affects several countries in Latin America. In more developed digital ecosystems, grassroots movements rely on more

established organizations and sub-granting schemes to develop their activities. However, this is not the case in Peru. One strategy to improve this situation has been the [creation of funds](#) such as *Indela*, which award small grants that allow new organizations or grassroots movements to develop projects, but which also include training and advice on issues such as sustainability, communication, and security.

Below are three of the main digital rights CSOs in Peru and the funding sources they have declared in their transparency reports:

TABLE 3: Funders of CSOs focused on Digital Rights

DEMOCRACIA Y DESARROLLO INTERNACIONAL	HIPERDERECHO	OBSERVATORIO DE PLATAFORMAS DIGITALES
<ul style="list-style-type: none"> • Konrad Adenauer Foundation • Google • Facebook • IDEA International • U.S. Department of State • National Democratic Institute • <i>Telefónica</i> • <i>Claro</i> • Uber 	<ul style="list-style-type: none"> • Open Society Foundation • Tinker Foundation • Electronic Frontier Foundation • Privacy International • Google • Simon Fraser University • <i>Ciudadanía Inteligente</i> • Internews • World Wide Web Foundation • <i>Centro Latam Digital</i> 	<ul style="list-style-type: none"> • Friedrich Ebert Foundation

NEW MEDIA MORE INVOLVED IN DISCUSSIONS WITHIN THE DIGITAL ECOSYSTEM

According to a [2019 report by Reporters without Borders](#) (RSF) and *Ojo Público*, mainstream media in Peru is highly concentrated and owned by large corporations, affecting the plurality of content transmitted through the press, radio, television, and the internet. In recent years, new, hyper-specialized digital media outlets have carried out investigative journalism and offer their content online through subscription or patronage schemes. Some of them currently enjoy equal or greater recognition than traditional, mainstream media, especially in the capital city, Lima. Examples of such outlets include *Comité de Lectura*, *Convoca*, *El Foco*, *La Encerrona*, *Ojo Público*, *Salud con Lupa* and *Sudaca.pe*.

Interviewees from CSOs agreed that there is a great disconnect between the work carried out by digital rights CSOs and journalists, with one exception: when it comes to freedom of expression online. The newer and smaller media outlets are more involved in discussions about the development of digital policies such as net neutrality, privacy, and data protection. This may be due to the fact that most offer their content on the internet and are more sensitive to changes to internet regulation that could affect their business models. However, this support does not yet extend to other areas such as cybersecurity and digital identity, among others.

BOX 8: A common front against *leyes mordaza*

Along with direct threats to digital media and journalists, multiple content moderation initiatives that affect the business models of new media outlets have also been proposed. In general, these initiatives have been rejected by CSOs and the media because they are seen as a way to increase censorship and hinder the work of journalists. No such initiatives, known as *leyes mordaza*, have been approved to date. Examples include a bill to increase penalties in cases of defamation ([2009](#)); a bill to weaken the secrecy of communications on the internet ([2012](#)); a bill to change the way the government invests in advertising online ([2018](#)); and recently a bill that establishes rules of conduct for social networks ([2021](#)). All of the previous initiatives were presented by the Peruvian Congress.

LIMITED SPACE FOR MULTI-STAKEHOLDER DISCUSSION OF DIGITAL POLICIES

There are few forums for discussing digital policy in Peru in which both public and private sector actors can participate. However, one such space was the Multisectoral Commission for the Development of the Information Society (CODESI), which was led by the MTC and existed between 2003 and 2018 as a space for discussion of digital policies. CODESI was a temporary public sector initiative that allowed actors from the private sector and CSOs to participate as guests. By 2017, [CODESI set up multiple public-private working groups](#) on topics such as cybersecurity and digital identity. Despite the fact that the recommendations produced by these working groups were not binding, MTC aimed to use CODESI as a policymaking lab with a bottom-up, multi-stakeholder approach. In 2018, the leadership of CODESI was handed over to *Secretaría de Gobierno y Transformación Digital* (SEGDI), an office within the Presidency of the Council of Ministers (PCM) which had begun to assume a more important role in Peru's digitalization process.

Under the leadership of SEGDI, CODESI ceased to be a space for the participation of non-public entities. With a different vision, more oriented to guaranteeing short and mid-term results, SEGDI decided to deactivate the CODESI initiative and created a new space that brings together the highest authorities of each public entity in the different levels of the executive branch. This space was officially created in 2018 as the [Comité de Alto Nivel para una Perú Digital, Innovador y Competitivo](#) and is currently the only digital governance space created by the government. Although initially it was only constituted by public entities, in 2021 its statute was modified to also include one representative each from civil society, the private sector, and academia.

BOX 9: Only-governmental or only-private sector forums

In addition to the *Comité de Alto Nivel para una Perú Digital, Innovador y Competitivo* that replaced CODESI, there are at least two national forums in which issues related to the development of the digital ecosystem are discussed:

CADE DIGITAL: Since 2018, a group of businesses have organized *CADE DIGITAL*, a multi-day event in which they host panel discussions with representatives of the private sector and the Government where topics such as the digital economy, digital transformation, and digital inclusion are addressed. Participants must pay a membership fee to attend the discussion panels. Although the [discussions are at a high level](#), there are no spaces for interaction between attendees and panelists or mechanisms for monitoring what is discussed after the event.

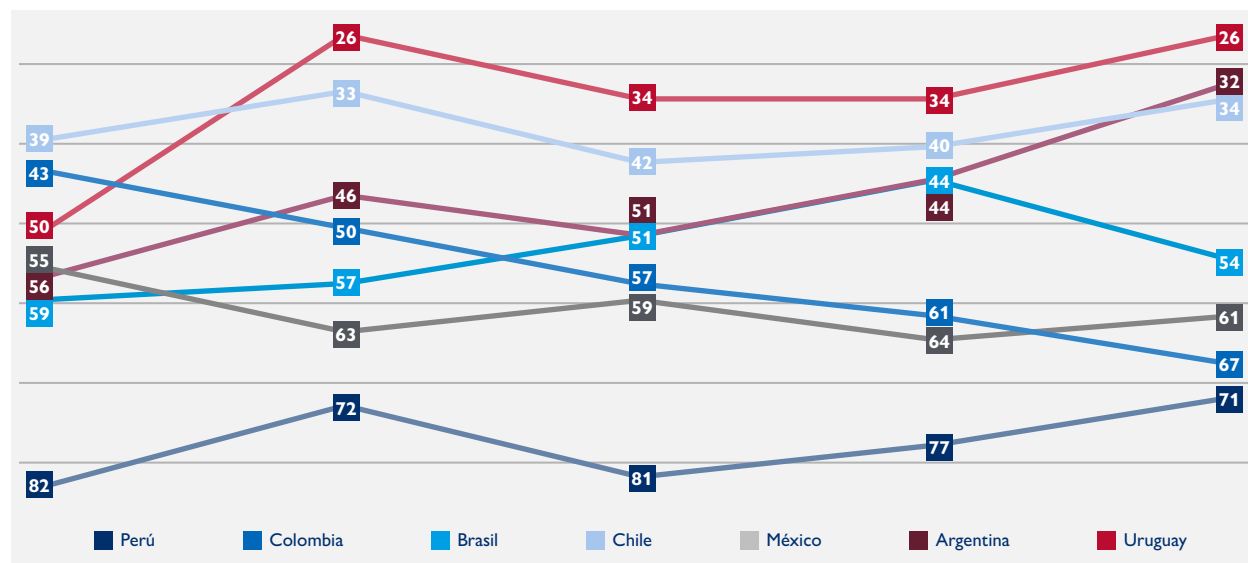
GORE DIGITAL: In 2019, the first and only *GORE DIGITAL* was held, a discussion forum for public entities at the regional level, promoted [to discuss the needs and agendas of regional governments in digital issues](#). Although experts from outside the public sector participated, *GORE DIGITAL* does not have mechanisms for inclusion of the private sector or CSOs. With the arrival of the COVID-19 pandemic in 2020, *GORE DIGITAL* was suspended indefinitely.

Peruvian Internet Governance Forum: Since 2016, a group of CSOs, private sector, and government actors have organized the Peruvian Internet Governance Forum (IGF Peru), a non-deliberative space for discussion on the development of the [internet that brings together actors from the public and private sector](#). This event is a local version of the Internet Governance Forum (IGF) organized annually by the United Nations. In five annual sessions to date, IGF Peru was officially recognized by the UN Secretariat as complying with the minimum basic conditions: being free of charge, inclusive, non-commercial, and built with a [bottom-up approach](#). Although the IGF Peru is not a space for policymaking, it allows Peruvian digital ecosystem actors to be in contact to discuss issues regarding the development of technology. Despite being an interesting forum and the best candidate to replace CODESI, it lacks recognition and relies heavily on personal leadership. Almost none of the older and better-established CSOs knew about its existence. This was also true for interviewees from the Government, with the exception of SEGDI which was part of the Program Committee for the 2021 edition.

2.2.3 DIGITAL GOVERNMENT

Since 2003, Peru has carried out various initiatives aimed at using technology to improve government functions. However, Peru still lags behind its regional counterparts in terms of general digital government development as shown in Figure 9 below.

FIGURE 9: Digital Government Development Index (EGDI)



Source: [Government of Peru Indicators](#)

Currently, there are multiple entities and plans at the national level for the deployment of technology and the digitalization of public services. While digital government development schemes have historically been shared among different entities, the Digital Government Secretariat (SEGDI) has recently assumed a coordinating role for most efforts on governance and digital transformation.

THE EVOLUTION OF SEGDI HAS DEFINED THE CURRENT VISION FOR DIGITAL GOVERNMENT

SEGDI was created in 2003 under the name of National Office of Electronic Government (ONGEI), a small office within the Presidency of the Council of Ministers (PCM) whose objective was to supervise the development of electronic government policies. ONGEI had limited resources and for the next ten years its work focused on providing support to the process of technological modernization of the executive branch and producing situational analysis reports and development proposals for future actions. These efforts resulted in [publication](#) of the National E-government Plan 2013-2017 and the Digital Agendas 1.0 (2005) and 2.0 (2011).

The arrival of a new Administration in 2017 brought major change. ONGEI began to play an increasingly important role within the PCM. This was due to several factors, but above all two: first, a 2016 OECD study on governance in Peru pointed out the need to make modifications to the governance structure within the PCM to [achieve better articulation of national policies](#); second, ONGEI obtained enough political support from the president to transform itself into an office with a larger budget to achieve its objectives. These changes led to ONGEI becoming the SEGDI in 2017.

SEGDI had significant high-level support at this stage. In 2018, the Vizcarra Administration used special powers within the executive branch granted by Congress to enact the Digital Government Law (Legislative Decree

N° 1410), which placed SEGDI as the public leader of digital government. From that point forward, the way of producing digital policy and the deployment of online services changed substantially. In the last five years, [SEGDI has produced at least three drafts](#) of National Strategies on Artificial Intelligence, Digital Talent, Open Data, a Digital Agenda (2021), and several online services and informative websites.

PERCEPTIONS OF INSTITUTIONAL STRENGTH AND GOVERNANCE MODEL OF SEGDI

Although most interviewees agree that SEGDI's work in recent years has been important, some of them consider SEGDI to be an office that is sensitive to changes in political government leadership. This puts at risk the continuity of its efforts. Some of the options mentioned to overcome this situation were that SEGDI be transformed into a Ministry (like the ICT Ministry in Colombia, MINTIC) or an Autonomous Body (like the AGESIC in Uruguay) so that it is a more technical body.

CSOs also expressed that there is a problem with the governance model SEGDI uses to shape digital policy. It was also said by interviewees that although the results show that the management is good, further development of governance mechanisms is required, especially those that enable the participation of organized civil society.

Below are five of the main platforms deployed/managed by SEGDI.

TABLE 4: A list of technologies currently deployed/managed by SEGDI

GOB.PE	In 2018, Supreme Decree 033-2018-PCM was enacted, creating the GOB.PE platform, a website that seeks to be the only digital point of contact between citizens and the Peruvian State. According to SEGDI, in GOB.PE users can find information on procedures and services; news, norms and publications of public entities; general information about the Peruvian State; and the institutional pages of the different entities of the Executive Branch. During the COVID-19 pandemic, GOB.PE was used as a reference point to provide real-time information on the number of infections nationwide, and the delivery of financial support aids. According to SEGDI, to date this site has had 1.8 billion visits.
ID PERU	The ID Peru Authentication Platform (ID Peru) is the authentication service created by the National Registry of Identification and Civil Status (RENIEC) so citizens have access to online public services, which to date can only be performed face-to-face. In order to use this platform, citizens are required to have the DNle, an identification card with a chip that includes digital certificates.
FACILITA PERU	The Comprehensive Platform for Digital Applications of the Peruvian State (<i>Facilita Perú</i>) is a digital service developed by SEGDI as a support tool for public entities. <i>Facilita</i> will speed up the management of citizen requests for access to public procedures and services.
NATIONAL INTEROPERABILITY PLATFORM	This technological infrastructure allows the implementation of online public services by electronic means, and the electronic exchange of data between public entities through the internet, mobile telephone, and other technological means available. It was created on October 18, 2011, through Supreme Decree No. 083-2011-PCM and is currently used by more than 450 entities of the Executive Branch, regional, and local governments.
THE GOVERNMENT AND DIGITAL TRANSFORMATION LABORATORY	The Government and Digital Transformation Laboratory was created through Resolution No. 003-2019-PCM / SEGDI. It is a space for co-creation, enabling academia, civil society, the public and private sectors, where citizens can participate in the design, redesign, and digitization of public services and the digital transformation of the State.

DIGITAL GOVERNMENT DEVELOPMENT IN CRITICAL AREAS WILL INCREASINGLY RELY ON SEGDI STRENGTH

There are some critical areas of digital government that have seen different levels of advancement in the last five years. Most of the advances reveal that SEGDI's leadership is growing, even in areas that have previously been led by other entities of the executive branch and by autonomous bodies. This means that in the medium and long term, a large part of the State's digital initiatives will rely on SEGDI's work. Some of these areas are:

CYBERSECURITY

According to [a 2020 report by the IDB and the OAS](#), the state of cybersecurity regulation in Peru is nascent but has improved from a previous assessment in 2016. The greatest advances have been in institutions and legislation, but almost nothing in situation assessment, prevention and citizen education. In 2009, the Peruvian Digital Security Incident Response Team (PeCERT) was created to prevent attacks on the technological infrastructure of the public sector. This office is part of SEGDI and acts in coordination with the IT departments of the main offices of the executive branch. The Armed Forces also have their own CSIRTs but it is not known if they coordinate with their civilian counterparts. To date Peru does not have a National Cybersecurity Policy or Strategy, only two drafts, one of a National Cybersecurity Policy and a Strategy on Digital Security and Trust, also sectoral or accessory regulations. For example, there are Law N° 30618, which creates the definition of "digital security", Cyberdefense Law (Law N° 30999) and Digital Trust Law (Emergency Decree N° 007) that establishes the creation of the National Center for Digital Security, which in the future will be the entity that leads cybersecurity in the public sector. SEGDI is in charge of operating the Center.

TELEHEALTH

Although telemedicine took on an important role after the COVID-19 outbreak, this area had already been regulated many years earlier. In 2013, the law that created the National Registry of Electronic Medical Records was approved (Law N° 30024). This registry was conceived as a way to digitize documents produced by both public and private health entities, in order to facilitate access to clinical records of patients at the national level. In 2016, the telehealth law was approved, establishing a general framework to enable health care through ICTs (Law N° 30421). One of the objectives of this regulation was to promote access to health care in rural areas. The entity designated to lead both of these efforts was the Ministry of Health. In 2020, the Statute of the Emergency Decree was published (N° 006-2020), creating the National Digital Transformation System, where it is indicated that the SEGDI is the governing entity of this system, including the area of digital health. In 2021 another statute was passed (Law N° 30421), it stated that the Ministry of Health must coordinate with the SEGDI for the deployment of its telehealth platforms. In practice, this means that any technology to be used for telehealth must be coordinated and aligned with SEGDI's efforts on interoperability.

DIGITAL ECONOMY

Although the digital economy encompasses multiple elements, SEGDI also seeks to play a leading role in its regulation. For example, in 2018 SEGDI managed to get [the Vizcarra Administration to object to a law approved by Congress](#) that regulated companies that offered taxi services through mobile applications. Finally, said law was returned to Congress and is currently archived. Likewise, with the approval of Emergency Decree N° 006-2020, which creates the National Digital Transformation System, it is noted that the SEGDI is the governing entity in various matters, including the "digital economy".

In practice, this means that SEGDI will seek to translate its role as leader in this matter into greater participation in sectoral regulations, such as those related to consumer rights, employment platforms, and the collaborative economy.

DIGITAL IDENTITY

Peru's digital identity scheme in Peru has been developed by RENIEC since 2000 as part of a modernization process of its people identification systems. Currently, RENIEC has the most complete database of all citizens in the country, which allows it to provide identification services to both public and private entities. This hegemony in the field of identification has been built from the fact that it is [mandatory for all Peruvian citizens to have an identity document \(DNI\)](#) and that several laws require the use of this DNI to access public services in person and also through the internet. However, as of the publication of Digital Government Law (Legislative Decree N° 1410), digital identity is now another area led by SEGDI. In 2021, the “Marco de Identidad Digital del Estado Peruano”, was published and established the creation of a [National Platform for Identification and Authentication of Digital Identity](#) (ID Gob.pe) under the responsibility of SEGDI.

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 (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	
<ul style="list-style-type: none"> Weak policy implementation and coordination have historically hampered the efficient translation of financial inclusion policy into practice, although early signs point to a shift in this trend. The marketplaces for digital financial services, e-commerce, and digital talent are largely Lima-centric and beholden to traditional frameworks. Entrepreneurial activity is primarily concentrated in the informal sector, which makes it challenging to leverage technology. 	RELEVANT RECOMMENDATIONS <ul style="list-style-type: none"> Foster a culture of research and development for increased digital financial inclusion Build partnerships between traditional FSPs and FinTechs Promote the digital transformation of MSMEs as a pathway to formalization

INTRODUCTION

In the past decade, Peru has made significant strides in the development of its digital economy. This is evidenced by the increasing availability and uptake of digital financial services (DFS), an expanding e-commerce landscape, and a growing tech startup environment. Nevertheless, Peru's digital economy sits at a critical juncture, with its trajectory hinging on the degree to which stakeholders can harness domestic political transitions, global trends in digital transformation, and the aftermath of the COVID-19 pandemic.

2.3.1 DIGITAL FINANCIAL INCLUSION

Peru ranked second overall in the [2019 Global Microscope](#), giving it high marks for fostering an enabling environment for financial inclusion in terms of government and regulatory practices. Data on financial behavior in Peru indicate that policies and regulations are necessary but insufficient conditions exist for achieving greater financial inclusion. According to a 2019 [survey](#) jointly conducted by the SBS and CAF, only 37 percent of the adult population were considered to be financially included.²¹ Data collected in the same survey that serves as an indicator of a country's level of digital financial inclusion shows that Peru still has a way to go. Only 26 percent of adults used their mobile phones to make a payment in 2019. While the COVID-19 pandemic accelerated the uptake of DFS, especially mobile money, it also brought into sharp relief the structural barriers that undermine efforts to promote digital financial inclusion.

²¹ The survey uses the financial inclusion index developed for the [OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion](#). The index is made up of seven indicators: (1) ownership of payment products; (2) ownership of savings, investment or retirement products; (3) insurance holding; (4) ownership of loan products; (5) knowledge of least five financial products; (6) recent choice of financial products; and (7) potential user of the financial system.

REGULATORY FRAMEWORK

Peru's regulatory framework for financial inclusion has long been first-rate and contains many essential elements for fostering a vibrant digital economy. Nevertheless, where the GoP excels in bringing forward policy initiatives, it falls short in executing them. Consistent with findings in Pillars 1 and 2, poor coordination impedes efficient and effective translation of policy into outcomes. One consequence of this is continued divergence in economic and financial realities between rich and poor, urban and rural, men and women, and other groups. In spite of this, early signs point to an increasing openness to engage non-traditional actors such as FinTechs and to adopt regional and global trends that promise to advance digital financial inclusion.

The GoP's pioneering commitment jumpstarts digital financial inclusion

The GoP has a long track record demonstrating its commitment to promoting digital financial inclusion (Table 6), dating back to the passing of the Personal Data Protection Law in 2011, which protects individuals from the collection of personal data by illegal, fraudulent, or unfair means. In 2013, Peru was the first country in the region to enact an Electronic Money Law, allowing banks and non-banks to issue electronic money. Within the same year, the National Registry of Identification and Civil Status (RENIEC) launched the [DNI-e](#), the electronic version of the national identity document, to facilitate financial and other types of transactions.

Taken together, these legislative efforts paved the way for the development of *Billetera Móvil* (BiM), the country's first mobile money platform. Although the 2016 launch of BiM did not come without its [challenges](#), including limited uptake in its first two years, it is widely regarded as an innovative model for several reasons. Not only was it one of few large-scale initiatives of its time to engage a wide range of stakeholders, including the GoP, FSPs, and MNOs, BiM also helped to operationalize the [National Strategy for Financial Inclusion](#) (ENIF). Launched in 2015 by the [Multisectoral Commission for Financial Inclusion](#) (CMIF), the ENIF charted a roadmap for increasing access to a transaction account for at least 75 percent of adults by 2021 and promoted the development of innovative products aimed to advance greater financial inclusion.²²

TABLE 5: Digital financial inclusion policy and regulation timeline

2011	The Personal Data Protection Law (N° 29733) recognizes that individuals should have control over their personal information for it to be used appropriately.
2013	The Electronic Money Law (N° 29985) allows both banks and non-banks to issue electronic money with the aim to promote financial inclusion.
2015	The National Strategy for Financial Inclusion (ENIF) sets a target to connect 75 percent of the adult population to a transaction account.
	The Factoring Law (N° 30308) serves as an update to Law N° 29623 that promotes access to finance for small businesses through for example third party invoicing, which was passed in 2010.
2019	The National Policy for Financial Inclusion (PNIF) updates the ENIF to set the main guidelines for financial inclusion for the 2019-2030 period.
	The Savings and Credit Cooperatives (COOPAC) Law (N° 30822) brings COOPACs under the supervision of the SBS to curb illicit financial activity and promote financial inclusion.

²² The CMIF was established in 2014 to design and implement the ENIF. It comprises the Ministry of Economy and Finance (MEF), the President of the Council of Ministers (PCM), the Ministry of Transportation and Communications (MTC), the Ministry of Education (MINEDU), the Ministry of Development and Social Inclusion (MIDIS), the Ministry of Production (PRODUCE), the Ministry of Agriculture (MINAGRI), the Superintendency of Banking, Insurance, and Private Pension Fund Administrators (SBS), the Superintendency of Securities Market (SMV), and Banco de la Nación (BN).

2021	The Multisectoral Strategic Plan bolsters the PNIF by promoting access to financial services through thirty measures that rely on a strong digital component.
	Crowdfunding Law allows MSMEs, including startups, access to equity and loan financing through licensed crowdfunding platforms.
	The DNI Account Law (N° 31120) automatically creates a financial account for all Peruvians with a national identity card.
	The Regulation of Novel Models (N° 2429-2021) allows for the temporary performance of any operation or activity to test innovative models. The regulation came into force in February 2022.
	The Superintendency of Securities Market (SMV) issues a cautionary statement on the use of cryptocurrency.

Progress is slow despite the GoP's forward-looking vision

Despite positive momentum, progress has been slower than expected. The [2017 Global Findex](#) indicated that a mere 3 percent of the adult population owned a mobile money account and, more strikingly, the share of account holders increased from 29 percent in 2014 to 43 percent in 2017.²³ With attainment of the 75 percent target by 2021 seemingly a distant reality, the GoP updated the ENIF by passing the National Policy for Financial Inclusion (PNIF) in 2019 to set more concrete guidelines for achieving greater financial inclusion by 2030. In 2021, the GoP passed the Multisectoral Strategic Plan to bolster the PNIF by setting measures that rely on a strong digital component.

These slow-going developments can be attributed in part to weak coordination capacity and an overreliance on private sector investment to solve problems that fall within the remit of the state. A private sector interviewee suggested that although the GoP might recognize internet access as a human right, it has not succeeded in creating the incentives for MNOs to guarantee reliable connectivity, especially in rural areas (Pillar 1). Full digital financial inclusion is impossible without connectivity. In reference to BiM's slow start, one public sector interviewee noted that *Banco de la Nación* (BN) should have played a more leading role to spearhead adoption earlier on.²⁴ Instead, the original model was built on the false premise that other players such as financial institutions would step in to drive growth.²⁵ This is in contrast to Brazil's central bank-operated fast retail payment system to which all large financial institutions are obligated to allow their clients to link their accounts.²⁶

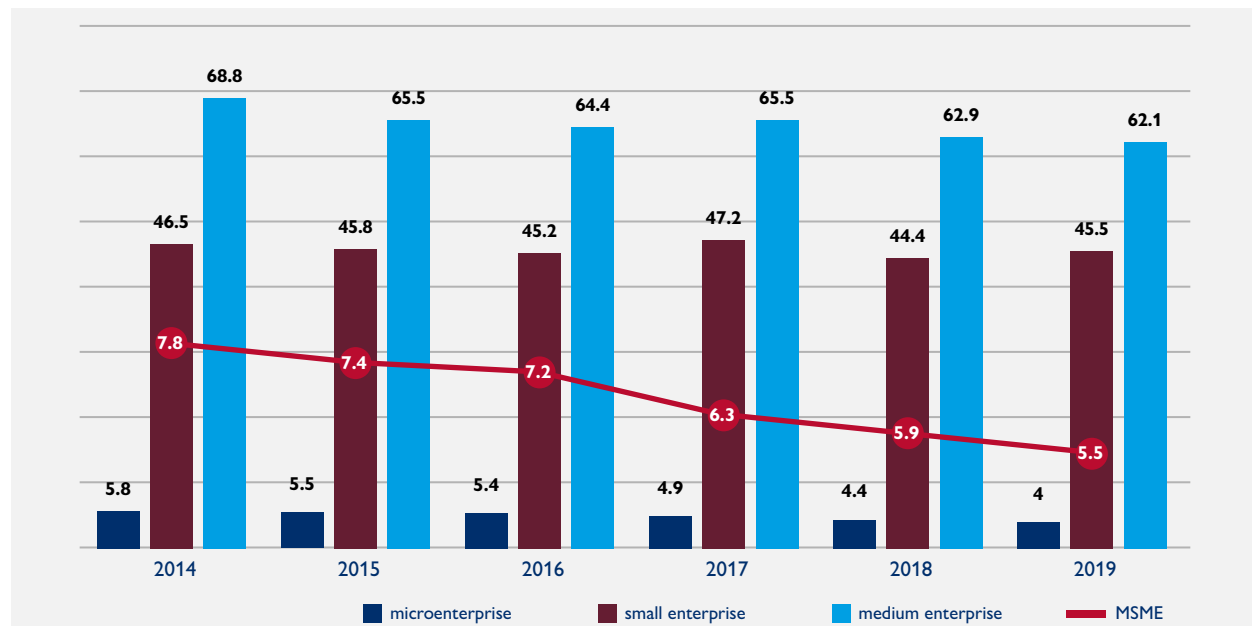
The evolution of the MSME lending landscape offers an instructive view of how the GoP's legislative efforts, including the passing of the Factoring Law in 2010 and its amendment in 2015, failed to translate into better financial inclusion outcomes for MSMEs. In fact, the share of formal businesses having received a loan from a financial institution [decreased](#) from nearly 8 percent in 2014 to about 6 percent in 2019 (Figure 10). Without the appropriate government controls and incentives, commercial lenders are less likely to invest in systems and technologies to help them assess the credit risk of potential borrowers with traditionally thin credit files such as MSMEs.

23 Launched by the World Bank in 2011, the Global Findex is a comprehensive dataset on how people use financial services. The data are collected every three years, with the most recent round of data collection completed in 2017. The COVID-19 pandemic has delayed efforts to collect and publish more recent data.

24 Banco de la Nación is a state-owned bank that represents the GoP in financial transactions in both the public and private sectors at both domestic and international levels.

25 Peruvian sociologist, Interview with DECA Team. September 2021, online.

26 The launch of BiM predates that of Pix, Brazil's central bank-operated fast retail payment system, which was fully operational in November 2020.

FIGURE 10: Evolution of the financial inclusion of MSMEs, 2014-2019

Source: [PRODUCE](#) based on data from SUNAT and SBS

FinTechs remain underrated

Many FinTechs have expressed frustration over the absence of a FinTech law, which they view as the GoP's apprehension toward FinTechs and its perceived preference for incumbent banks. This sentiment is also felt with respect to the Regulation of Novel Models (N° 2429-2021), which effectively allows for the creation of a regulatory sandbox wherein innovative products, services, and business models are tested in a controlled environment. [One major criticism](#) is that only licensed entities can qualify, thereby closing the door on entities with potentially innovative solutions because they do not have an operating license. This further fuels the perception among FinTech stakeholders that the legal framework leaves little room for experimentation and trial-and-error. One FinTech sector interviewee noted, "We are in a state of denial. The traditional financial system does not want anything to do with us and the SBS is subject to the lobby that exists to protect the interests of traditional players. We need to go from a state of denial, to a state of acceptance, to a state of synergy."²⁷

Early signs point to a more proactive approach to policy implementation

Recent developments hint at the possibility that fundamental changes are afoot. In late 2021, BN announced that it will begin the progressive creation of DNI accounts. These bank accounts are fully digital and would allow people to access future rounds of the COVID-19 G2P emergency cash transfers and use them for savings and other purposes. Separately, the SBS formed a [permanent working group](#) to examine the possible application of new information technologies in regulation (RegTech) and supervision (SupTech). As further evidence of these changes, the Central Bank of Peru (BCRP) is assessing the feasibility of developing a [central bank digital currency](#) (CBDC), which would allow it to issue a digital form of the Peruvian Sol – the national currency – that can be used for retail payments.²⁸ Also,

²⁷ Peruvian FinTech. Interview with DECA Team. October 2021, online.

²⁸ Although the degree to which a CBDC will help to promote financial inclusion [remains to be seen](#), the plan indicates the BCRP's intent to evolve alongside changing technologies, payment habits, and financial ecosystems. CBDCs are not to be confused with cryptocurrencies, which are actively supervised but not regulated in Peru. In December 2021, the Peruvian Congress began reviewing a [bill](#) (N° 1042/2021-CR) that outlines a crypto asset commercial framework but, in the meantime, both the [BCRP](#) and the [SMV](#) issued statements cautioning the public to use cryptocurrencies at their own risk.

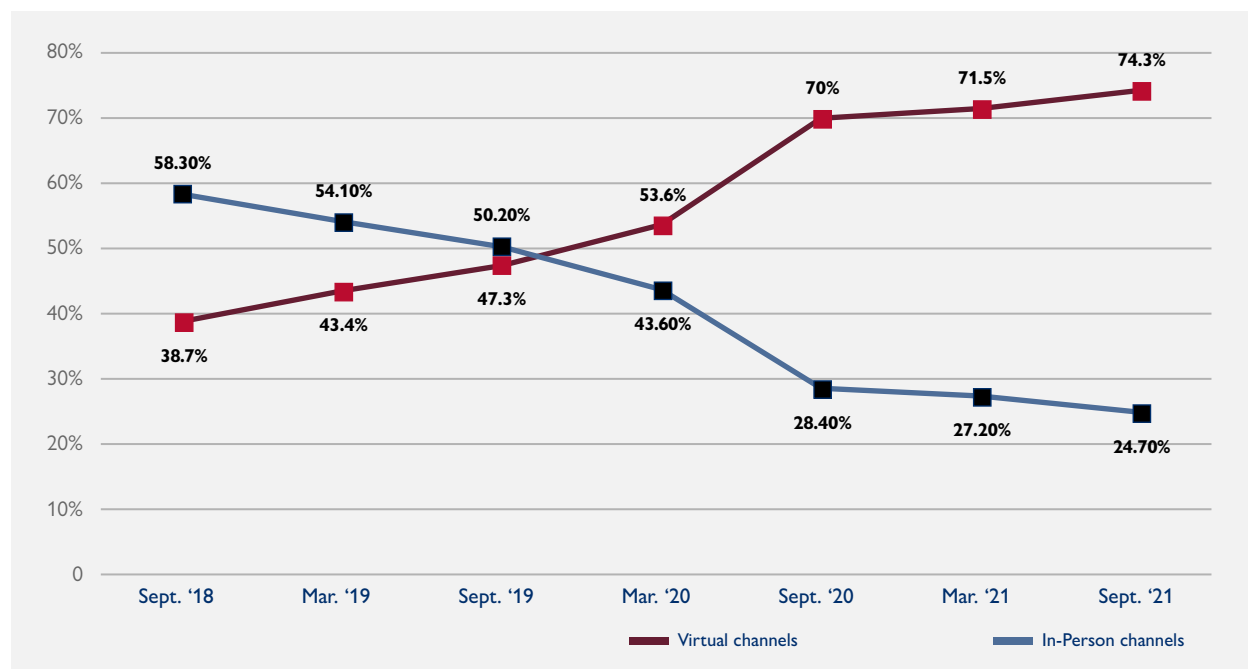
in a move to help standardize digital payments and promote interoperability, the BCRP approved the registration of nine digital payment provider companies to operate [QR code payments](#).

Regional dynamics and global trends are also helping shape Peru's digital financial inclusion policy agenda. With the emergence of neobanks in the region such as Brazil's Nubank and Argentina's Ualá, which operate exclusively online without traditional physical branch networks, the SBS [signaled](#) that it would consider updating the General Financial Law (N° 26702) with a view to promoting greater digital financial inclusion.²⁹ Following in the footsteps of Brazil and Mexico, the SBS is laying the groundwork for adoption of an [open banking regime](#). This would facilitate the exchange of consumer data between banks and other third-party providers, primarily by enabling the use of application programming interfaces (APIs). Although evidence of the role that open banking can play in promoting digital financial inclusion is currently limited, it is forecasted to unlock a wealth of data that can support greater product diversification in Peru.

The Supply Side of DFS

The marketplace for DFS is largely Lima-centric and dominated by commercial banks, although an increasing number of FinTechs are gradually entering the mix. As of December 2021, [16 commercial banks](#) were registered with the SBS. The Peruvian Banking Association (ASBANC), which represents the country's commercial banks and private financial institutions, reported record growth in the use of digital channels compared to in-person channels (Figure 11). This trend is driving many banks to [reconfigure their physical presence](#) by reducing their branch networks and increasing their agent networks.³⁰

FIGURE 11: Usage of virtual channels overtakes that of in-person channels in Peru's commercial banking sector



Source: [ASBANC](#)

²⁹ Under Law N° 26702, any company seeking to obtain a Peruvian banking license must designate a physical place where the license must be displayed and where the bank can tend to the public.

³⁰ An agent network comprises small merchants such as corner stores and pharmacies that can carry out financial transactions on behalf of financial institutions.

Since the launch of BiM in 2016, a number of commercial banks have created their own digital wallets that currently run on separate tracks. Mobile money account holders increased from 3 percent to an estimated 38 percent between 2017 and 2021, respectively.³¹ *Yape* is the largest mobile money provider in terms of number of users (Box 10), followed by BiM, and *Tunki*. Peru's Electronic Clearing House (CCE)—a private institution with the function of managing the clearing of checks, transfers, direct deposits, credit installments, and bills of exchange—aims to steer the industry toward enabling interoperability in the [near term](#).

BOX 10: The evolution of Banco de Crédito del Perú's (BCP) mobile money wallet *Yape*

When BCP launched *Yape* in 2017, it was only available to account holders at BCP and partner banks. This created a scalable ecosystem of banked and digitally-connected individuals and small merchants in urban areas. In May 2020, BCP launched *Yape Card* with the goal of broadening its user base, allowing users to create a *Yape* account with their DNI without the need to be affiliated with a bank.

Yape experienced a surge in usage thanks to its partnership with the GoP to deploy the *bonos*, the COVID-19 emergency cash relief transfers. Of the 150,000 individuals who received their *bono* via *Yape* in the first pilot round, 90 percent cashed out the total amount. Of the 450,000 *bono* recipients in the subsequent round, only 60 percent withdrew their total balance. This trend suggests that, as the pandemic went on, more people were comfortable using electronic payments and transfers, rather than simply as a way to receive funds.

In addition to expanding its engagement with the GoP to deploy G2P payments for other social programs, *Yape* created new use cases for the *Yape Card* such as the facilitation of payroll payments within the informal sector. As of November 2021, *Yape* had 7.4 million users of which 4 million were urban and digitally connected, 2.5 million were *Yape Card* users, and between 600,000 and 700,000 were affiliated with *Yape* through other partner banks with whom they share an open loop.

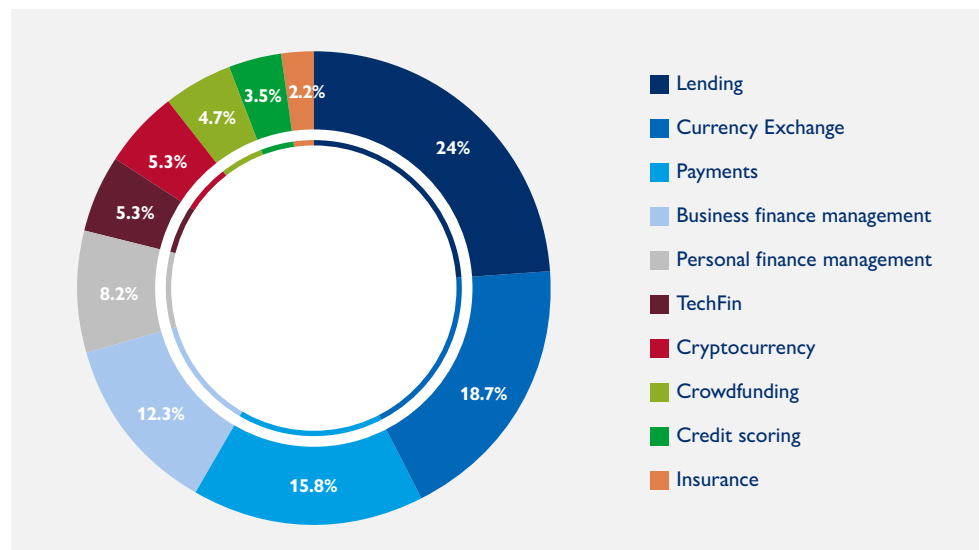
Yape's target partners in promoting greater financial inclusion are COOPACs in rural and urban areas as well as *Banco de la Nación*. Recognizing that data usage imposes a higher cost burden for rural users, *Yape* partnered with MNOs to pilot the zero-rating (Pillar1) pricing of *Yape* use in exchange for facilitating mobile airtime top-ups through the app. It also aims to make itself interoperable with the CCE to facilitate transactions between any mobile banking app and *Yape*.

Source: Digital finance expert. Interview with DECA Team. September 2021, online.

As of December 2021, approximately [400 Savings and Credit Cooperatives \(COOPACs\)](#) were registered with the SBS. COOPACs came under the supervision of the SBS in 2019—previously they were under the supervision of the National Federation of Savings and Credit Cooperatives of Peru (FENACREP)—as they were suspected of being a major instrument for [money laundering](#) and illegal financing of political parties. Nevertheless, they continue to play a significant role in promoting financial inclusion, especially in rural areas where commercial banks are largely non-existent.

FinTechs offer a variety of DFS that complement the offerings of commercial banks. In 2017, only 15 percent of [Peruvian adults borrowed](#) from a financial institution and 6 percent borrowed to start, operate, or expand a farm or business. It is no surprise that lending represents the largest FinTech segment, followed by currency exchange and payments (Figure 12).

³¹ The 2021 figure is based on authors' estimates. The percent of mobile money account holders for 2017 was taken from the Global Findex 2017. Since the Global Findex 2020 has been put on hold to avoid shifting the research methodology, the figure for 2021 was extracted from statistics recorded by PerúRetail.

FIGURE 12: FinTech market in Peru

Source: [EY Law](#)

THE DEMAND SIDE OF DFS

Peru's digital financial ecosystem is unquestionably dynamic, however it has yet to fully account for the country's socio-economic heterogeneity. As one interviewee explained, "In Peru we have this fascination with idealizing the average Peruvian. The average does not represent more than a small group." This uniform perspective has had significant implications for the uptake and adoption of DFS, especially among Peru's vulnerable population groups, including rural residents, informal workers, Indigenous people, women, and refugees.

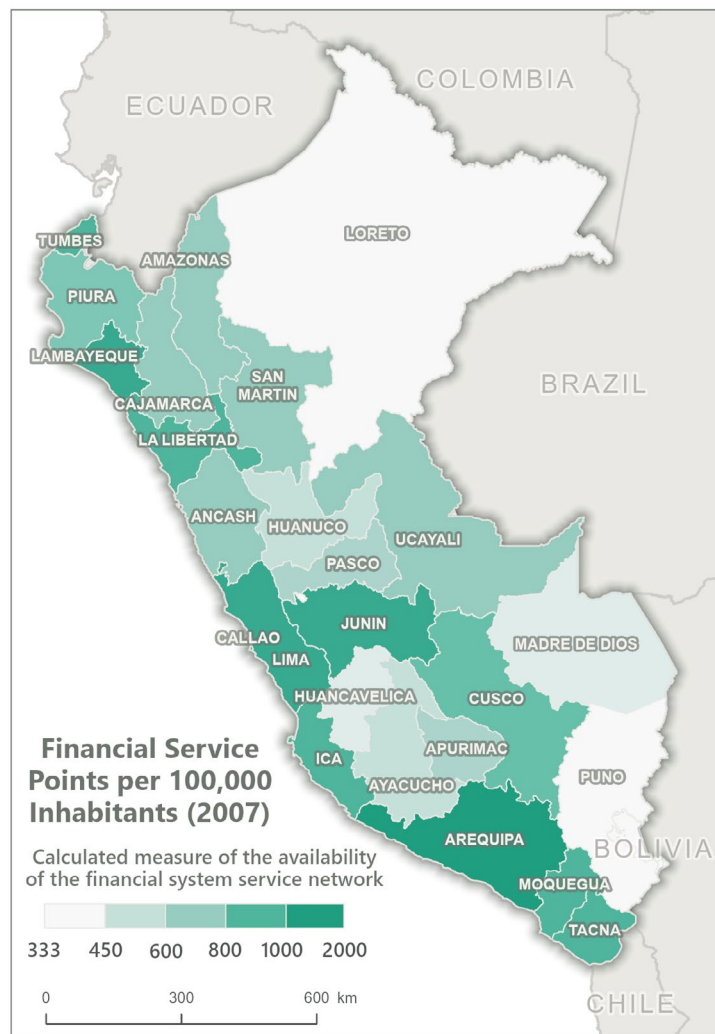
Urban-rural divide

The urban-rural disparities in connectivity ([See Pillar 1](#)) are also manifested in the area of digital financial inclusion. Interviewees from larger FSPs stated that improving connectivity is a prerequisite for extending DFS to rural areas.³² The connectivity challenge is compounded by the dearth of financial access points (FAPs). As of June 2020, the rural regions of Loreto and Puno have significantly fewer FAPs per 100,000 inhabitants than the more urbanized regions of Arequipa and Lima (Figure 13).³³ One interviewee leading a COOPAC mentioned that while the distribution of the COVID-19 G2P emergency cash transfer payments via mobile money is a viable use case in urban areas, it comes with many operational challenges in rural areas, including low merchant uptake of mobile money.³⁴

32 According to the [Peruvian National Institute of Statistics and Information](#) (INEI), urban populated centers are those with 2,000 and more inhabitants and rural population centers are considered to be those with fewer than 2,000 inhabitants.

33 The authors interpret the SBS term puntos de atención to mean financial access points, which comprises offices, ATMs, agents (cajeros corresponsales), and establishments with basic operations (establecimientos de operaciones básicas).

34 Microfinance cooperative. Interview with DECA Team. October 2021, online.

FIGURE 13: Financial access points by region, June 2007

Names and boundary representation are not necessarily authoritative.

Data Source: Admin Boundaries - HDX, Financial Service Point Data - 2007 Census | Produced: May 2022

GEOCENTER

Source: [SBS](#)

While the need for physical outlets seems paradoxical to the delivery of DFS, outlets remain indispensable in rural areas where lack of experience, trust, and connectivity are significant barriers to DFS use, as illustrated in Box 11 below. New internet users face a [steep digital learning curve](#), with banking activities being relatively difficult, even as mobile and internet access expands to rural areas. [Low levels of trust](#) also inhibit uptake, as validated by Peruvian respondents of the OECD/INFE's International Survey of Adult Financial Literacy Competencies. Trust deficits are more pronounced among rural residents.

BOX 11: Community centers serve as critical nodes to deploy COVID-19 G2P emergency cash transfer payments in rural areas

Deployment of the *bono* represented a massive logistical undertaking, demonstrating that despite the increased use of DFS, in-person channels remain essential for advancing financial inclusion in rural areas.

The diversity of recipients—in terms of their digital connectivity, DFS use, proximity to an FAP—required that the GoP employ a variety of modalities to facilitate the *bono* deployment. These channels include bank transfers, mobile money,

ATMs, bank agents, and physical cash transfers. Despite the GoP's efforts to leverage its official web portal to centralize relevant information, such as eligibility criteria and disbursement schedule, one of the major challenges many recipients faced included not knowing where to collect their payment.

The GoP continues to lean heavily on a network of community centers to distribute the *bonos* in rural areas. One such program is the MIDIS-run social program called [PAIS](#), which aims to improve the quality of life of the population living in poverty. Approximately [77,000 households](#) received guidance on how to access and collect the *Bono 600* through the 464 *tambos*, or community centers, which have internet connectivity. Mobile platforms called [PIAS](#), which are airplanes and boats that travel along the Amazon River and Lake Titicaca, were also deployed to provide COVID-19 health services and information about economic relief.

Community centers run by civil society organizations also play a pivotal role in facilitating the deployment of the *bonos*. The USAID-funded [CR3CE Alliance](#), which operates 39 telecenters in the *Huánuco*, *San Martín*, and *Ucayali* regions, not only disseminated information about the *bonos*, but also supported beneficiaries in collecting the *bonos*.

Informal economy

Progress in Peru's digital transformation journey is hampered by an outsized informal economy. The [informal employment rate](#) makes up approximately 70 percent of all employment, and more than half of the labor force works in the country's [least productive economic sectors](#), which tend to be largely informal and pay lower wages.³⁵ The [positive relationship](#) between the size of the informal economy and cash use is a key determinant in how people engage with the formal financial sector. According to the 2017 Global Findex, 31 percent of Peruvians believe they have insufficient funds to use financial institutions.

In May 2020, the GoP issued a [law](#) mandating the digitization of wages and social benefits with the dual purpose of reducing the spread of COVID-19 and promoting greater digital financial inclusion. While wage digitization efforts in other markets has [led](#) to increased account use and savings and greater financial capability, the sheer size of Peru's informal economy makes enforceability of this law challenging.

Indigeneity: a dearth of data

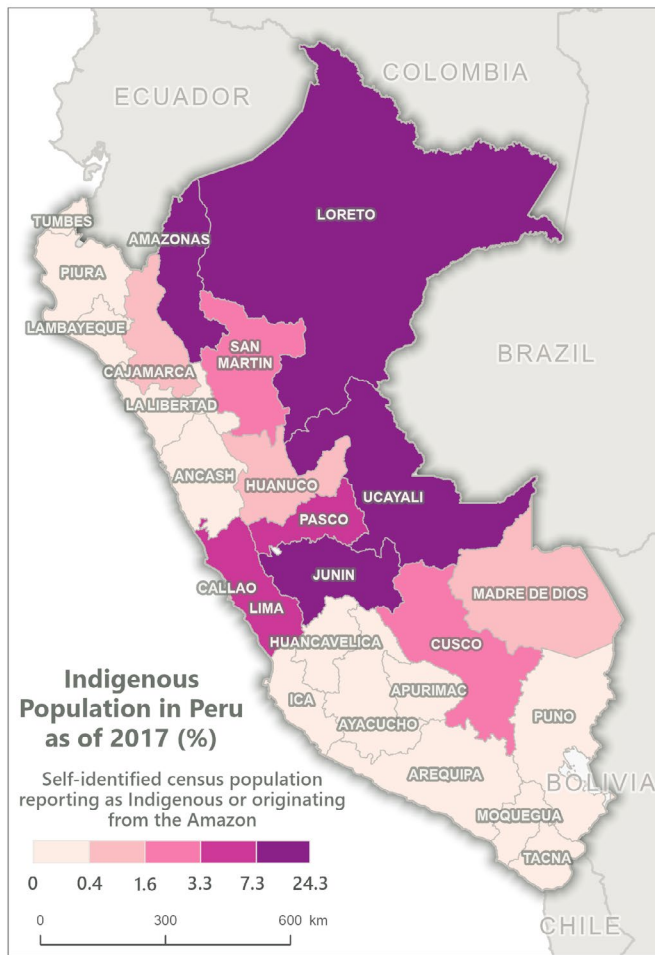
The dearth of data on how Indigenous people, including Afro-Peruvian, tend to bank strongly suggests that they are generally excluded from the formal financial system. According to the 2017 Peru Census, 30 percent of the population self-identify as Indigenous, representing more than [50 groups](#). A large concentration of Indigenous people live in rural areas, so distance from FAPs and poor connectivity pose significant challenges to accessing financial services (Figure 14). This is exacerbated by the fact that many remain [undocumented](#) despite RENIEC's intensive efforts to issue a DNI to all Peruvian citizens. This not only prevents them from meeting the KYC requirements of FSPs, but also locks them out of the few formal jobs available. Many Indigenous communities live in resource-rich regions that have a high prevalence of illicit economic activity, including [illegal gold mining](#).

Language adds a layer of complexity to how Indigenous people engage with DFS. While an overwhelming majority who live in urban areas learned Spanish as their mother tongue, this is the case for only 62 percent of those living in rural areas; the remaining learned Quechua, Aymara, or another Indigenous language as their mother tongue (Figure 15). Yet, as of December 2021, only one of the nearly 20 commercial banks operating in Peru had launched a Quechua version of its website. One public sector interviewee who oversees a range of digitally-delivered financial education programs noted that lack of internet connectivity undermines any effort to reach Indigenous people in more isolated locations, and is a primary reason for not tailoring and translating the content.³⁶

35 These sectors include retail, restaurants, and agriculture. Approximately 96 percent of the [agricultural sector](#) is primarily informal.

36 Peruvian Bank. Interview with DECA Team, October 2021, online.

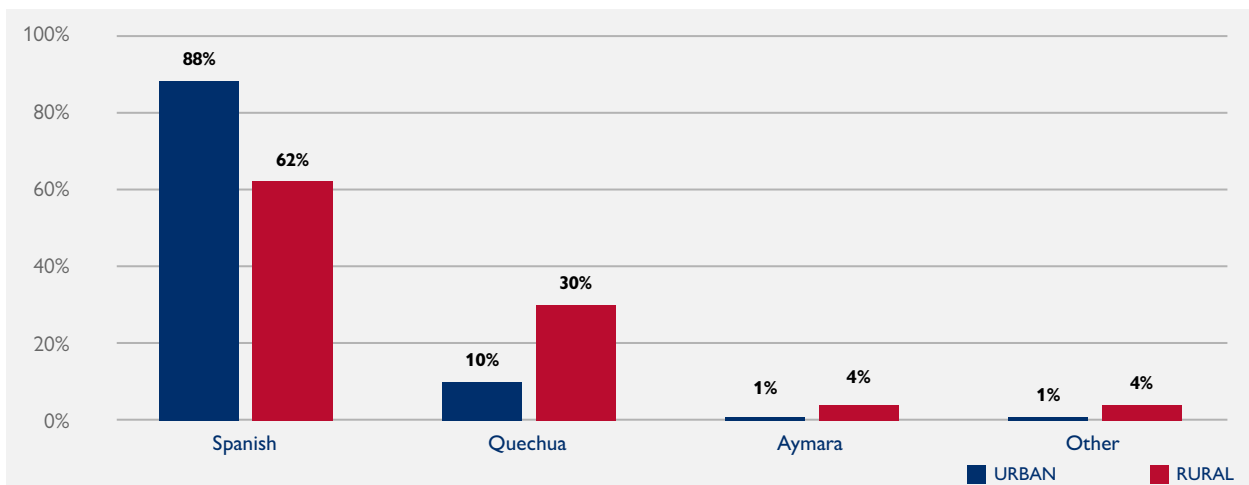
FIGURE 14: Larger concentration of Indigenous people live in rural areas



Names and boundary representation are not necessarily authoritative. **GEOCENTER**
 Data Source: Admin Boundaries - HDX, INEI 3.2: POBLACION INDIGENA U ORIGINARIA DE LA AMAZONIA7, pg. 3/46 | Produced: May 2022

Source: [INEI](#)

FIGURE 15: Mother tongue learned in childhood by urban and rural zones (percent of population, 5 years old or older)



Source: [INEI](#)

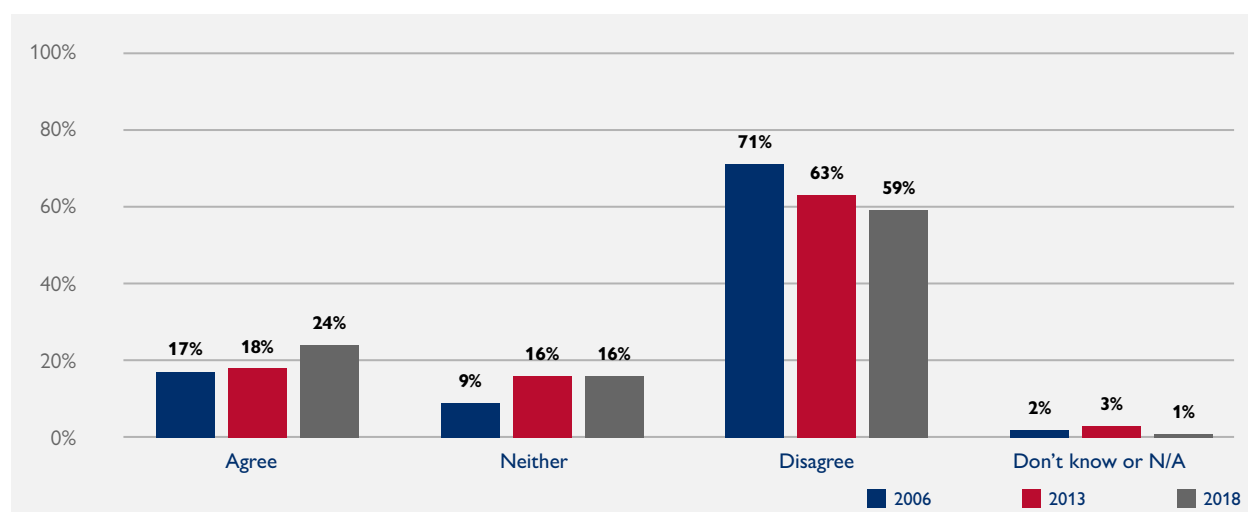
Gender gap persists

Persistent gender differences in financial inclusion, along with gender disparities in mobile connectivity (Pillar 1), pose significant barriers to women’s participation in Peru’s digital economy. According to the Global Findex, the gender divide in account ownership widened from 6 percentage points to 17 percentage points between 2011 and 2017. This finding is consistent with comparative results from the 2015 and 2020 Peru National Household Surveys (ENAHO), which show a [gender gap](#) in the share of people who have at least one financial product widening from 5 percent to 6 percent. One explanation is that the majority of formal financial products are gender-neutral, which means they fail to take into account the unique needs and preferences of women in the design and development process.

Public sector and civil society stakeholders have implemented initiatives to address the gender divide, albeit on a small scale and on an ad hoc basis. Since 2005, Peru’s state development bank (COFIDE) has overseen the [PRIDER](#) (Inclusive Program for Rural Business Development) program in Peruvian rural communities to promote the establishment of informal savings groups, which have been shown to improve women’s empowerment. CARE Peru and *Fundacion Capital*—an NGO and a social enterprise, respectively—collaborated to offer [digital financial capability training](#) to women entrepreneurs by using a variety of modalities, including WhatsApp message groups, a mobile application, and in-person sessions to accommodate the greater constraints on time and space that women may face.

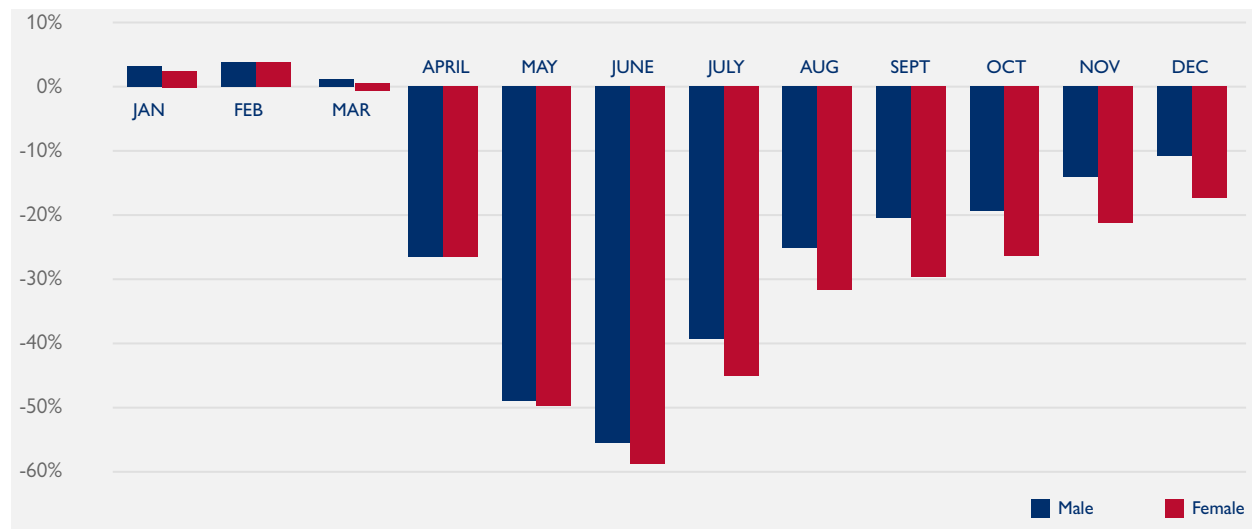
A 2019 SBS [study](#) concluded that employment types, levels of education and income, and other contextual factors are key contributing factors to gender imbalances. Multiple interviewees emphasized the role of gender norms, noting that conservative views continue to dominate both the public and private spheres. This observation is in line with analyses of the 2006, 2013, and 2018 [World Values Survey](#) results, which show that the share of respondents who disagreed with the statement that men should be given priority at times of job scarcity decreased over time (Figure 16).³⁷ In other words, Peruvians showed increased willingness to prioritize male over female employment in the years leading up to the COVID-19 pandemic. Once the pandemic began, these attitudes translated into real effects, with a [greater share of women](#) becoming unemployed (Figure 17) and a slower employment recovery for women.

FIGURE 16: World Values Survey responses to statement, “When jobs are scarce, men should have more right to a job than women.”



Source: [World Values Survey](#)

³⁷ The World Values Survey measures the changes in values over time to assess their impact on the social, political, and economic development of countries and societies.

FIGURE 17: Change in employment by gender in metropolitan Lima, January – December 2020

Source: [ASBANC](#)

Challenges to inclusion for Venezuelan refugees and migrants

As of the time of writing this report, there were approximately 1 million Venezuelan migrants and refugees in Peru. Although the GoP has been granting temporary stay permits to these migrants and refugees to remain in-country for up to one year at a time, entering Peru became much [more challenging](#) from January 2019 onward due to changes in visa requirements and, subsequently, due to COVID-19. According to the [INEI](#), 70 percent of these migrants and refugees are prime working age—between the ages of 18 and 44—and many have attained a high level of education. The majority live in Lima and Callao where they work informal jobs and have limited access to formal financial services, making them highly dependent on humanitarian assistance (Box 12). Facing job loss and eviction following the economic downturn resulting from COVID-19, many refugees and migrants have been caught in no man’s land and are being driven to [return to Venezuela](#) where the prospect of living in extreme poverty is even higher.

BOX 12: UNHCR leverages DFS to facilitate cash-based intervention program for Venezuelan migrants and refugees in Peru

One of the many ways the UNHCR is supporting Venezuelan migrants and refugees in Peru is through a cash-based intervention (CBI) program, whereby funds are transferred with the intermediation of implementing partners such as HIAS to help pay for goods and services. In 2020, UNHCR Peru distributed the equivalent of approximately 12 million USD to 200,000 Venezuelan migrants and refugees.

The deployment of CBI funds was challenging in the COVID-19 context, most notably migrating all processes from in-person to online modalities. Finding a willing FSP partner to facilitate the digital transfers came with a series of complications. The majority of FSPs showed little flexibility or interest to sign contracts for the unique use case presented by the UNHCR, did not have a network of FAPs that were reasonably accessible to refugees or that had sufficient capacity and liquidity to process the transfers, and were unsure how to navigate the KYC requirements for refugees.

After lengthy negotiations to increase transfer limits and to satisfy other conditions, the UNHCR team eventually secured a partnership with a commercial bank. Refugees and migrants received training from HIAS and other implementing partners on the digital transfer process, after which the funds were transferred via the bank’s mobile app and could be withdrawn at an ATM or bank agency within a period of 24 hours.

In a post-project evaluation session, the partner bank remarked that prior to their partnership with the UNHCR, they had not considered extending their banking services to refugees because they did not realize the business potential.

Sources:

UNHCR Interview with DECA Team. September 2021, online.

HIAS. Email correspondence with DECA Team. January 2022.

2.3.2 E-COMMERCE

The 2020 UNCTAD [Business to Consumer \(B2C\) E-commerce Index](#), which measures a country's readiness to engage in e-commerce, ranks Peru 79th out of 152 countries (Table 6). Across the four indicators that comprise the index, Peru ranks in the middle relative to its neighbors, with lower levels of internet use and financial account ownership limiting its readiness for e-commerce take-off.³⁸ According to the Chamber of Electronic Commerce (CAPECE), the share of people making an online purchase [rose](#) from 19 percent before the pandemic to 42 percent at the close of 2021. [Cross-border](#) e-commerce activity represents almost 20 percent of the volume in the country. Current trends are prompting the government to promote consumer confidence in e-commerce. In April 2021, INDECOPI solicited [public comment](#) on their proposal to integrate a consumer dispute resolution mechanism into their e-commerce code.

TABLE 6: UNCTAD B2C E-commerce Index Indicators, 2020

	2020 RANK (OUT OF 152)	SHARE OF INDIVIDUALS USING THE INTERNET (2019 OR LATEST)	SHARE OF INDIVIDUALS WITH A BANK ACCOUNT (2017)	SECURE INTERNET SERVERS (NORMALIZED, 2019)	UNIVERSAL POSTAL UNION (UPU) POSTAL RELIABILITY SCORE (2019 OR LATEST)
Latin America & the Caribbean	N/A	64	53	50	29
Chile	59	82	74	75	42
Brazil	62	74	70	64	46
Colombia	68	65	46	54	71
Uruguay	72	87	64	61	15
Peru	79	57	43	49	61
Argentina	82	80	49	65	10
Venezuela	90	72	73	45	2
Paraguay	92	69	49	48	23
Ecuador	102	59	51	47	0
Bolivia	103	47	54	43	12

Source: [2020 UNCTAD B2C E-commerce Index](#)

³⁸ The index is merely a predictive measure; 7 percent of the Peruvian population made a purchase online, which is 2 percentage points lower than its B2C e-commerce index value would predict.

INTERNATIONAL AND REGIONAL PLAYERS DOMINATE PERU'S E-COMMERCE LANDSCAPE

Although Peru's e-commerce sector has experienced tremendous growth in recent years, it is a small market, ranking sixth in Latin America. Online sales make up 4 percent of all commercial activity in Peru compared to 11 percent in OECD markets. The majority of e-commerce platforms are foreign companies, including AliExpress (China), *Mercado Libre* (Argentina), *Linio* (Mexico), and Wish (United States), although several local platforms have emerged, with *Juntoz* the most notable.

LOGISTICS CHALLENGES AND LACK OF TRUST IN RURAL AREAS

Peru's relatively high position on the Universal Postal Union's 2020 Integrated Index for Postal Development belies the country's intra-regional disparities in the logistics sector.³⁹ While a few e-commerce platforms have a nationwide presence, geographic coverage for delivery is primarily dependent on partnerships with courier companies, many of which do not extend their services beyond Lima and provincial capitals. One of the few FGD participants who had purchased goods online noted that they live outside of the delivery zone of many e-commerce platforms, and so had to provide alternative addresses as a work-around. One FGD participant noted that she had to have her order delivered to a relative's home in Pucallpa, which is about 90 km away from her home in Curimana.

SOCIAL COMMERCE

Peru is no exception to the growing popularity of social commerce. Sometimes referred to as informal online commerce, social commerce is a subset of e-commerce where sales and purchases of products and services are conducted on social media channels (Table 7). According to a survey conducted by Accenture, [77 percent](#) of Peruvian consumers have used WhatsApp to make a purchase. One of the reasons the trend has taken off in Peru is the ubiquitous use of social media across the population.⁴⁰

The public and private sectors alike have taken note of the potential that social commerce has to offer. In November 2021, the Presidency of the Council of Ministers (PCM), in collaboration with Association of Entrepreneurs of Peru (ASEP), launched an initiative called *Viernes de WhatsApp* offering a free program to train 5,000 entrepreneurs on the use of WhatsApp Business. The goal of the program is to support small businesses in pivoting their operations online as a strategy to recover from the economic shocks of COVID-19.

TABLE 7: Differences between e-commerce and social commerce

	E-COMMERCE	SOCIAL COMMERCE
Description	Buying and selling of goods on the internet, typically on a commercial platform, such as <i>Linio</i> , <i>Mercado Libre</i> , Wish, Amazon, and AliExpress	A subset of e-commerce; buying and selling of goods and services are conducted on social media channels such as WhatsApp and Facebook
Merchant profile	Foreign- and Lima-based formal businesses	Informal and formal sole proprietor and microenterprises with less concentration in Lima
Geographic extent of customer network	National	Hyperlocal
Payment forms	Credit and debit card, bank transfer, mobile money, cash-at-agent, ⁴¹ cash-on-delivery	Mobile money and cash-on-delivery
Level of automation	Medium to high	None to low

39 The Integrated Index for Postal Development rates country-level postal systems in terms of reliability, reach, relevance, and resilience.

40 According to a poll conducted by Ipsos, an estimated 14 million social media users are based in urban Peru. While insights from the focus group discussion should be treated as anecdotal evidence given that the sample is by no means representative of rural Peru, it is noteworthy that virtually all participants reported owning a social media account.

41 The authors use "cash-at-agent" to refer to a payment alternative in the context of e-commerce whereby people make a cash payment for their online purchase by presenting a QR code at an affiliated agent. [PagoEfectivo](#) is a Peru-based FinTech that offers this payment alternative.

GIG ECONOMY

The gig economy registered explosive growth across the world in recent years, and Peru was no exception. In 2020, sales through [mobility and delivery platforms](#) totaled the equivalent of approximately 350 million USD, constituting 0.25 percent of Peru's Gross Domestic Product (GDP). Gig platforms have also presented income-generating opportunities during a time of extreme economic uncertainty. Between September and November 2020 alone, approximately 46,000 people in Metropolitan Lima worked for an app-based delivery service, representing a [98-percent increase](#) compared to the same quarter of the previous year. In contrast, the labor force showed a decline of 17 percent. Vulnerable population groups have notably benefited from earning income by participating in the gig economy. More than two-thirds of drivers of one of Peru's most popular ride-sharing apps are of [Venezuelan nationality](#).

The fragile nature of gig work has put into question its viability as a sustainable solution to Peru's economic development. High income volatility, health and safety risks, and lack of algorithmic transparency pose [major downsides](#) of gig work. Intensifying efforts to regulate the gig economy globally may renew attempts to do so in Peru (Pillar 2). An increasing number of [FinTechs](#) in the region are offering DFS solutions to gig workers to build their financial resilience.⁴² This remains an under-tapped opportunity in Peru. One interviewee noted that while the demand for credit may be low, digital insurance may be a compelling incentive for gig workers to hedge against their higher risk exposure to accidents and other health issues.

DIGITAL TRADE

The [2021 UN Global Survey on Digital and Sustainable Trade Facilitation](#) shows an improvement by nearly 30 percent in Peru's trade facilitation score between 2015 and 2021, largely driven by significant gains in the area of cross-border paperless trade (Figure 18). This can be credited to investments made by the Customs Enforcement Agency (SUNAT), including an [overhaul](#) of its IT capabilities and digitization of its import-export processes. Arguably, Peru stands to benefit from the robust e-commerce roadmaps contained in many of the free trade agreements it has signed, including the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPPTP). A [study](#) of companies in the CPPTP region found a positive correlation between a company's level of digitalization and the number of markets to which it exports.⁴³

42 As part of their application, gig workers are required to have a bank account in order to receive payment.

43 The author of the study measures a company's level of digitization by the type of platform they use to sell, ranging from offline, on social media, and their own online store—but not on a marketplace—and on regional and global marketplaces.

FIGURE 18: Track record of Peru’s UN Global Survey on Digital and Sustainable Trade Facilitation

Source: 2021 [UN Global Survey on Digital and Sustainable Trade Facilitation](#)

The degree to which the GoP’s trade facilitation efforts translate into economic growth remains to be seen. Export-oriented small enterprises tend to be limited in their capacity to exploit the opportunities afforded by digitalization. This is certainly the case for Peru’s agribusinesses. One interviewee noted that only 20 to 30 percent of agribusinesses in the Amazonian region can harness the benefits of [traceability technologies](#), allowing them to obtain the certification required to access new markets at premium prices.⁴⁴ For the majority, such technologies are out of reach due to high acquisition costs, connectivity challenges, and limited digital talent on staff, forcing them to sell their products on the commodities markets. As firms integrate into transnational supply chains, they will likely be required to integrate with the technological systems and standards of larger firms, which is difficult and costly.

2.3.3 TECH STARTUP ENVIRONMENT AND DIGITAL TALENT POOL

Peru is home to a number of startups with regional operations, such as delivery logistics platform *Chazki* and payment gateway *Culqi*. Private sector interviewees concurred that the success of these companies belies the barriers faced by homegrown startups. Currently, Peru does not have an entrepreneurship law that could facilitate the process of establishing and scaling a startup. Lack of access to capital, a weak national innovative culture, and a limited digital talent pool also are significant albeit gradually easing constraints.

44 USAID/Peru project, Interview with DECA Team. October 2021, online.

ACCESS TO CAPITAL

Financing is frequently cited as the biggest hurdle for startups in Peru. When it comes to debt financing, only about [4 percent of microenterprises](#) have access to a loan compared to 45 percent, 62 percent, and 72 percent of small, medium, and large companies, respectively.⁴⁵ Given the country's small local investor base, many startups look to secure financing overseas, with [Mexico](#) and the [United States](#) sought-after sources. Nevertheless, there are [positive signs](#) that investment appetite is growing, even in spite of COVID-19. Investment in Peru-based startups increased more than [twofold](#) between 2019 and 2020 from 21 million USD to 46 million USD, with foreign funds constituting the primary source of equity financing.

The GoP is working to address the financing gap. The Ministry of Production (PRODUCE) sponsors a startup competition called [StartUp Perú](#) as part of the ProInnovate program to provide subsidies to tech companies and other startups. In 2021, PRODUCE also launched the country's first [Venture Capital Fund of Funds](#) (FCEI) in collaboration with COFIDE. In the same year, the SMV passed the Crowdfunding Law, which allows MSMEs, including startups, to access equity and loan financing through licensed crowdfunding platforms.

NATIONAL INNOVATIVE CULTURE

According to World Bank data, Peru devoted 0.13 percent of its GDP to [research and development](#) in 2018. This is considerably less than the LAC regional and OECD member country average of 0.67 percent and 2.6 percent, respectively.⁴⁶ Underinvestment in technology and innovation increases Peru's dependence on technology transfer and access to foreign innovation, ultimately driving up the [cost of technology adoption](#) for both startups and established firms. One interviewee noted that for every 100 USD of cloud services a Peruvian company purchases from a foreign provider, it has to pay an additional 48 USD to cover the provider's locally-generated income and sales taxes. Limited research investments can also curtail the private sector's capacity to [absorb](#) existing scientific knowledge, including adoption of technology. While the creation of the National System of Science, Technology, and Innovation (SINACTI) in July 2021 is seen as a welcome development to jump-start innovation, it faces skepticism in light of [cuts](#) made in budget allocations for SINACTI's governing body.

DIGITAL TALENT

The limited availability of human capital with the skills required to compete in a digital economy is viewed as a major shortcoming for startups, especially for those ready to scale. One interviewee who leads a global NGO that supports high-growth entrepreneurs noted that until a couple of years ago, FinTechs and platform companies had to outsource the majority of their tech talent. She added that while this trend is only beginning to change thanks to a growing domestic tech talent base, hiring local professionals who fit the profile of a CTO, CIO, and other tech leadership roles remains a challenge.⁴⁷

The limited digital talent pool can be traced back to Peru's [public debt and hyperinflation crisis in the late 1980s](#), which contributed to a heightened sense of uncertainty and risk aversion. In the two subsequent decades, universities focused on preparing students to follow more traditional career paths rather than pursue entrepreneurial endeavors. The passing of the 2014 University Law aimed to elevate the role of universities in

45 The majority of startups likely fall under the Peruvian Ministry of Production's classification of a microenterprise, which it defines as a business with up to 10 employees and annual sales up to 150 tax units (a reference unit set annually by the Peruvian Ministry of Economy and Finance to determine taxes, penalties, fines, processing fees, and deductions).

46 Gross domestic expenditures on research and development (R&D), expressed as a percent of GDP, include both capital and current expenditures in the four main sectors: Business enterprise, Government, Higher education, and Private non-profit. R&D covers basic research, applied research, and experimental development.

47 Entrepreneurship program. Interview with DECA Team. October 2021, online.

contributing to the country's socio-economic development, which it achieved in certain respects. For example, an increasing number of universities have established incubators and accelerators. However, while [more than a quarter](#) of all undergraduate students were enrolled in a bachelor's degree related to engineering and technology in 2017, public and private sector interviewees alike acknowledged that there is a mismatch between educational outcomes and labor market needs.

The [exponential rise](#) of Peru's education technology (EdTech) startup sector signals a demand for alternative educational models. This growth trend is being driven by the increasing collaboration between employers and digital learning platforms, such as *Laboratoria*, which offers coding bootcamps and job placement for marginalized women, and *Crehana*, which provides a range of reskilling and upskilling courses. One private sector interviewee noted that the project-based approach of EdTech platforms allows users to leverage the skill and experience they gain to enhance their employability.⁴⁸ The GoP also recognizes the value of such platforms to complement its newly-announced National Digital Talent Strategy.⁴⁹ In December 2021, SEGDI launched the [National Platform for Digital Talent](#) to offer free access to online courses and a career pathways functionality where people can search for jobs based on their skills.

48 Tech investor representative. Interview with DECA Team. September 2021, online.

49 Government advisor. Interview with DECA Team. October 2021, online.

Section 3:

Recommendations

There are many ways the international development community and local partners can work together to strengthen Peru’s digital ecosystem. This section outlines a few ideas, providing recommendations for specific actions and partnerships, the list is organized by DECA pillar.

Table 8 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 actors in the international development community can use to implement the recommendation

The **detailed recommendations section that follows** provides further explanation of how to implement each recommendation including:

- Relevant context, recommended partners, and ways to build on existing efforts;
- Important considerations including unknowns and potential challenges; and
- Key opportunities to draw upon and align with the Principles for Digital Development and the SDGs.

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](#).⁵⁰

⁵⁰ These principles are nine living guidelines that provide best practices for every phase of the project life cycle. They were created in consultation with various international development organizations including USAID.

TABLE 8: Summary of DECA recommendations

PILLAR	WHAT?	WHY?	HOW?
PILLAR 1	1 Promote alternative connectivity solutions that foster digital inclusion	Enhanced connectivity through the exploration of alternative, more cost effective models for amazonian and rural areas.	Convene stakeholders from the public and private sectors and from civil society and local communities to explore ways to expand connectivity using alternative technologies and partnership models, pilot a connectivity project informed by current work (e.g., O-RAN) or by a co-creation event with local experts.
	2 Apply a human centered approach to connectivity expansion with Indigenous populations	Increased trust, ownership, and sustainability of alternative connectivity solutions that are centered around involvement of indigenous communities, ultimately supporting enhanced connectivity in amazonian and rural areas.	Partner with a leading design thinking organization to involve community leaders, relevant telecommunications companies (MNOs, ISPs, OIMRs), and local government to develop plans for human centered connectivity solutions. This approach would use local expertise to create local solutions and integrate the territorial approach to development.
	3 Increase digital literacy across Peruvian society including for marginalized and vulnerable populations	Increased digital inclusion and uptake of internet and digital tools and platforms, especially for women, youth, and Indigenous peoples.	Promote a common understanding of digital skills building from the EU DigComp 2.0 framework. Identify gaps in existing and planned programming where digital literacy needs additional emphasis, ensuring connectivity activities are paired with digital literacy programming. Conduct a stocktaking of existing initiatives to help identify the right local partners. Support the government to implement digital literacy plans that go beyond putting devices in peoples hands to equipping them with the skills to use those devices.
PILLAR 2	4 Strengthen cybersecurity awareness, capacity, and policy	Safer and more resilient digital systems and networks that ensure security, privacy, and long-term sustainability.	Increase cybersecurity through a multi-pronged approach: assess capacity and needs of the ecosystem, work with MTC to create a national cybersecurity strategy including safeguards to protect critical internet infrastructure, increase awareness raising, and bulk up the information base with additional research.
	5 Promote platforms for multi-stakeholder internet governance dialogue	Strengthened internet governance, increased transparency, accountability, and inclusion in digital policymaking.	Strengthen and amplify existing spaces for internet governance dialogue through increased involvement in IGF Peru, Comité de Alto Nivel para un Perú Digital, Innovador y Competitivo, CADE DIGITAL, and GORE Digital. Enable increased interaction between public and private sectors and civil society to promote a more bottom-up approach to regulating Peru's digital ecosystem.
	6 Support digital skills capacity building of CSOs	Enhanced capacity of local digital rights CSOs to participate in the digital ecosystem.	Support the growth, impact, and sustainability of local digital rights CSOs. Couple funding with targeted capacity building such as digital skill building courses and workshops. Design activities targeted for local digital rights CSOs to implement. Create a crowdsourced online library of local digital rights CSOs to encourage strategic partnerships between larger established CSOs and smaller, specialized CSOs.
	7 Advocate for increased effectiveness of SEGDI	Strengthened and more effective digital policymaking for the medium- and long-term.	Advocate and encourage partners and other actors in Peru's digital ecosystem (e.g., donors, private sector, CSOs) to strengthen SEGDI as the key decision-making body for Peru's digitalization. Integrate messaging into policy or activity documents or as a discussion topic during workshops. Technical assistance is also an option for prioritized topics such as cybersecurity.
PILLAR 3	8 Foster a culture of research and development for increased digital financial inclusion	Improved public and private sector capacity to leverage innovation.	Set up a RegTech Innovation Lab, explore the use of geospatial technology for financial inclusion; and support high-quality research on consumer protection.
	9 Build partnerships between traditional FSPs and FinTechs	Increased digital financial inclusion of marginalized and vulnerable populations.	Host an innovation platform to bring together early-stage FinTechs and FSPs in a proof-of-concept environment.
	10 Promote the digital transformation of MSMEs	Increased pathways to formalization.	Unlock the potential of e-commerce and support the digitalization of MSMEs to develop an Amazon economic corridor.

DETAILED RECOMMENDATIONS

1. PROMOTE ALTERNATIVE CONNECTIVITY SOLUTIONS THAT FOSTER DIGITAL INCLUSION

A critical challenge to leveraging digital technology to help achieve development objectives in Peru are the connectivity gaps that exist, specifically in rural and Amazonian areas. The MTC is committed to modernizing internet infrastructure and expanding internet access while ISPs and civil society are experimenting with alternative connectivity solutions. However, many such solutions depend on satellite technology, which may not be cost- or output-efficient. There is a need for a convener and an innovator to promote greater focus and coordination among the government, private sector, donors, and civil society working in connectivity. It will be important to promote learning with the goal of developing a library of case studies that can be elevated to promote receptiveness amongst key stakeholders (government, donor, private sector) to alternative connectivity solutions. Planning for scale, when appropriate, and sustainability should also be considered.

No matter the approach or structure, it is important to ensure involved stakeholders to leverage their comparative advantages and work together in the interest of increased connectivity in rural and Amazonian Peru. It will be important to have exploratory conversations with both experts and with local communities to ensure viability and sustainability. As actors in the development community explore methods for expanding the country's digital connectivity, it is critical that corresponding digital literacy (including cyber hygiene) programming is rolled out in tandem.

This recommendation details how to create access to connectivity in a way that embodies the Principle for Digital Development “[be collaborative](#)” and also supports [SDG 9c](#): “Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.”

Relevant Resources:

- [Barriers to investing in last-mile connectivity](#) (USAID 2020)
 - [Investing to Connect](#) (USAID 2019)
 - [Broadband Demand Aggregation](#) (USAID 2018)
 - [TIP and PUCP Peru in Partnership to Create the First TIP Community Lab in the Andes](#) (Telecom Infra Project, 2021)
 - [Infinera, Telecom Infra Project and Telefonica Collaborate to Expand DCSG DRX Series Deployments in Peru](#) (Telecom Infra Project, 2020)
 - [MTC lanza Conecta Selva' para beneficiar con Internet Satelital a 200 mil peruanos en zonas aisladas de la Amazonia](#) (MTC, 2021)
 - [Grupo de Telecomunicaciones Rurales](#) (PUCP, 2021)
 - [O-RAN Alliance](#) (O-Ran Alliance, 2021)
-

2. APPLY A HUMAN-CENTERED APPROACH TO CONNECTIVITY EXPANSION WITH INDIGENOUS POPULATIONS

Highlighting the importance of improving the quality of life of Indigenous peoples, this recommendation suggests an alternative approach for community-led, inclusivity-driven, user-centered digital connectivity expansion. An important part of bringing connectivity to currently under- or unconnected Amazonian and rural areas of Peru is enabling local ownership of the technology or the roll-out decisions, building trust with key community stakeholders, and ensuring clear use-cases and benefits are communicated throughout. These are key elements of [design thinking](#) (also referred to as human-centered design, user-centered design, or participatory approaches).

SECTION 3: RECOMMENDATIONS

To do this, actors can organize inclusive internet working group(s) consisting of representatives from a leading design thinking organization (international or local), selected Indigenous community, the relevant telecommunications companies (MNOs, ISPs, or OIMRs), and the local government. The working group can also comprise specific targets at the community level such as youth, women, and Indigenous community leaders. These working groups would together develop alternative connectivity solutions and partnership models that best fit the given community. This format would give space for Indigenous groups to learn about new technologies for providing connectivity and the impact on their communities, share their ideas about such technologies, and suggest alternative models for implementation and sustainability. This type of approach can result in new technological approaches to community networks, alternative options for enabling affordability, and different approaches to demand promotion. The key to the model is that it relies on local expertise to come up with local solutions. This approach could be piloted in a selected community and then, if successful, make plans to replicate and scale as appropriate.

The [territorial approach](#) should be integrated when working with Indigenous communities, as emphasized by former General Director of Policy and Strategy of the Ministry of Social Development and Inclusion (MIDIS), Silvana Eugenia Vargas Winstanley. With [principles of rural sociology](#), the territorial approach consists of addressing the exclusion that affects households based on “the context or territory where the population lives.” This model is built on the premise that understanding the territorial dimension of concentrated poverty and vulnerability can lead to better program design and outcomes. The territorial approach can create better synergies and partnerships with Indigenous communities. This approach is also hypothesized to build trust with Indigenous communities. The territorial approach can be inserted into the above model during focus groups or workshops by structuring questions based on geographical lived experiences, family structure, social capital i.e., local communication networks.⁵¹ This approach can help to carefully navigate its digital development investments in rural isolated communities in the Amazon.

This recommendation details how to create access to connectivity in a way that involves a participatory approach, reflecting the Principle for Digital Development “[design with the user](#)” and as it seeks to increase internet connectivity it supports [SDG 9c](#): “Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.”

Relevant Resources:

- [Indigenous connectivity in Peru](#) (University of Washington, Technology and Social Change Group, 2021)
 - [Infrastructure and Community Development](#) (Internet Society, 2022)
 - [Technology and Social Change Group](#) (University of Washington, 2021)
 - [Human-Centered Design](#) (USAID, 2022)
 - [Connecting Isolated Communities: Quantitative Evidence on the Adoption of Cellular Networks in the Philippines](#) (Heimerl et al, 2020)
 - [IDEO + Innova Schools in Peru](#) (IDEO, 2019)
 - [From Discourse to Action Discourse and Action: Challenges, decisions and dilemmas in the creation of the Ministry of Development and Social Inclusion](#) (Trivelli Avila and Vargas Winstanley, 2015)
 - [The Use of Participatory Mapping in Ethnobiological Research, Biocultural Conservation, and Community Empowerment: A Case Study from the Peruvian Amazon](#) (Young and Gilmore, 2012)
-

⁵¹ According to Kurtis Heimerl of the Technology and Social Change Group of the University of Washington it is believed that through strong social networks, households have less incentive for mobile phone usage. This is important when contextualizing Indigenous social structures. This assumes strong social capital without needs for further connectivity. Heimerl argues phone ownership to correlate with non-local communication networks. See paper for reference: https://kurti.sh/pubs/ccn_takeup_paper.pdf

3. INCREASE DIGITAL LITERACY ACROSS PERUVIAN SOCIETY INCLUDING FOR MARGINALIZED AND VULNERABLE POPULATIONS

Boosting digital literacy is a key element to ensuring equitable and inclusive adoption of digital tools and platforms across Peru. Providing connectivity and access to digital technologies to populations that do not have the skills to safely use them may result in neutral development impact and could even give rise to digital harms. Whenever projects intend to improve connectivity or use a new digital tool, it is important to always seek to help project participants do more with the technology. Technology is not the end, but the means to supporting improved livelihoods as well as social, cultural, and political benefits. A more robust digital literacy agenda can help ensure digital development investments in Peru follow this narrative. Activities may include the promotion of a common digital skills framework building on the [European Union's DigComp 2.0](#), the standardization of digital literacy programming evaluation, and support for the implementation of national digital literacy plans.

This recommendation details how to approach digital literacy programming in a way that embodies the Principle for Digital Development “[understand the existing ecosystem](#)” and “[build for sustainability](#)” and also supports [SDG 8.2](#), which aims to “achieve higher levels of economic productivity through diversification, technological upgrading and innovation.”

Relevant Resources:

- [Digital Literacy and COVID-19](#) (USAID, 2020)
 - [Teachers' Use of New Technologies in Latin America](#) (OECD, 2020)
 - [ICT, education, and social development in Latin America and the Caribbean](#) (UNESCO, 2017)
-

4. STRENGTHEN CYBERSECURITY AWARENESS, CAPACITY, AND POLICY

With increased and diversified efforts to expand Peru's connectivity and with digital technologies quickly embedding themselves in government systems and citizens' daily lives, it is absolutely critical that key stakeholders from the government and from civil society prioritize cybersecurity. Cybersecurity is essential to ensuring individual-, organization-, and government-level information is protected from actors with malign interests. However, Peru does not have a national cybersecurity strategy currently in force and there is a need to bulk up the country's cybersecurity awareness, capacity, and application. International development actors can support the country's cybersecurity efforts at three levels: assessing capacity and needs; facilitating policymaking; and raising awareness. Capacity should be evaluated in accordance with the [NIST Cybersecurity Framework](#) across five categories: identification, protection, detection, response, and recovery. Support on the policy front may involve providing the government with technical assistance to create a national cybersecurity strategy. Cybersecurity awareness raising efforts can look to the U.S. Cybersecurity and Infrastructure Security Agency (CISA) [Cybersecurity Awareness Program](#) as an example of a comprehensive cybersecurity public awareness raising campaign.

This recommendation emphasizes cybersecurity in a way that draws from Principle Eight of the Principles for Digital Development, “[address privacy and security](#).”

Relevant Resources:

- [USAID Cybersecurity Primer](#) (USAID, 2021)
- [NIST Online Informative Reference Catalog](#) (NIST, 2022)
- [NIST Cybersecurity Framework - Success Stories](#) (NIST, 2021)

- [Cybersecurity from the Perspective of the Financial Regulator and Supervisors in Peru](#) (AFI, 2021)
- [OAS Cybersecurity Program](#) (OAS, 2021)
- [Ciberseguridad: Riesgos, Avances y El Camino a Seguir en America Latina y El Caribe](#) (IDB and OAS, 2020)
- [National Capabilities Assessment Framework](#) (European Union Agency for Cybersecurity, 2020)
- [Raising Awareness on Cybersecurity](#) (European Union Agency for Cybersecurity, 2021)
- [NCSS Good Practice Guide](#) (European Union Agency for Cybersecurity, 2016)

5. PROMOTE PLATFORMS FOR MULTI-STAKEHOLDER INTERNET GOVERNANCE DIALOGUE

The scarcity of open forums to discuss digital public policies or the development of the digital ecosystem means there is an opportunity to strengthen or establish venues for open dialogue involving stakeholders from the public and private sectors, civil society, and academia. This task can be carried out in different ways, with less or greater involvement from various stakeholders. One way could be to promote more widespread participation in existing discussion forums such as the [Peruvian Internet Governance Forum](#) (IGF Peru). An option that requires more involvement and resources is the formation of a coalition or alliance around a specific and urgent digital agenda topic (for example: use of AI to reduce corruption, big data to increase transparency, use of IoT in the agriculture sector, etc.).

This recommendation embodies the Principle for Digital Development to “[be collaborative](#),” as well as [SDG 17](#) about strengthening partnerships to achieve sustainable development goals.

Relevant Resources:

- [¿Qué es el Foro Peruano de Gobernanza de Internet](#) (IGF Peru, 2015)
- [A Toolkit to assist communities in establishing the IGF initiatives](#) (IGF Secretariat, 2016)
- [One Internet: Final Report of the Global Commission on Internet Governance](#) (OECD et al, 2016)
- [What if we all governed the internet?](#) (UNESCO, 2017)
- [New guys in the neighborhood: A critical review of the Peruvian Internet Governance Forum 2016/2017](#) (GISWATCH, 2017)
- [Brochure CADE DIGITAL 2021](#) (CADE, 2021)
- [Página del Comité de alto nivel por un Perú digital, innovador y competitivo](#) (SEGDI, 2021)

6. SUPPORT DIGITAL SKILLS CAPACITY-BUILDING FOR CSOS

CSOs in Peru struggle to fully engage in the country’s digital ecosystem. On the one hand, older and well consolidated organizations do not participate in relevant discussions of the local digital agenda. This is either because they do not understand digital issues or because they do not have incentives to incorporate them into their work. On the other hand, smaller organizations that are highly specialized in digital development lack technical capacity and human resources to participate in processes of discussion and policy making on complex issues related to digital development. Both situations lead to the underrepresentation of civil society in the digital ecosystem. It is also difficult for CSOs to build alliances united around common goals. Ultimately this leads to CSOs that are unable to help protect digital rights from public and private initiatives that may threaten them. These challenges can be addressed through approaches that couple funding with capacity building, that are tailored to the needs of specific CSO groups, and that involve matching CSOs to partner with each other and maximize their respective comparative advantages.

This recommendation embodies the Principle for Digital Development to “[build for sustainability](#)” and “[address privacy and security](#)”.

Relevant Resources:

- [Surveillance Self-Defense Toolkit](#) (EFF, 2016)
 - [Guía urgente para denunciar casos de acoso y acoso sexual digital en Perú](#) (Hiperderecho, 2018)
 - [Pulsante FAQ](#) (PULSANTE, 2021)
 - [We support organizations advancing digital rights in Latin America](#) (INDELA, 2021)
 - [Tecnologías Digitales y Elecciones en El Perú](#) (Democracia y Desarrollo Digital, 2021)
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7. ADVOCATE FOR INCREASED EFFECTIVENESS OF SEGDI

SEGDI’s role as the leader of digital government is probably one of the most important in relation to the government digitalization process. In the last five years its leadership has expanded, not only on issues of digital government, but on related components such as connectivity, digital identity, and data governance among others. These functions were previously led by other entities of the Executive Branch or even by Autonomous Bodies. If this trend continues, it is foreseeable that in the medium- and long-term, SEGDI will be an indispensable partner for any digital initiative in the public sector.

As [2016](#) and [2019](#) OECD studies on digital governance pointed out, SEGDI’s location within the Presidency of the Council of Ministers (PCM) makes it very close to the center of power. Its level of agency and resources has increased, especially since 2018. At the same time, SEGDI must be in line with the plans and priorities of the Administration of the moment. Paradoxically, this means that any progress made can be interrupted by a change of Administration.

International development actors can consider including in all its statements and initiatives on digital government or related issues a message or a topic of discussion that highlights the idea that such an important entity as SEGDI must be strengthened to be able to plan digital public policies for the medium- and long-term that are continued and improved by successive Administrations. This notion is echoed in studies from [IDB](#) and [OECD](#) regarding public entities governance.

This recommendation reflects the sentiment of the Principle for Digital Development “[be collaborative](#)” and is in alignment with [SDG 17](#): Strengthen implementation and global partnerships for sustainable development.

Relevant Resources:

- [PERÚ: Transformación Digital, Hoja de Ruta para una Digitalización Sostenible](#) (SEGDI, 2020)
 - [Digital Government Index: 2019 results](#) (OECD, 2020)
 - [Perú Digital. El camino hacia la transformación](#) (AmCham, 2020)
 - [Digital Government in Peru: Working Closely with Citizens](#) (OECD, 2019)
 - [Wait No More: Citizens, Red Tape, and Digital Government](#) (IADB, 2018)
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8. FOSTER A CULTURE OF RESEARCH AND DEVELOPMENT FOR INCREASED DIGITAL FINANCIAL INCLUSION

With interoperability, open banking, and CBDC on the policy agenda, the GOP has indicated an increasing openness to harness technology-based and data-driven solutions to advance financial inclusion. Such initiatives can help position the GOP to more optimally translate its policy agenda into action. However, resource constraints and historical coordination challenges, which are likely to worsen with the prolonged COVID-19 pandemic, may put the research and development (R&D) efforts required to materialize these initiatives on the back burner. In reference to the plans to develop the CBDC, the [BCRP President said](#), “We are not going to be the first, because we don’t have the resources to be first and face those risks, [...] but we don’t want to fall behind.” A culture of R&D can be fostered by helping the government to set up a [RegTech](#) innovation lab, exploring the use of geospatial data for financial inclusion, and supporting rigorous research on consumer protection.

This recommendation is in line with the Principles for Digital Development to “[be data driven](#)” and “[build for sustainability](#)”.

Relevant Resources

- [How Regulators Use Sex-Disaggregated Data and RegTech to Enhance Financial Inclusion](#) (USAID, 2021)
- [Leveraging Geospatial Technology for Financial Inclusion](#) (World Bank, 2020)
- [Geodata-driven Approaches to Financial Inclusion – Addressing the Challenge of Proximity](#) (Fibaek et al., 2020)
- [The Stories Algorithms Tell: Bias and Financial Inclusion at the Data Margins](#) (Center for Financial Inclusion, 2021)
- [Reflecting the Past, Shaping the Future: Making AI Work for International Development](#) (USAID, 2018)

9. BUILD PARTNERSHIPS BETWEEN TRADITIONAL FSPS AND FINTECHS

One of the major findings related to Peru’s DFS landscape is that it is largely Lima-centric and beholden to traditional models. As long as FinTechs continue to navigate ambiguous legislative territory, they are unable to scale the innovative solutions they have to offer. On the other hand, commercial banks are not incentivized to expand their customer base beyond the profile they’ve historically served due to perceived and real risks, as shown in [this study](#). International development actors can break down the silos by hosting an innovation platform to bring together early-stage FinTechs and traditional FSPs in a proof-of-concept environment. One of the key objectives would be to build a compendium of business cases for extending DFS to vulnerable and marginalized population groups. Box 12, which discussed the UNHCR case study, illustrates the value proposition of taking a client-centered approach to cater to a previously untapped customer base.

This recommendation is in the spirit of the Principle for Digital Development “[be collaborative](#)” and is in alignment with [SDG 17](#): Strengthen implementation and global partnerships for sustainable development.

Relevant Resources:

- [FinTech Partnerships Playbook](#) (USAID, 2019)
- [Guide: Developing a Business Case for Gender Equality](#) (USAID, 2020)
- [Case Studies of Multisectoral Approaches to Integrating Digital Financial Services for Women’s Financial Inclusion](#) (Alliance for Financial Inclusion, 2021)
- [Effects of Mobile-Based Financial Services on Migrant Households’ Remittances and Savings](#) (Dvara, 2020)

10. PROMOTE THE DIGITAL TRANSFORMATION OF MSMEs

According to the Peruvian Association of Small Businesses, the share of informal MSMEs [increased](#) from 68 percent to 83 percent since the start of the COVID-19 pandemic, making the impetus for digital transformation even more pressing for two main reasons. First, MSMEs that use digital tools are likely to be more resilient to economic shocks. In a [survey](#) conducted by DAI and Ipsos, 73 percent of MSMEs in Peru reported that Facebook apps, including Facebook, WhatsApp, and Instagram helped them adapt to the COVID-19 environment. Second, digitalization can serve as an [indirect pathway](#) to business formalization. For example, the increasing availability of government e-formality services such as electronic business registration and digital fee payments makes compliance less costly and incentives more accessible while the growing supply of DFS and related software can lower the threshold to formalization. To support the digital transformation of MSMEs there may be opportunities for international development actors to help unlock the potential of social commerce. Social commerce has the potential to expand economic opportunities for businesses, especially informal microenterprises that may face high barriers to entry into larger e-commerce platforms. There is also opportunity to contribute to the development of an Amazon economic corridor using a territorial approach and digital-first strategy. This might include promoting the adoption of digital technologies across all links of the bioeconomy and agricultural value chains in the Amazon.

This recommendation is in the spirit of the Principle for Digital Development “[be collaborative](#)” and “[build for sustainability](#)”. It also is in alignment with [SDG 17: Strengthen implementation and global partnerships for sustainable development](#).

Relevant Resources

- [Business Her Own Way: Creating Livelihoods Through Informal Online Commerce](#) (CGAP, 2021)
 - [The Digital Transformation of SMEs](#) (OECD, 2021)
 - [Creative Economy Outlook: Trends in International Trade in Creative Industries](#) (UNCTAD, 2018)
 - [Digitization and Informality: Harnessing Digital Financial Inclusion for Individuals and MSMEs in the Informal Economy](#) (OECD, 2018)
 - [Territorial Approaches for Sustainable Development](#) (GIZ, 2021)
 - [From Discourse to Action Discourse and Action](#) (IEP, 2015)
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Appendix

A. FOCUS GROUP DISCUSSION SUMMARY

BACKGROUND

The objective of focus group discussions (FGDs) was to ensure that the voices of USAID/Peru's target populations were included in the Peru DECA. To supplement Lima-centric expert opinions provided by DECA interviewees, the Peru DECA included FGDs with USAID/Peru project participants. Under normal circumstances, the Peru DECA Team would have traveled in-country to contextualize the information gathered during the background research and interview phases. However, given the travel restrictions put in place because of the ongoing COVID-19 pandemic, the DECA research team conducted virtual FGDs in partnership with USAID/Peru's partner, CEDRO.⁵²

METHOD

CEDRO staff identified volunteer participants for the FGDs and organized the logistics. The FGDs were conducted at CEDRO's local telecenters via Google Meet video calls. The DECA research team joined the FGDs virtually while participants, assisted by CEDRO staff, joined together in person via one device in the community center. The FGDs took place in November 2021. Each discussion was facilitated by a DECA research team member and lasted for up to 2 hours.

The FGDs included topics from each of the DECA pillars, allowing the research team to hear first-person accounts regarding mobile phone usage habits, reasons for carrier preferences, quality and affordability of service, scams and online safety (e.g. gender based violence online), DFS awareness, and e-commerce accessibility and use. The FGD discussion guide included 19 questions, 12 of which were prioritized and the remaining were secondary or used as discussion prompts. Participants also filled out a digital competencies activity sheet at the beginning of the FGD. The activity asked participants to rank various digital capacities from 1-to-5 (from "I do not have confidence in this ability" to "I am very confident in this ability"). The competencies included in the activity were organized around four key areas: information and digital literacy, communication and collaboration, digital content, and cybersecurity, as follows:

Information and Digital Literacy:

- » Use applications on mobile phone
- » Navigate information on the internet via mobile phone
- » Download applications on mobile phone
- » Judge the credibility of online content
- » Use a computer or laptop
- » Download files on a computer or laptop
- » Navigate files on a computer or laptop

⁵² CEDRO is leading implementation of the CR3CE Alliance that aims to provide connectivity to communities previously outside the grid of internet services. The Alliance has trained a group of network administrators, providing digital certification, and supports other tools that enable digital services to be offered in new rural markets in Huanuco, San Martin, and Ucayali. It provides incentives for rural financial institutions to adapt new financial services to the needs of low-income populations and also offers financial education training to rural people. The CR3CE Alliance sub-implementing partners include *Yachay*, *Cisco*, *Microfinanzas Prisma*, *Caja los Andes*, *Financiera Confianza*, and *MiBanco*.

Communication and Collaboration:

- » Actively use social media
- » Send messages on social media
- » Participate in groups on social media
- » Share information on social media platforms

Digital Content:

- » Create and edit content digitally
- » Understand rights of the author

Cybersecurity:

- » Aware of cybersecurity
- » Understand digital rights of a mobile phone user
- » Understand digital rights as a computer user

Sample

Nine focus groups convened with a total of 34 participants, 14 of whom were female. The groups had three or four participants each and were organized by gender with three all-female, five all-male, and one mixed group. Participants ranged from ages 17 to 61 with an average age of 34. There were two youth-only groups with participants ages 17 to 24. The FGDs included participants from three regions of Peru: four FGDs were in San Martin, three in Ucayali, and two in Huanuco (see Figure 19 below). While the team originally planned to conduct ten FGDs, weather conditions in Peru hindered the ability of participants to travel for one of the Huanuco FGDs, so the DECA team only carried out nine FGDs.

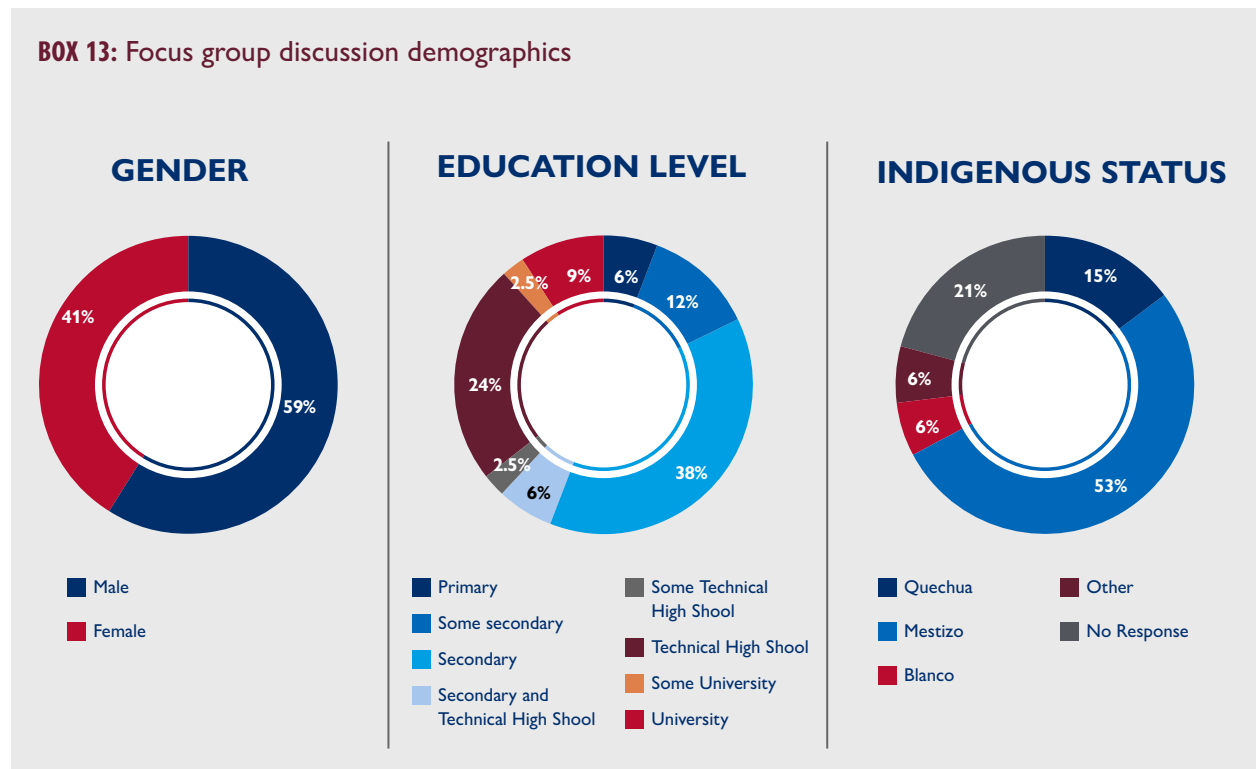


FIGURE 19. Peru DECA focus group discussion locations

CHALLENGES

The team faced logistical challenges organizing the FGDs. All participants had a mobile phone, but they were not able to navigate joining the virtual meeting platform and preferred to travel to the CEDRO telecenters to join the FGDs as a group in person. Some participants had to travel long distances and therefore multiple FGDs experienced delayed start times, prolonging the duration of discussions.

FINDINGS

The FGDs provided rich data and insight on the digital ecosystem in Peru. Participants confirmed widespread use of mobile phones for personal and business use. Among other findings, the FGDs highlighted the value of the CEDRO telecenters for enabling local community members to have access to the internet to learn new information and skills including about DFS and e-commerce.

Pillar 1: The FGDs provided an opportunity to validate some of the findings from interviews and desk research. For example, the FGDs confirmed that the most common mobile carriers are *Claro*, *Vietel*, and *Entel*, and that smartphones are widely used in local communities. Some of the participants said that they shared mobile phones with a family member or a neighbor. According to some participants, sharing of digital devices increased during the COVID-19 pandemic due to remote education needs in their households. In order to attend school, children, youth, and older students needed to be digitally connected. For some households this meant that a mobile device, tablet, or computer that was previously used primarily by a parent became a dual-use tool for the student and parent.

During the COVID-19 pandemic, telecenters increased their usefulness to local communities. They supported a range of the communities' digital needs such as remote education for students (navigating internet for research and information), setting up a payment mechanism for SMEs, and providing digital skills training.

“One of my first experiences using the telecenters, I came to use the tools to help my kids with their homework... look up information on the internet and try to learn...I also learned how through technology mediums, I could withdraw money...and learned about technology in general.” – Participant, Focus Group 7

Apart from validating the findings, the FGDs also provided new learnings around Pillar 1. For example, the discussions demonstrated the impact of weather on the quality of network services, showing that network coverage depended on weather conditions in rural areas. A participant from the *Telecentro* in Huanuco shared that *“Claro has great service, and great coverage but there are days that are difficult when there are strong winds, the light goes out and the signal goes out.”* Another participant shared that sometimes rain and strong winds had an impact on their *Viettel* coverage.

Pillar 2: Topics included in the FGDs for Pillar 2 included discussion around online safety and digital scams. Participants confirmed that mobile phone scams are widespread. In almost all FGDs, participants mentioned that they received an SMS telling them that they had won an award, mostly cash prizes and vehicles. There seems to be a common understanding about the fraudulent nature of these messages and the appropriate measures to take in such a situation (i.e., don't text back, erase the SMS). This level of awareness was mostly observed in young people and adults and equally among men and women. The way in which participants learned about these scams and how to avoid them is varied, but the two most common responses were:

- Based on common sense, it does not seem logical that someone would win a prize in a contest in which they did not participate.
- A person in their environment had already been a victim of a similar scam and had managed to avoid it.

Despite knowing that these acts are crimes, none of the participants in the FGDs mentioned having reported these attempted scams to an authority such as the National Police. This may be because participants were not aware how to report such crimes or they doubted that there would be any consequences from reporting.

During a female only FGD, two female participants reported cases of harassment via social media. These cases occurred to people related to the participants and consisted mainly of them receiving inappropriate or harmful comments or messages from strangers online. In other mixed or men-only FGDs, no such cases of this kind were mentioned.

Regarding digital government transactions, most of the participants were not aware of such government online services as payment of taxes, access to social services, or even information regarding the COVID-19 pandemic. Several participants received the government-issued *Bono Familiar* in 2021 but almost none of them used digital

means (i.e., digital wallets) to receive it. This confirmed information provided by DECA interviewees that said that despite existing online government services, uptake in rural and peri-urban locations in the Amazon is low. Reasons for low uptake of government digital services include limited awareness and perception that such services do not fulfill communities' needs.

Pillar 3: The FGDs validated that cash is still widely used in rural Peru, primarily because this is the main form of income payment. A few participants mentioned having bank accounts through which they receive their income. These were predominantly salaried workers employed by local government offices and small businesses.

Participants demonstrated a general awareness of mobile money due in large part to the government's promotion of mobile money use to facilitate the COVID-19 G2P emergency cash transfers (*bonos*) distributions, as well as the *Telecentro's* educational campaigns. However, active usage of mobile money among participants was limited. Many mentioned that they created their digital wallet accounts to receive their *bonos* and have not used it since. One female participant mentioned that she downloaded a mobile money app for the specific purpose of receiving her *bono*, but there were no agents in close proximity to her community so she had to transfer her *bono* to another person so they could go to a nearby agent, cash out her *bono*, and give her the money in cash.

Despite the limited use of DFS, many participants recognized its benefits to facilitate their business and other transactions in the future. One participant, who works as a street vendor, said she would rather receive digital payments than cash because she is less likely to make impulse purchases if she has less cash on hand.

The FGDs also offered insights on e-commerce trends. Most participants were familiar with the idea of purchasing goods online, but experiences with e-commerce platforms vary. While many of the participants recognized the well-established e-commerce platforms such as *Linio*, *Mercado Libre*, *Ali Express*, and *Wish*, the majority cited a variety of reasons for not having purchased any goods online including:

- Logistical challenges with getting the goods delivered to their homes;
- General apprehension over e-commerce process;
- Perception that it is a "Lima thing";
- The delivery fee makes online purchases more expensive than in-person purchases; and
- Level of comfort with making in-person purchases, so no need to look for alternatives.

Of the few participants that have made purchases on e-commerce platforms, most have had their purchases delivered to alternative addresses. One participant said that she made her purchase using her in-laws' account and had it sent to their home in Pucallpa, which is about 90 km away from where she lives in Curimana. Another participant had her purchase delivered to her office.

Participants also shared their experience with buying and selling on more informal platforms such as WhatsApp. A group of women entrepreneurs spoke about the value of using these informal platforms to customize orders and create a personalized experience for their clients using product photos. One participant mentioned that she used to sell cosmetics online when she lived in Lima and has been looking for opportunities to sell products online since she moved to Ucayali. Younger participants said that using digital platforms offers more specialized services, such as e-gaming and e-learning.

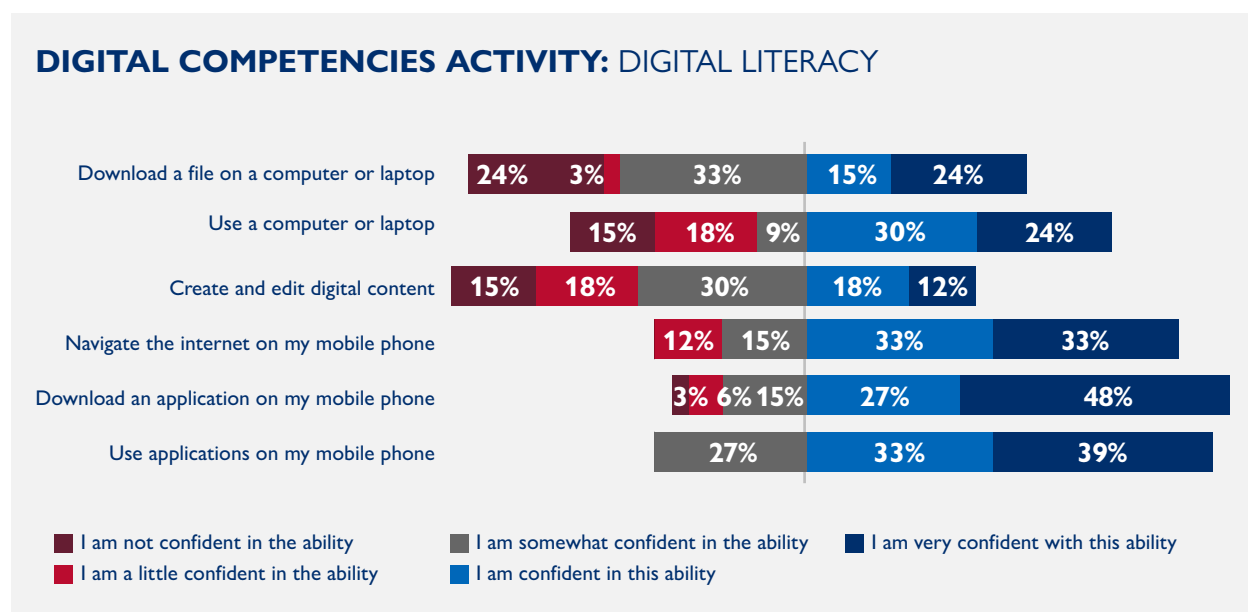
Those who use e-commerce platforms reported using a variety of payment methods. One younger male participant mentioned paying for his e-game activity via cash using a multi-modal payment service called *PagoEfectivo*. Others used their mobile wallets to pay for their goods.

DIGITAL COMPETENCIES ACTIVITY

Of the 34 participants, 33 completed the digital competencies activity. Generally, respondents demonstrated confidence in their basic digital literacy skills but were less sure of more advanced skills related to media literacy and cybersecurity and digital rights awareness.

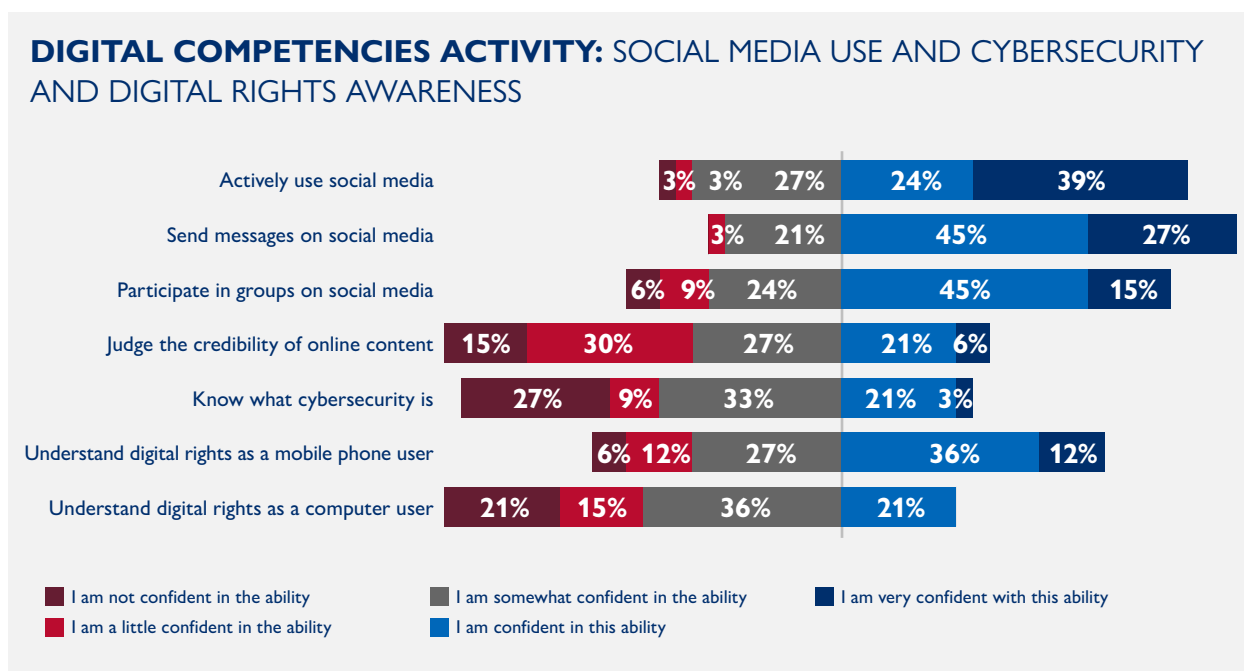
As illustrated in Figure 20 below, 73 percent reported that they are confident or very confident in their ability to use applications on their mobile phones. The data also revealed that 66 percent of participants are confident or very confident in their ability to navigate the internet on their phones. However, in terms of slightly more advanced digital skills, only 30 percent of participants said they were confident or very confident in their ability to create and edit digital content, while 39 percent were confident or very confident in their ability to download a file on a computer (24 percent were not confident in this ability).

FIGURE 20. Digital Competencies Activity: digital literacy



When it comes to social media use, 64 percent of participants are confident or very confident in their ability to actively use social media and 60 percent are confident or very confident in their ability to participate in groups on social media, but only 45 percent are confident or very confident in their ability to share information on social media platforms. In terms of media literacy, only 27 percent of participants are confident in their ability to judge the credibility of online content (e.g, ability to detect fake news) (Figure 21). Knowing that participants are able to actively use social media but are less confident in their ability to critically consume information online points to a key gap in digital literacy skills. While basic skills and access to social media platforms are important for Peruvians, and specifically those in the Amazon and in rural areas represented by the FGD participants, so too are higher level skills that will help ensure their safety and the integrity of the online space in their communities.

FIGURE 21. Digital Competencies Activity: social media use and cybersecurity and digital rights awareness



Finally, to better understand how participants understand the importance of safe and responsible use of digital technologies, the activity asked about cybersecurity and digital rights awareness. Only 24 percent of participants are confident or very confident in understanding the meaning of cybersecurity. While 48 percent of participants are confident or very confident in their ability to understand their rights as a mobile phone user, only 21 percent are confident or very confident in their ability to understand their digital rights as a computer user. These results underline the importance of increasing cybersecurity and digital rights awareness with Amazonian and rural communities.

CONCLUSION

The FGDs provided important value to the Peru DECA in that they not only confirmed findings from desk research and interviews, they also added more detailed insights provided directly by USAID/Peru’s project participants. These first-person accounts can help development actors to better understand the online habits, preferences, and abilities of target populations and then to design programming that more accurately meets their needs and capacities. The FGDs also revealed the valuable role CEDRO’s telecenters play in connecting community members to online services, digital government benefits, online information sources, online social groups, and even business opportunities.

B. DEFINITIONS

Definitions from [USAID Digital Strategy 2020-2024](#) unless otherwise mentioned.

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

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 ensure the safety of identity and other details that could be stolen or corrupted.⁵³

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 Divide: The distinction between those who have access to the Internet and can make use of digital communications services, and those who find themselves excluded from these services. Often, one can point to multiple and overlapping digital divides, which stem from inequities in access, literacy, cost, or the relevance of services. Factors such as high cost and limited infrastructure often exacerbate digital divides.

Digital Economy: The use of digital and Internet infrastructure by individuals, businesses, and government to interact with each other, engage in economic activity, and access both digital and non-digital goods and services. As the ecosystem supporting it matures, the digital economy might grow to encompass all sectors of the economy—a transformation driven by both the rise of new services and entrants, as well as backward linkages with the traditional, pre-digital economy. A diverse array of technologies and platforms facilitate activity in the digital economy; however, much activity relies in some measure on the Internet, mobile phones, digital data, and digital payments.

Digital Ecosystem: The stakeholders, systems, and enabling environment that together empower people and communities to use digital technology in order to gain access to services, engage with each other, or pursue economic opportunities. A digital ecosystem is conceptually similar to, but broader than, a digital economy. Although certain aspects of the digital ecosystem have country-wide reach, other features differ across geographies or communities. The critical pillars of a digital ecosystem include: 1) sound enabling environment and policy commitment; 2) robust and resilient digital infrastructure; 3) capable digital service-providers and workforce (e.g., both public and private institutions); and 4) empowered end-users of digitally enabled services.

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,

⁵³ Chris Brooke, “What is Cyber Hygiene? A Definition of Cyber Hygiene, Benefits, and Best Practices,” last modified December 5, 2018, <https://digitalguardian.com/blog/what-cyber-hygiene-definition-cyber-hygiene-benefits-best-practices-and-more>

or donors or non-governmental organizations (NGOs) for functional purposes to identify beneficiaries, e.g., for humanitarian assistance and service-delivery.

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 communication technology (ICT) literacy, information literacy, and media literacy.”

Gross National Income: The gross national income (GNI), previously known as gross national product (GNP), is the total domestic and foreign output claimed by residents of a country, consisting of gross domestic product (GDP), plus factor incomes earned by foreign residents, minus income earned in the domestic economy by nonresidents.⁵⁴

⁵⁴ Note: GNI is utilized here rather than GDP as it is increasingly preferred by the World Bank, the European Union, and other major global players. Jim Chappelow, “Gross National Income (GNI),” Investopedia, May 4, 2020. <https://www.investopedia.com/terms/g/gross-national-income-gni.asp>

C. METHODOLOGY

The Peru DECA included three components:

1. **USAID/Peru engagement:** USAID/Peru designated one point of contact (POC) within the USAID/Peru program office. This POC was responsible for leading communication with the DECA implementation team; helping identify stakeholders; reviewing relevant documents during planning, key informant interviews, and the analysis and report-writing stages; and attending selected interviews during the interview phase.

The POC also helped organize the introduction and post-interview recommendation workshop with USAID/Peru. These engagements were important to socialize the DECA purpose and preliminary findings across various USAID/Peru technical offices.

This engagement was not only important for ensuring an appropriate mix of interviewees, but was also critical to building the research team's understanding of USAID/Peru's priorities.

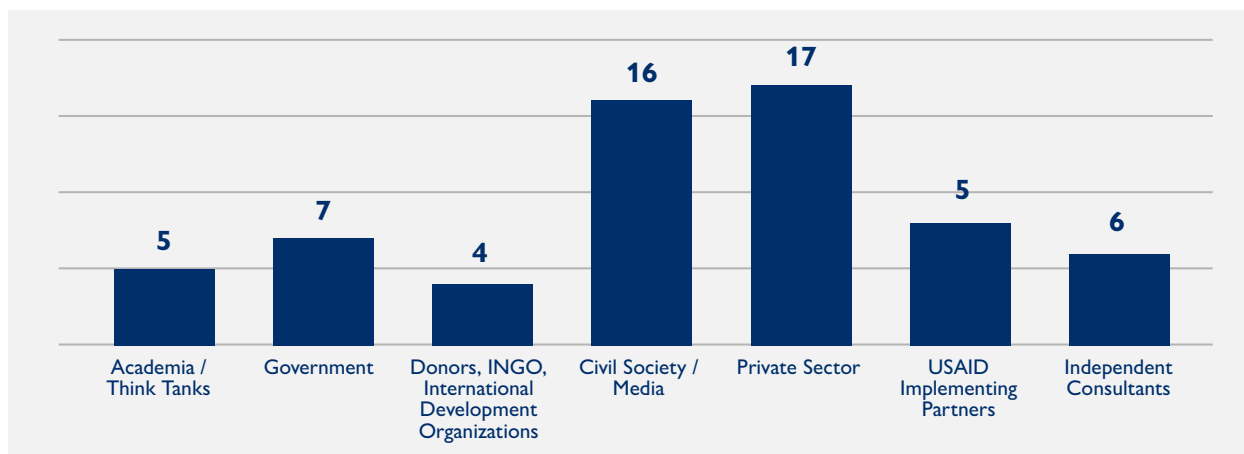
2. **Desk research:** This used a standardized template organized around three pillars (digital infrastructure, access and use; digital society and governance; digital economy). Desk research included three components: 1) review of USAID/Peru's CDCS, funding allocations, and digitally relevant programming; 2) quantitative analysis of open-source data and indices to produce regional comparisons (e.g., GSMA, World Economic Forum, International Telecommunication Union); and 3) internet research guided by high-level questions under each pillar about the state of Peru's digital ecosystem.

The desk research was shared with the USAID/Peru POC before interviews and was used to inform the interview guide questionnaires.

3. **Interviews:** The research team collaborated with USAID/Peru to compile a list of target stakeholders across civil society, academia, international organizations, private and public sectors, and within USAID/Peru. Initial key informant interviews were secured through the DECA team and USAID/Peru networks. Additional interviewees were added throughout the research process via referrals from completed interviews.

During the interview phase, the DECA team conducted from eight to twelve interviews per day. 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 prior to the interview phase and tailored to interviewees and based on learnings from previous interviews.

To ensure a diverse mix of key informants, the research team evaluated the list of scheduled interviews and conducted additional outreach in an attempt to fill identified gaps. The chart below and [Appendix D](#) show the 63 interviews by sector (informed by 15 female interviewees, and 48 male interviewees).

FIGURE 22. Interviewee type

ANALYSIS

The bulk of the analysis was conducted during the interview phase. Once a week during the eight weeks of interviews, the DECA team conducted interview debriefs. These meetings ensured that all team members were briefed on each interview, and 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, the team convened to revisit these themes, confirm their validity against interview notes, and organize the findings around the three pillars outlined in this report (digital infrastructure and adoption; digital society, rights, and governance; and digital economy).

LIMITATIONS

The research team was limited, to an extent, by their technical expertise. DECA team members were chosen to provide coverage of key technical areas identified in a preliminary review, particularly around digital inclusion, digital rights, and digital finance. This may introduce some bias—weighting the specializations of team members more heavily than areas such as digital infrastructure, digital government, and digital trade.

A large number of key informants were selected through USAID/Peru and DECA team networks, which may have excluded stakeholders who are less comfortable engaging with U.S. government representatives. All interviews took place virtually; as a result, information is limited to interviewees able to connect to virtual platforms. A large portion of interviewees were based in Lima, therefore information gathered is limited to their knowledge and work across the country.

Rather than rigorous qualitative methods (e.g., thematic coding), analysis of interview notes depended on triangulation of findings within the research team, who attempted to balance thematic gaps by consulting technical experts and seeking additional interviewees.

RESEARCH TEAM

The DECA team was composed of digital development generalists and specialists with technical expertise in digital inclusion, digital rights, and digital financial services. Team members who were technical experts attended most interviews relevant to their expertise.

D. KEY INFORMANTS

Academia/Think Tanks	
1	Instituto de Estudios Peruanos
2	Instituto para la Sociedad de la Informacion y Cuarta Revolucion Industrial - ISICRI
3	Observatorio de Plataformas Perú
4	University of Washington, Technology and Social Change Group
5	Grupo de Telecomunicaciones Rurales -PUCP
Government	
6	Autoridad de Proteccion de Datos Personales
7	Former MIDIS, currently at FAO
8	Grupo de Telecomunicaciones Rurales -PUCP
9	OSIPTEL
10	SBS (1)
11	SBS (2)
12	Vice Ministro, MTC
Donors, iNGO, International Development Organizations	
13	UNHCR
14	WOCCU
15	World Bank
16	Fundacion Avina
Civil Society/Media	
17	AIDER
18	Democracia y Desarrollo Internacional
19	Cultura Digital
20	DN Consultores
21	Endeavor Peru
22	Govtech Peru
23	IDEA Internacional
24	Lawgictec
25	Niubox
26	Ojo Publico
27	Pagos Digitales Peruanos
28	Prevent
29	Propuesta Ciudadana
30	Red Cientifica Peruana
31	Revoredo Abogados
32	Hiperderecho
Private Sector	
33	Telefonica
34	Access Now
35	ALIVE Ventures / Crehana
36	ANDESAT Peru
37	CAF
38	COFIDE

39	COMEX
40	EmpatIA Lab
41	ENTEL
42	Facebook Connectivity (1)
43	Facebook Connectivity (2)
44	Fundacion Capital
45	Innova Funding
46	Laboratoria
47	Mayu Telecomunicaciones
48	MF Prisma
49	Yape
USAID Implementing Partners	
50	ADELA
51	CARE Peru
52	CEDRO
53	IDB Invest
54	Internet Para Todos
55	Palladium Group
56	USAID FOREST
57	Centro Internacional de Agricultura Tropical
Independent Consultants	
58	Telecom expert, economist
59	Financial expert
60	Independent consultant
61	Independent consultant
62	Independent consultant
63	Independent consultant



Credit: USAID Peru



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