XVI Ministerial Forum for Development in Latin America and the Caribbean

RESILIENCE IN ACTION: SOCIAL POLICIES TO NAVIGATE UNCERTAINTY IN LATIN AMERICA AND THE CARIBBEAN

XVI Ministerial Development Forum for Latin America and the Caribbean

Thematic Table 3: Navigating Uncertainty through Inclusive Digitalization and Social Innovation

Technical Note

1. Introduction

Persistent structural challenges, such as inequalities, high vulnerability to poverty, and low productivity, have contributed to Latin America and the Caribbean (LAC) being more heavily affected by the impact of multiple crises. Inclusive digitalization and social innovation present valuable opportunities to address these challenges and promote inclusive and sustainable development. Moreover, they are foundational to a fair, green, and resilient development trajectory for the region.

As countries act to recover from overlapping crises, the need to respond to immediate needs and threats has taken priority, leaving limited political space or willingness to act on the future. This is problematic, not only because the region remains vulnerable to new shocks, and underlying issues remain intact, but also because if opportunities from the digital transition are not seized today, they may become barriers to development that could end up exacerbating pre-existing structural issues and generating new challenges for the region.

The LAC region has been a driver of innovation in the design and delivery of social protection programs since the late 1990s, when conditional cash transfer programs first emerged in Mexico and Brazil. It has also become a pioneer in developing innovative delivery systems for social transfers, including the implementation of social registries and digital payments. Now, with the advent of digitalization, governments have a unique opportunity to accelerate development and adopt innovative solutions that enhance their ability to identify vulnerable populations, improve efficiency and effectiveness, lower delivery costs, and respond swiftly to crises.

The pandemic led to significant disruptions in how public institutions operate, forcing them to adapt swiftly to new circumstances. Traditional governance and service delivery methods were challenged as institutions grappled with mobility restrictions, shifting priorities. The urgency to respond in real time loosened some institutional constraints and encouraged public agencies to quickly experiment with alternative ways to operate, both of which accelerated innovation.

Beyond the adoption of buffer measures to ensure the continuity of essential public services, the crisis unlocked opportunities for transformative reforms in public administration that would have been challenging to pursue in "normal" circumstances.

While one-off innovations that emerge as a response to a crisis can offer immediate benefits, they may not be sufficient to drive lasting change and accelerate the achievement of the Sustainable Development Goals (SDGs). Experts argue that governments need to be able to adapt to the changing environment and systemically embed innovation at the heart of policymaking and public administration.

2. Building Resilience Through Innovation in the Public Sector

For governments to be better prepared to handle future crises, they need to proactively identify potential threats before they emerge and develop mechanisms to address them before they escalate into crises, enabling the creation of resilient systems. Social innovation and digitalization offer governments transformative avenues to build resilience by focusing on the following two critical action areas:

2.1 Risk Identification

At the core of resilience-building efforts lies the capacity to anticipate and recognize potential risks, whether they stem from economic shifts, public health crises, or environmental changes. Technologies can play a pivotal role in streamlining processes for identifying risks, allowing for quicker and more accurate assessments of potential issues.

Foresight methodologies and technologies such as big data analytics, geographic information systems (GIS), and predictive modeling can significantly improve risk identification by providing governments with robust analytical tools. For instance, big data analytics can aggregate diverse data sources, including demographic trends, social media activity, and real-time environmental data, to generate insights about emerging vulnerabilities within communities.

In the Dominican Republic, SIUBEN+ is using data analytics to identify priority areas and classify vulnerable households. One key tool is the Index of Vulnerability to Climate Shocks (IVACC), which assesses the likelihood that a household will be impacted by specific climate events. The IVACC considers three factors: housing characteristics, estimated income, and proximity to natural hazards. This tool aids the government in mapping household vulnerability within the social registry, enhancing the prioritization of social policies.

This data-driven approach enables policymakers to adopt a proactive stance, identifying not just existing issues but also emerging risks that could threaten societal stability. Such early identification enables timely interventions, reducing the likelihood of risks developing into more severe crises. Moreover, this deeper understanding of both current conditions and potential risks allows policymakers to gather valuable insights that inform effective decision-making while allowing for more nuanced strategies tailored to the specific needs of communities.

2.2 Adaptive Solutions

After identifying risks, governments must also focus on adaptive solutions that address the immediate and evolving needs of vulnerable communities. Technology can enable the development of innovative service delivery models and enhances the management of public resources, ultimately leading to more effective and efficient public service provision. By integrating new technologies into social policy frameworks, governments not only improve their capacity to identify and respond to threats but also foster a more resilient society capable of adapting to change and recovering from adversity.

During the COVID-19 pandemic, the ability of governments to digitalize services was largely facilitated by the maturity of their existing digital government strategies, policies, and tools, enabling rapid responses to ensure service continuity. For instance, Brazil's Secretary for Digital Government successfully digitalized over 1,000

federal services shortly after the pandemic's onset, while Ecuador's Ministry of Telecommunications (MINTEL) increased the availability of services from 35% to 70% within the same year.

Digital platforms, including mobile applications and online portals, play a crucial role in efficiently disseminating critical information during crises, ensuring that affected populations receive timely updates and resources. In the Bahamas, the AccessAbility app sends alerts directly to users' phones, ensuring that individuals with disabilities receive timely updates about imminent risks, regardless of their location or disability. The app also provides one-touch access to emergency services and offers detailed street-by-street movement guidance to help community members navigate safely during evacuation.

Technology can also support the development of targeted interventions by enabling real-time monitoring and feedback loops. This allows governments to adjust their responses based on the evolving needs of communities while ensuring the efficient delivery of resources and support to those affected by shocks. In Argentina, the government enhanced its social protection response through the "Argentina Program", which utilized digital platforms for cash transfers. By integrating financial services with social registries, the program streamlined the distribution of aid to those most affected by the pandemic. The government adopted a self-targeting approach, allowing households and individuals to apply for these transfers, thereby facilitating quicker and more effective outreach to those in need.

Furthermore, partnerships with the private sector, academia or civil society fosters social innovation leveraging not only each side's expertise but the technologies that can many times catalyze the reach and impact of solutions resulted from those collaboration. A notable example from Peru highlights the collaboration between the Ministry of Development and Social Inclusion (Midis) and the Universidad Peruana Cayetano Heredia to create AnemiaApp, an application designed for the rapid detection of anemia in children. Utilizing a low-cost portable system, this mobile app captures digital images of the eye and analyzes the outer membrane's characteristics. The images are then processed through a neural network algorithm, which assesses the hemoglobin level to determine whether anemia is present. This app is particularly beneficial in remote regions where access to advanced medical technology is limited.

This dual approach – leveraging innovative solutions for both risk identification and the design of mechanisms to address them – empowers governments to create agile systems that not only react to crises but also mitigate their impacts before they materialize. By embracing these innovative strategies, governments can create resilient systems capable of not only responding to immediate threats but also fostering long-term sustainability and community empowerment.

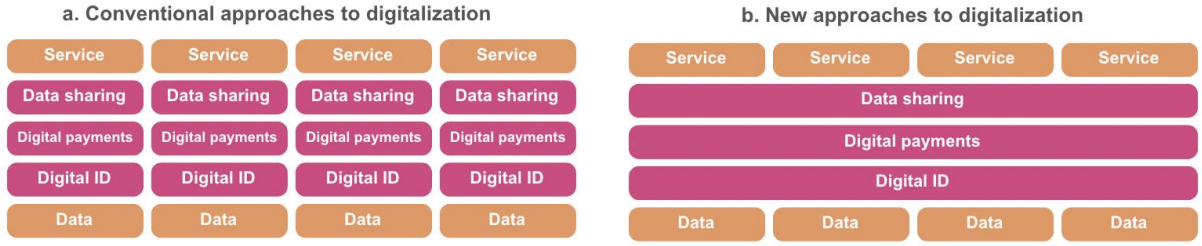
3. Interoperability: A Pillar of Future-Ready Innovation

Just as a collection of programs working in isolation is not considered a well-functioning social protection system, isolated innovations are likely to have limited long lasting effects on resilience building. When implemented in a vacuum, innovations can be likened to band-aids; they may address immediate issues but fail to integrate with the broader institutional or systemic framework. As a result, they can be easily replaced or may struggle to gain traction, ultimately leading to wasted investments.

Digital Public Infrastructure (DPI) refers to the foundational digital systems and services that enable effective public service delivery at scale, such as ID systems, payment platforms, and data-sharing tools. It provides the

backbone for interoperability among government's digital platforms, serving as an intermediary layer between the physical digital infrastructure of connectivity and storage solutions, and the applications developed on top of it. It refers to the building blocks for developing transformative digital services at a societal scale. The term "public" in DPI refers to the focus on public benefit and the common good, rather than government ownership. In fact, the private sector has a key role to play in the design and implementation of DPI, by developing use cases and services that drive adoption, as service provider and sources of innovation for the development of DPI, as operators of DPI, and as participants in public-private partnerships and other collaborations to achieve scale.[1]

DPI enhances what the World Bank refers to as "next generation government to public (G2P)" services (i.e., systems through which governments deliver essential services and benefits to citizens) by allowing social protection schemes to leverage existing systems for enrollment, authentication, and payments, rather than having to develop and maintain new ones. Rather than reinventing the wheel for each new digital service, DPI provides shared, interoperable assets that service providers can use and build upon on. In contrast to earlier waves of digitalization, the DPI model prioritizes strong governance and a user-centered design, ensuring the protection of individual's rights and data.



Source: World Bank Digital Progress and Trends Report 2024

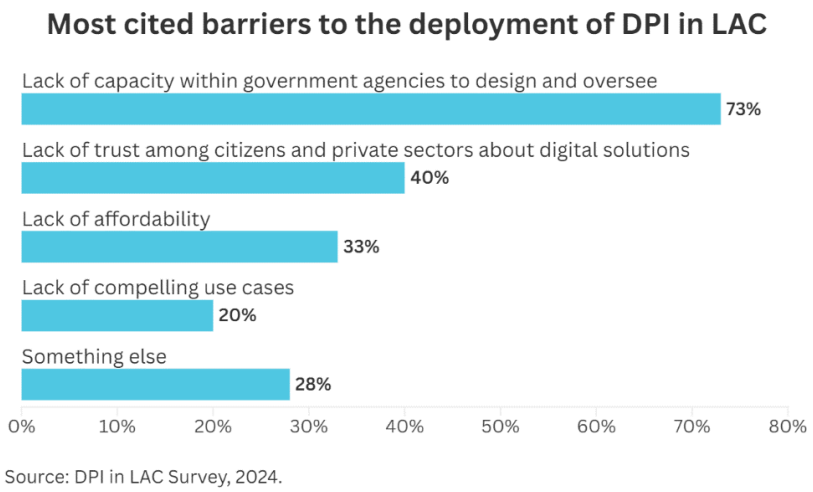
An analysis using data from 85 countries revealed that during the COVID-19 pandemic, countries that had elements of DPI in place – such as digital databases, ID records, and data-sharing platforms – were able to reach over three times as many beneficiaries compared to those that needed to gather new information. Ultimately, by adopting a whole-of-society approach, DPI not only enhances the reach and effectiveness of social protection programs but also fosters a more equitable digital ecosystem where all individuals can thrive in the digital age.

While most LAC countries already have a national digital strategy in place, DPI is not explicitly included in these strategies. However, newer digital government strategies from countries like Argentina, Brazil, Chile, Colombia, and Peru underscore the need for improved interoperability and a robust data infrastructure – both of which are crucial components of DPI. Additionally, Brazil, along with the Dominican Republic, Guatemala, and Uruguay, have signed on to the 50 in 5 DPI initiative, launched in late 2023, committing to launch DPI within five years.

[1] World Bank. 2024. Digital Progress and Trends Report 2023. Washington, DC: World Bank.

A study from the World Bank reflected that maturity levels of DPI vary widely across countries in LAC. Findings reveal that in many countries, the existing basic DPI systems are often underutilized. Furthermore, only seven out of 26 countries reported having a reliable and widely used digital ID for verifying and authenticating in-person and online transactions, according to the 2022 Global Financial Inclusion and Consumer Protection Survey.

The most significant challenge to implement DPI in LAC as per World Bank study, cited by 73% of respondents, is the lack of capacity within government agencies to design and oversee digital solutions effectively. This is followed by a lack of trust among citizens and private sectors regarding these digital technologies, which 40% of respondents identified as a concern. Affordability also emerged as a notable barrier, with 33% highlighting cost-related issues as a hindrance to DPI adoption. Additionally, 20% of respondents pointed to the lack of compelling use cases for digital solutions, indicating uncertainty about their practical benefits. Lastly, 28% mentioned other diverse factors as obstacles to implementing DPI in the region. These findings emphasize the multifaceted challenges that need to be addressed to enable broader adoption of digital infrastructure in LAC.



Source: DPI in LAC Survey, 2024.

Brazil stands out as an exception, as nearly all state-level ID systems accept the federal authentication system for online verification. This integration establishes a robust foundational digital identity that allows access to 4,500 digital services from more than 1,000 public agencies. In 2023, their national digital identity system (gov.br) reported 153 million users, with 250 million authentications happening each month. Likewise, the adoption of essential DPI like digital identity, has been crucial for citizens to access available digital services. For example, Chile's digital identity system, ClaveUnica, saw its active user base rise from 6.2 million to 10 million in 2020, accompanied by a 500% increase in total transactions during that year (OECD).

There are many other ongoing initiatives to enhance DPI in the region, particularly through the development of cloud solutions to replace legacy data centers. Argentina is investing USD 5.8 million to build cloud infrastructure for consolidating public sector data. Similarly, Barbados is working on a national interoperability

infrastructure based on X-Road, while Brazil also invested in strengthening its cloud capacity and migrating existing data centers.

In Guyana specifically, the current government has launched a plan to implement e-governance, leveraging digital technology to transform key sectors such as healthcare, education, and transportation. One element of Guyana's digital agenda is the introduction of biometric digital ID cards. The government budgeted USD 783.4 million for the deployment of a national electronic ID system. The project will provide citizens with modern biometric ID cards. These digital ID cards are set to reduce identity theft and fraudulent activities, as well as simplify access to a wide range of services, from healthcare and education to banking and social benefits.

By digitizing and modernizing public services through DPI, governments can more effectively and rapidly address the needs of their populations. The decisions countries make regarding DPI today will enhance their readiness for unexpected challenges, laying the groundwork for significant developmental impacts that contribute to achieving the SDGs.

Policy Recommendations:

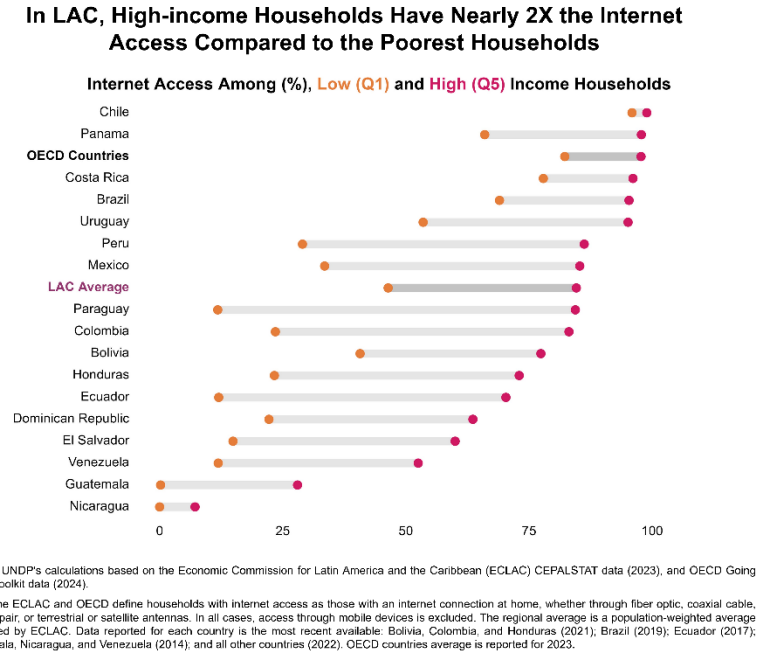
- Adopt a modular, reusable approach to digital infrastructure in their digital strategies. While interoperability and enhanced data exchange are already prioritized, updating strategies can help identify key use cases that benefit from this approach.
- Create an inventory of existing DPI systems and assess their level of maturity to identify opportunities for improvement by gradually integrating other desired attributes over time.
- Adopt the "once-only" principle to streamline interactions with public services, reducing redundancy and promoting efficient digital governance.
- Align private sector incentives with the adoption and utilization of DPI system to enable businesses to build upon this foundational structure to create innovative services and applications that enhance overall digital transformation.

4. Fostering Enabling Environments for an Inclusive Digital Transformation

As discussed in earlier sections, frontier technologies hold immense potential to build social, environmental, and economic resilience. However, these technologies also present significant risks, including ethical dilemmas, security concerns, and potential exacerbation of existing inequalities. Therefore, establishing an enabling environment is essential for harnessing their benefits while mitigating adverse impacts. To effectively leverage frontier technologies for resilience and inclusive growth, countries musth adopt a multifaceted approach to address infrastructural, regulatory, and governance dimensions essential for ensuring that their digital transformation is inclusive by design.

4.1 Infrastructure

Equitable access to reliable and affordable internet services is fundamental for an inclusive digital transformation. Unfortunately, this is not the reality for many countries in the LAC region, where distribution of internet users is unequal in socioeconomic, cultural, and geographical terms.



Source: UNDP's calculations based on the Economic Commission for Latin America and the Caribbean (ECLAC) CEPALSTAT data (2023), and OECD Going Digital Toolkit data (2024).

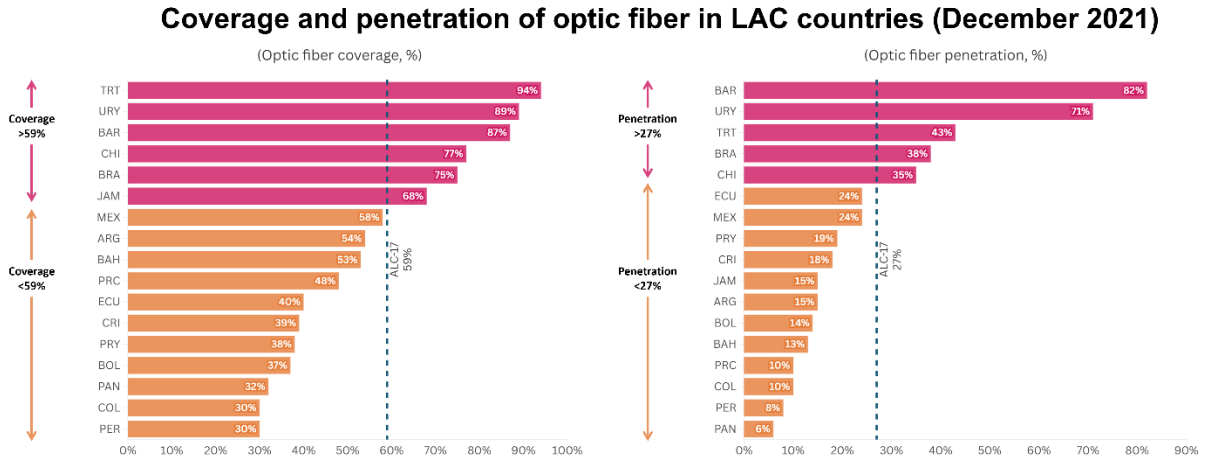
Note: The ECLAC and OECD define households with internet access as those with an internet connection at home, whether through fiber optic, coaxial cable, Cooper pair, or terrestrial or satellite antennas. In all cases, access through mobile devices is excluded. The regional average is a population-weighted average calculated by ECLAC. Data reported for each country is the most recent available: Bolivia, Colombia, and Honduras (2021); Brazil (2019); Ecuador (2017); Guatemala, Nicaragua, and Venezuela (2014); and all other countries (2022). OECD countries average is reported for 2023.

Affordability continues to be a major obstacle, disproportionately impacting low-income households that struggle to pay for connectivity fees.[2] Traditionally excluded populations, including those in lower income quintiles and rural areas, have much lower access to connectivity, largely due to the high costs of devices and internet services. While 67.3% of households in the region have a fixed internet connection, there are significant disparities: only 46.4% of low-income households and 35.8% of rural households are connected, compared to 84.6% of wealthier households and 74.8% of urban households (ECLAC, UNDP). In contrast, the gap in OECD countries is narrower, with 82.4% of low-income households and 97.7% of high-income households having internet access.

Moreover, the importance of having an adequate fiber optic infrastructure is crucial to support new digital technologies such as 5G and future evolutions of Wi-Fi. The deployment of this fiber in LAC has experienced notable growth in recent years, although the overlapping of networks in major cities contributes to 69% of the installed capacity being unused. At the end of 2021, the average regional coverage was 59%, with a penetration of 27%, so, although it covers more than 231 million homes, only 71.8 million are connected to a broadband

[2] Economic Commission for Latin America and the Caribbean (ECLAC), A digital path for sustainable development in Latin America and the Caribbean (LC/CMSI.8/3), Santiago, 2022.

service based on this fiber. Among the leaders in deployment are Brazil, Chile and Uruguay in the Southern Cone, and Barbados, Jamaica and Trinidad and Tobago in the Caribbean.



Source: Ros Rooney et al., (2022). FFTH Panorama for Latin America 2002. FBA Latam Chapter.

Innovative policies to encourage investment in essential infrastructure are critical to make service expansion profitable for providers, especially in rural areas. In Argentina, significant steps were taken to enable small operators to provide telecommunications services and internet connectivity with support from the country's Universal Service Fund, one of the mandates of which is to support community networks in unconnected or underserved communities in both rural and urban areas.[3]

Policy Recommendations:

- Invest in the expansion and optimization of fiber optic networks to support the rollout of advanced digital technologies, such as 5G.
- Create innovative policies and financial incentives to attract investment in essential infrastructure in rural regions. This can include tax breaks or grants for providers that expand services to underserved communities.
- Empower small operators and community networks to enhance connectivity in unconnected or underserved areas, promoting local solutions to connectivity challenges.
- 'Establish metrics to continuously monitor internet coverage and access disparities, particularly among low-income and rural populations. Regular assessments can help identify areas needing further investment and track progress over time.

[3] More details on the Argentina initiative are available on the APC blog at https://www.apc.org/en/blog/seeding-change-community-networks-flowering-argentina-during-challenging-times and https://www.apc.org/en/blog?destination=blog%3Fpage%3D15&page=1.

4.2 Regulation

The measures implemented by governments during the pandemic involved gathering vast amounts of personal and sensitive data, which was then analyzed and shared in environments lacking adequate privacy protections, clear regulations, and enforcement mechanisms. Public interest technologies, such as contact tracing applications and vaccine passports, were deployed alongside heightened health regulations, thereby enhancing state surveillance and individual profiling capabilities. However, the lack of transparency in the implementation of these technologies undermined key principles such as necessity, proportionality, and legality. As a result, individuals experienced a significant restriction on their informational self-determination, limiting their ability to manage the use of their personal data.[4]

This lack of trust in digital services further complicates matters, as public confidence in these technologies remains low across the region. Concerns about data privacy, security, and system reliability significantly hamper their adoption. According to findings from the UNDP/World Bank's High Frequency Phone Surveys conducted in 2021, over two-thirds of connected households in LAC are concerned about privacy and security when using the internet. Furthermore, these concerns cut across various demographics, showing no significant differences based on gender, education level, location, or occupation.

According to OECD/CAF, most LAC countries (above 80%) cover in their legislations issues such as privacy and data protection, transparency and access to public sector information, digital signature, e-procurement, cybersecurity, and digital government. However, approximately half of the countries in the region have not fully kept pace with topics generally addressed by OECD countries related with advanced digital capabilities and proactive and anticipatory approaches within their legal and regulatory frameworks. These include digital identity, once only principle, access to private sector information/data, digital by design, cloud computing, legal and/or regulatory sandboxes, artificial intelligence, emerging technologies, the right to challenge (i.e., ability to apply for exemptions from existing rules, or ability to request rules be reconsidered), among others. As a result, the necessary safeguards for the correct planning, implementation, and monitoring of digital government initiatives are not sufficiently up to date in half of the region.

Governments must establish comprehensive regulatory frameworks that encompass legislation, oversight, guidelines, and policies to ensure essential protections such as data security and privacy, while fostering competition and innovation. Current procurement and budgeting practices can hinder the development of DPI, so it is essential for governments to evaluate and modify these regulations to facilitate DPI adoption, including the potential integration of open-source software where appropriate.

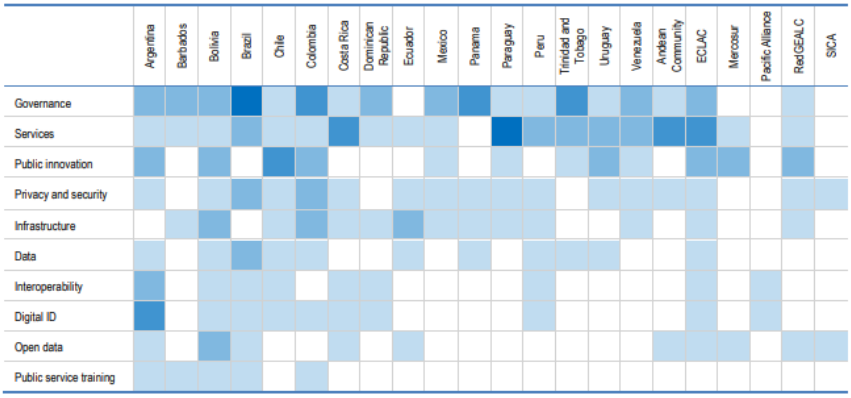
A notable example of effective regulatory strategy is Brazil's Nova Indústria policy, which outlines a ten-year plan for national development. This innovative framework aims to achieve three primary objectives: stimulating technological advancement, enhancing productivity, and boosting national competitiveness to create quality jobs. It also seeks to strengthen Brazil's competitive advantages and reposition the country within international value chains. The policy targets six key sectors: agriculture, health, sustainable mobility, new technologies,

[4] United Nations, 2023, Transforming institutions to achieve the Sustainable Development Goals after the pandemic, World Public Sector Report 2023, Division for Public Institutions and Digital Government, Department of Economic and Social Affairs, New York, September.

energy transition, and security and defense. By aligning regulatory practices with the needs of DPI, governments can better support the integration of advanced technologies and drive sustainable and resilient development.

In this context, it is crucial to assess the extent to which regulatory frameworks can effectively equip public sector institutions in the design and delivery of services. While laws and similar regulatory frameworks often outline what actions should be taken, they often lack the specificity of guidelines and standards that frame how those actions should be implemented. In this regard, evidence indicates that additional efforts are needed to translate regulatory frameworks and National Digital Strategies into practical guidance that effectively support service design and delivery.[5]

Table 1.8. Common themes across the priorities set by NDGSs and regional digital government strategic instruments in LAC



Note: Action lines are understood as the highest-level action-oriented statements in a strategy. Colour intensity indicates the amount of action lines devoted to each of the themes, in a scale from 0 to 4. Order of countries/organisations and themes is given by the amount of action lines (i.e. countries/organisations with higher amount of action lines are at the top and most popular themes at the left). See Annex 1.A for a detailed explanation of the methodology used for this analysis. Not having a NDGS, Jamaica is not included in this table.

Looking ahead, establishing a trustworthy digital government in LAC will increasingly depend on creating robust safeguards to ensure the ethical use of technology and data by public servants and decision-makers. Encouragingly, LAC countries are making significant strides in adopting normative frameworks for digital rights. According to the OECD and CAF, countries like Colombia, Chile, Mexico, and Uruguay have emerged as regional leaders in implementing legislation and ethical frameworks for the use of AI in the public sector. However, more than half of the countries analyzed still need to develop their capacities or require substantial support to advance in this area.

Additionally, there are notable efforts in recognizing and applying rights within the digital space. Peru's Charter of Digital Rights stands out as the first official initiative in the region to outline a comprehensive set of rights guiding the country's digital transformation. In parallel, the Ibero-American Charter of Principles and Rights in Digital Environments provides a foundational framework that fosters a shared understanding of principles

[5] OECD & CAF (2023). Digital Government review of Latin America and the Caribbean.

and values to inform legislation and public policy development in digital contexts. These initiatives are critical steps toward building a consistent and ethical digital governance landscape in the region.

Policy Recommendations:

- Establish independent data protection authorities with enforcement powers to oversee compliance and address data misuse in public and private sectors.
- Create legal and regulatory sandboxes to allow controlled experimentation with AI, blockchain, and other emerging technologies.
- Implement transparency-by-design frameworks, requiring government agencies to disclose how data is collected, processed, and shared.
- Introduce the "right to challenge" mechanisms, allowing citizens to request audits or reconsideration of automated decisions affecting them.

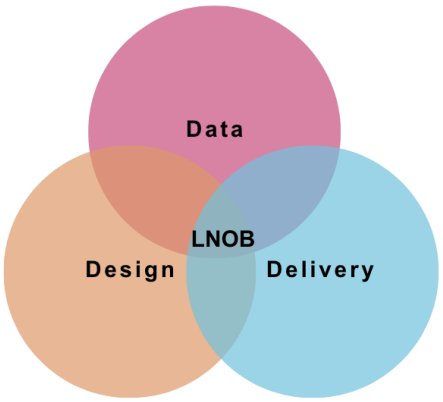
4.3 Institutional Capacity and Governance to Leave No One Behind

While important advances have been made in e-government over the past two decades, inclusive design has not received sufficient attention. The groups easiest to reach have generally benefited most from the notable progress in e-government, while many of the poorest and most vulnerable populations have been left behind.[6] As governments continue to transition from traditional to digital modes of public services delivery, those e-services that are not designed to facilitate inclusion will likely be underutilized by vulnerable groups, effectively denying them the rights and opportunities enjoyed by more advantaged populations.

Digital government policies aim to transform governmental processes and services through the comprehensive use of digital tools and data. However, successfully realizing these objectives calls for adjustments to institutional frameworks and the strategic allocation of policy tools and resources to improve service design within national digital strategies.

[6] UN-DESA (2022). E-Government Survey 2022: The Future of Digital Government.

Integrated framework in leaving no one behind



Source: UNDP Digital Strategy

The integrated framework depicted in the image highlights a holistic approach to achieving the principle of "Leaving No One Behind" (LNOB) through the interconnected pillars of Data, Design, and Delivery. This 3D framework underscores the need for data-driven insights to inform the design of targeted social protection solutions, coupled with efficient delivery mechanisms to ensure these interventions reach the most vulnerable populations promptly.

For the LAC region, the adoption of this approach is essential in enhancing social protection systems that are inclusive, resilient, and adaptable to the evolving needs of communities. Institutional maturity is essential for effectively leveraging digitalization to tackle social challenges sustainably. This involves creating governance frameworks that facilitate the adoption and management of technology by government institutions, businesses, and citizens. Key components for achieving this include providing ongoing training for civil servants to ensure they are knowledgeable about the latest technologies and trends; aligning with national digital policies to streamline procedures; engaging the private sector as a partner in developing innovative solutions; and maintaining continuous communication with citizens and businesses through consultation and collaboration mechanisms.[7]

The complexity of DPI development necessitates a high level of technical proficiency in areas such as cybersecurity, data management, and software development. Nevertheless, government agencies often face significant challenges in acquiring the technical expertise and resources required to effectively design and implement DPI. This issue is exacerbated by constrained budgets and the persistent difficulty in attracting and retaining skilled personnel within the public sector.

A report by the ITU indicates that many public sector organizations lack the necessary capabilities to harness emerging technologies effectively, which hampers their ability to create robust digital frameworks.[8] Furthermore, according to a survey conducted by the OECD, 54% of governments reported challenges in

[7] Cabello, S. (2022), "El camino de desarrollo de las ciudades inteligentes: una evaluación de Bogotá, Buenos Aires, Ciudad de México y São Paulo", Project Documents (LC/TS.2022/86), ECLAC.
[8] International Telecommunication Union (2020). Digital Transformation: Opportunities and Challenges for Government Agencies.

acquiring digital skills among their workforce, highlighting a critical gap that impacts the successful implementation of DPI initiatives.[9]

According to UN-DESA's E-Government Survey 2022, the Americas region has demonstrated steady progress in enhancing e-government services. The proportion of countries classified in the high and very high development groups has risen from 66% to 69% and from 20% to 23%, respectively, since 2020, while the percentage of countries in the middle development group has decreased significantly from 14% to 6%. Most countries (89%) have maintained their standing within these categories, with notable advancements made by Peru, Guyana, and Belize, which have all moved up to the high development group.

Grenada's efforts in improving its e-government services have been particularly impressive, marked by significant enhancements in online service delivery and telecommunications infrastructure, resulting in a notable increase in its ranking. Small Island Developing States (SIDS) in the Americas outperform their counterparts globally, with an average development level that exceeds that of SIDS in Africa and Oceania. This strong performance is largely due to their higher income levels and greater investments in digital infrastructure and human capital, though opportunities remain to further expand their online service capabilities and maximize the benefits of e-government advancements.

The disparities in the development of digital government across LAC have led countries to pursue varying service transformation goals. For instance, nations like Barbados, Jamaica, and Bolivia have committed to bridging accessibility gaps, establishing foundational digital public infrastructure, and creating centralized government service platforms. In contrast, countries such as Brazil, Colombia, and Uruguay have reached higher levels of digital maturity, incorporating service design into their strategic objectives for digital government in recent years. Additionally, several countries have established specific targets related to the digitalization of government services. For example, Brazil aims for 100% digital administrative procedures by 2023, while Chile has set a similar target for 2027. Costa Rica has integrated the Digital Local Governments initiative into its National Digital Government Strategy seeking to equip local governments with standardized tools for digitalizing services and to consolidate these services into a unified delivery platform.

Policy Recommendations:

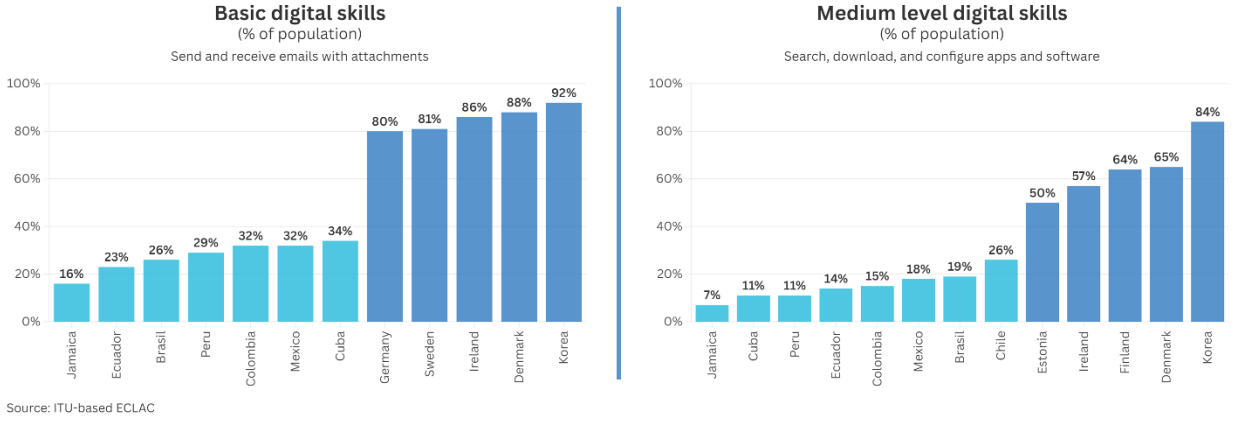
- Apply the "3D framework" (Data, Design, and Delivery) to ensure digital services meet the needs of all citizens, especially the most vulnerable.
- Develop continuous training programs for civil servants on digital tools, data analytics, and inclusive service design to enhance public sector capacity.
- Introduce incentives to attract and retain talent, particularly in cybersecurity, software development, and data management, ensuring the public sector can build and manage DPI effectively.
- Establish inter-ministerial coordination bodies to integrate LNOB objectives across digital government policies.

[9] OECD (2021). Digital Government Index 2021: Findings and Recommendations.

5. Building Capacities to Foster Agency

Empowering individuals to advance their human development is crucial in today's uncertain and volatile world. To achieve this, it is essential to establish mechanisms that provide people with the skills, resources, and support necessary to navigate challenges effectively. Research suggests that social innovation often emerges at the grassroots level when individuals are empowered with the skills and resources necessary to address the challenges they encounter in their communities.[10] This phenomenon highlights the critical relationship between capacity building and social innovation, underscoring the importance of fostering an environment that nurtures problem-solving skills among citizens. When individuals are provided with training, mentorship, and access to tools, they can leverage their unique insights and experiences to devise practical solutions tailored to their specific contexts.

Digital skills development in the countries of the region lags behind that of other economies around the world. In 2020, about 30% of the adult population over 15 years of age had basic digital skills, compared to around 80% in developed countries This situation undoubtedly poses major challenges, especially for the general population, which could benefit more from digital technologies, but is not doing so for various reasons (lack of access or skills, or ignorance of their usefulness).



Source: ITU-based ECLAC

A similar situation can be discerned with respect to intermediate digital skills: working with spreadsheets, creating electronic presentations, or installing and configuring software and applications. Less than 20% of the adult population in the countries of the region uses these tools, compared to over 60% in the advanced economies. The low level of intermediate digital skills also reduces possibilities for continuing education and training throughout a person's different stages of life, and to adapt content to specific personal or occupational needs.

While the gender gap in digital skills is minimal at the primary and lower secondary school levels, significant differences begin to appear as skills become more advanced. Generally, girls in secondary school are more likely to disengage from science, technology, engineering, and mathematics (STEM) subjects compared to boys,

[10] Ashoka Foundation (2020). The State of Social Innovation: Insights from the Grassroots.

which reduces their chances of pursuing technology-related studies in higher education. Notably, the percentage of youth and adults with programming skills is predominantly higher among males.

In the case of artificial intelligence skills, Brazil displays the highest level of development, with a value close to the OECD average, followed at some distance by Colombia, Mexico, and Chile. Similarly, the complexity of the level of digital skills related to artificial intelligence is evident when considering the main subcategories associated with this technology: software development, research and methodology, machine learning tools, data management and development of Internet websites.

For policymakers in LAC, developing a comprehensive strategy to address the evolving demands for skills and jobs in the digital economy is essential. Improving connectivity to community centers and schools is a critical first step, ensuring that individuals have access to both the hardware and broadband connections necessary to build foundational digital literacy and specialized ICT skills. However, infrastructure investments alone are not enough; these must be accompanied by relevant educational content, teacher training, and innovative pedagogical approaches to ensure effective learning.

The role of skilled educators is increasingly recognized as central to successful digital skills development. Investing in teacher training and pedagogical leadership is a crucial component of any strategy to enhance ICT skills within the education system. Digital skills need to be nurtured not only in schools but also through home-based computer use, highlighting the importance of comprehensive strategies that promote both formal and informal learning environments. Universal and affordable broadband access remains fundamental, along with the need to monitor school performance in relation to home computer use.

Many governments in the region are taking steps to improve labor market information accessibility by developing online portals for job searches and advertisements. Additionally, online learning platforms and Massive Open Online Courses (MOOCs) offer cost-effective solutions for workforce training and skill development, targeting both employed individuals seeking to upskill and those who are unemployed. These initiatives can play a significant role in spreading knowledge across the economy and preparing the workforce to meet the demands of the digital era.

Policy Recommendations:

- Implement structured digital literacy programs from primary education through adulthood, focusing on both basic and intermediate digital skills (e.g., spreadsheets, presentations, and software installation).
- Design tailored programs to close gender gaps in digital and AI-related skills, especially in STEM fields, encouraging girls and women to pursue careers in technology
- Ensure universal and affordable broadband access in schools, homes, and community centers to support both formal and informal learning.
- Foster collaboration between governments, businesses, and civil society to co-create training programs targeting skills needed in the digital economy, including AI and emerging technologies.

6. Conclusions

There are immense opportunities for governments to adopt innovative policies and frameworks that could potentially boost the pace at which they can reap the benefits of the digital transition while guaranteeing it is inclusive by design. To improve access to advanced digital technologies and encourage their adoption, collaboration between governments and the private sector is essential to broaden the ecosystem focused on developing solutions. This involves reinforcing tools that promote technology-driven entrepreneurship, enabling them to serve as catalysts for innovation and fostering networks of cooperation.

The region's pioneering efforts in social protection, particularly through adaptive measures and DPI, underline the importance of technology in improving risk identification, streamlining public service delivery, and fostering social inclusion. The rapid adoption of digital platforms during the pandemic demonstrated the critical role of existing digital government strategies in ensuring continuity of services and social protection.

However, while opportunities abound, several challenges must be addressed to maximize the benefits of this transition. LAC countries face disparities in infrastructure, digital literacy, and institutional capacity, which could hinder the effectiveness of digital transformation if not mitigated. Ensuring equitable access to digital services, promoting privacy and data security, and addressing the gender gap in digital skills are essential to creating a fair and inclusive digital ecosystem.

Furthermore, an inclusive digital transition calls for a paradigm shift that moves beyond being led by technology, and instead focus on where it can have the greatest value for all. It requires comprehensive assessment of organizational structures, governance frameworks, work processes, and the overall culture and mindset within institutions. This is a complex process that needs to involve governments, businesses, non-governmental organizations, and society as a whole.