CONCEPT NOTE

FROM VISION TO ACTION: EXPLAINING UNDP'S DIGITAL TRANSFORMATION FRAMEWORK

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The United Nations Development Programme (UNDP) is the leading United Nations organization fighting to end the injustice of poverty, inequality, and climate change. Working with our broad network of experts and partners in 170 countries, we help nations to build integrated, lasting solutions for people and planet. Learn more at undp.org or follow at @UNDP.

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1. Overview

UNDP believes digital transformation can play an important role in achieving the Sustainable Development Goals (SDGs) through a rights-based approach. However, it won't lead us in this direction automatically. The digital divide and other forms of digital exclusion, if left unaddressed, will have long-lasting negative impacts on human development. We must aim for digital transformation to be intentionally inclusive, people-centred, rights-based and tailored to each individual country context.

We call this process **inclusive digital transformation**. An inclusive digital transformation ensures that digital technologies are universally accessible and that they enable meaningful and safe use of the internet and digital services for all. It addresses the needs of the poorest and most vulnerable, including those who are not connected, to build a more open, transparent and sustainable society that leaves no one behind. It also encourages the use and development of digital technologies that are open, responsible and more equitable.

2. Whole-of-society approach to inclusive digital transformation

Governments typically act as the stewards of a country's national digital transformation. But inclusive digital transformation demands a whole-of-society approach.[1] Many government approaches tend to be fragmented between different ministries, leading to a lack of interoperability and duplication of effort that hampers digital transformation and delays its potential benefits. By default, such approaches can exclude non-governmental stakeholders, especially marginalized groups, from digital policy development. A whole-of-society approach implies actively and continuously engaging all stakeholders from government, the private sector, civil society, academia and the public to develop and strengthen local digital ecosystems grounded in inclusivity, sustainability, accountability and rights.

This whole-of-society approach is easier to achieve and sustain with a vibrant digital ecosystem. A digital ecosystem is a complex and dynamic interconnected network of actors, interests and systems, which work together to create the environment in which a digital transformation can occur.

UNDP is the UN System's lead development agency, working with governments in 170 countries. For UNDP, it is more important than ever to systematically incorporate such approaches into its programmatic and operational thinking. This ensures that our work to

[1] Digital Impact Alliance, *Accelerating National Digital Transformation: Leadership Series Brief #1*, (Washington DC: 2020), accessed November 22, 2021, https://digitalimpactalliance.org/wp-content/uploads/2021/06/DIAL_LeadershipBrief1-DX_v4.pdf.

achieve the SDGs demonstrates sustained local ownership, accountability and an understanding of the context in which we operate.

3. UNDP's Digital Transformation Framework

UNDP's Digital Transformation Framework sets out the most important areas and topics that actors must collaborate on in order to secure an inclusive digital transformation. The Framework places UNDP's Principles of Digital Inclusion at its centre and incorporates Digital Public Infrastructure (DPI) as a key enabler. The Framework consists of five pillars which are: (1) People, (2) Connectivity, (3) Government, (4) Regulation, and (5) Economy.

The framework is used to guide the assessment, planning and implementation of digital initiatives. For instance, as the foundation of UNDP's Digital Readiness Assessment (DRA), it shapes how UNDP assesses the digital strengths and weaknesses of a country, and so supports the development of national digital strategies and priorities. The concepts and intent behind these elements are briefly explained below.

4. The Principles of Digital Inclusion

At the heart of the Framework are principles that guide us towards the outcome we desire: an inclusive digital transformation. While it is currently difficult to measure some of these principles quantitatively with existing data and methods, it is important to be aspirational and ambitious; using these principles will enable better measurement over time.

4.1. Protecting human rights

Digital transformation carries, on the one hand, the opportunity to enable people to access their rights; but on the other hand, it carries the threat that these rights might be limited. A rights-based approach to development is fundamental to UNDP's Digital Transformation Framework which systematically considers the human rights implications of any work relating to digital transformation. Specifically, it considers the right to privacy, freedom of expression, equality and non-discrimination, and freedom of association.

4.2. Ensuring universal access

Whether by enabling access to essential services or providing new or better employment opportunities, one of the best ways to create social and economic benefits is through the provision of the internet and digital technologies. This can also enhance transparency and accountability in political and governance systems.[2,3] UNDP's Digital Transformation Framework builds upon the principle of universal access to the internet and digital technologies to ensure that these benefits are shared by all, regardless of structural barriers such as socioeconomic backgrounds, gender, geographical location, culture, skills, disability or other demographic factors which could otherwise lead to exclusion.

4.3. Fostering trust

Digital transformation can strengthen the level of trust in the institutions that make up the digital ecosystem by enhancing transparency, accountability and efficiency. At the same time, trust is also an important pre-condition for the very adoption and usage of digital technologies.[4] UNDP's Digital Transformation Framework emphasizes that the use, creation and management of digital technologies and platforms should foster strong individual and collective trust in all aspects of local and global society.

[2] ITU (2021). Financing universal access to digital technologies and services
[3] World Bank (2022). Approach Paper - Universal Digital Inclusion and Usage
[4] IADB (2022). TRUST: The Key to Social Cohesion and Growth in Latin America and the Caribbean

5. Digital public infrastructure

There are three core components at the heart of any inclusive digital transformation: identification, data exchange and payments. These components are the building blocks of digital public infrastructure, or DPI, and they are most effective when architected and implemented as open, interoperable, standards-based systems. They service as society-wide digital infrastructure for both public entities and private businesses.

5.1. Identification

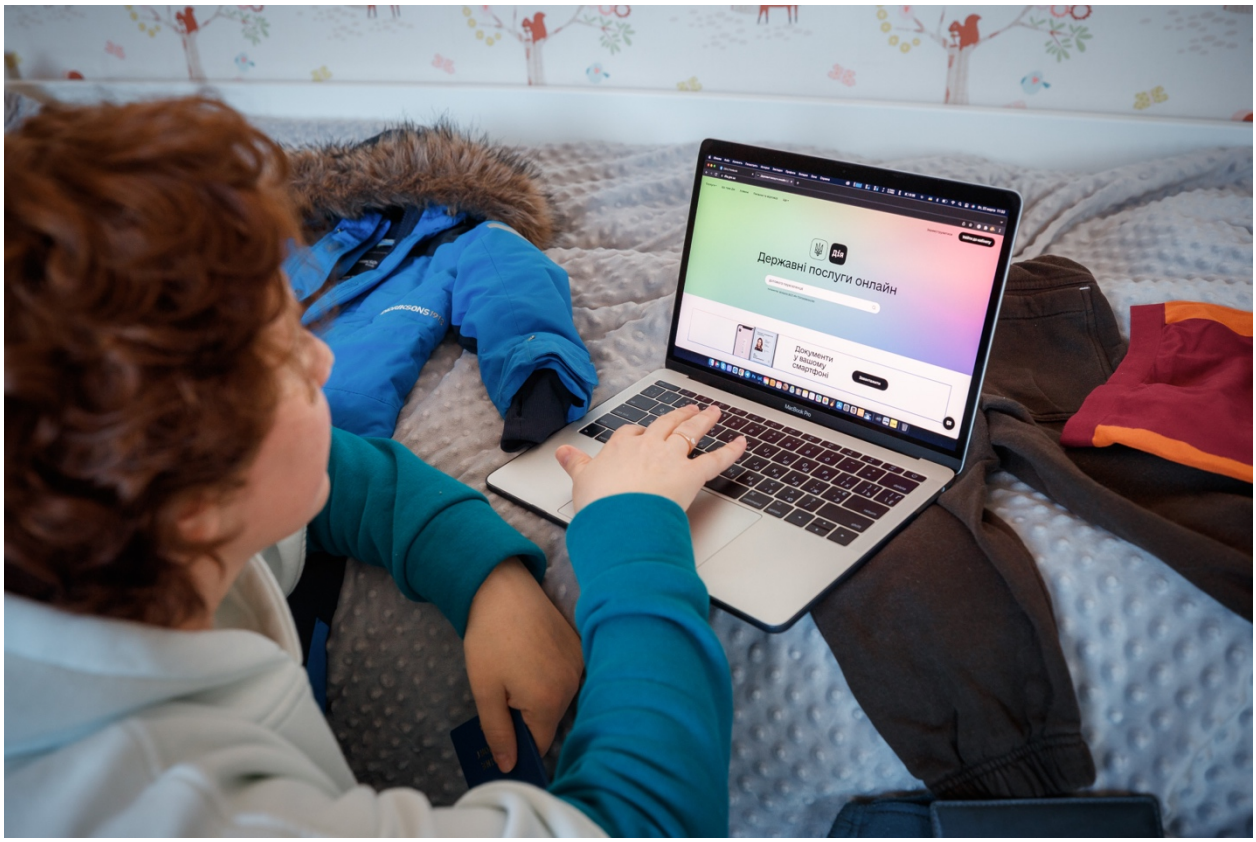
Systems that provide trustworthy, accurate, privacy preserving legal identification of people in line with their human rights.

5.2. Data exchange

Systems that allow information to be managed and shared easily in a unified, secure and privacy-preserving manner between public and private organizations.

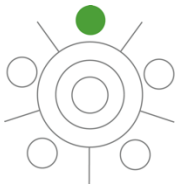
5.3. Payments

Open and interoperable digital payment infrastructure for clearing, settling and processing of payments.



6. Pillars, sub-pillars and components

These pillars and the underlying sub-pillars and components constitute UNDP's Digital Transformation Framework.



6.1. People

This category assesses factors that drive and affect human behaviours as they relate to digital technologies– both at the individual and societal level

Sub-pillar	Definition	Components
Usage and adoption	The purposes and the modes of use (i.e. the what and the how) of technology, as well as reflections on the portion of society using any given technology and the levels of usage within different segments of that society.	- Usage - Social technology adoption
Skills and literacy	The ability to use digital technology by all parts of society (irrespective of gender, location, age groups, socioeconomic background, disability or other factors), and particularly by disadvantaged groups. The necessary competences include basic skills for using computers and smartphones for everyday tasks, to more advanced skills such as coding, programming or data visualization. This also covers digital transformation's impact on financial literacy which can enable individuals to manage their financial resources effectively.	- Basic digital skills - Advanced digital skills - Financial literacy
Civic engagement	The impact of technology on individuals' political participation, the diversity of voices participating in open government process, the opportunity for minorities to access information and to participate and propose solutions to community priorities.	- Participation / Civic technology - Digital media
Cultural norms	Cultural attitudes towards the adoption of technology in a society and the impact of digital technologies on people's wellbeing. This encompasses digital addiction, cyberbullying, racism, violent content and misinformation.	- Digital wellbeing - Trust in technology and institutions - Culture

6.2. Connectivity

Meaningful and inclusive digital connectivity is an intrinsic pillar of digital transformation. This category assesses both the physical and the softer social infrastructure required to provide the necessary level of access to everyone in society.

Sub-pillar	Definition	Components
Physical infrastructure	Availability and quality of digital infrastructure: the physical infrastructure that carries digital data between devices, storage locations and services. Our approach focuses on broadband, mobile internet and electricity.	- Telecom networks - Storage and processing - Services and devices
Access enablers	Access of disadvantaged socio-demographic groups to the internet and other technologies. The goal is to ensure universal access for the whole of society regardless of structural barriers such as infrastructure, income, culture, disabilities, geography and skills.	- Affordability - Availability - Design for inclusion

6.3. Government

Governments play a central, but not exclusive, role in a country's digital transformation. This pillar assesses central, state and local government functions, processes and people as they relate to digital technologies and ways of working. It encompasses aspects related to a government's commitment, capacities, functions and processes.

Sub-pillar	Definition	Components
Leadership and strategy	Leadership refers to the level of government commitment to digital transformation and the supporting mechanisms they put in place. This includes the development of a strategy and the institutional arrangements to coordinate the implementation of digital transformation.	- Strategy - Institutions
Implementation capacity and systems	Implementation capacities include the level of digital skills and talent in the public sector, the deployment of technology-enabled systems (both hardware and software) and processes and the process for funding digital transformation.	- Tech systems - Digital skills - Funding and procurement

Digital public services and platforms	The use of technology and platforms to deliver various Government-to-Consumer (G2C) and Government-to-Business (G2B) services at local, regional and national levels. It also incorporates eGovernment, GovTech and Smart Public Services.	- Online services - Service delivery Platforms
Open government	Open government refers to the degree to which governments are accessible, responsive, transparent and accountable towards individuals in their use of data and participatory tools, and the extent to which they adhere to international standards.	- Transparency and accountability - Participation - Open government data

6.4. Regulation

Regulations create the environment for a thriving and productive digital ecosystem.

Sub-pillar	Definition	Components
Consumer protection	Specific legislation that ensures the protection of consumer rights in the digital domain.	- e-Transactions - Consumer protection legislation - Regulatory bodies
Cybersecurity	The existence of laws and other regulatory actions to prevent various forms of cybercrimes.	- Cybercrime policy and legislation - International agreement participation
Fair market competition	The laws and conditions that enable the market to work well for all actors enabling them to be a driver of development.	- Net neutrality - Intellectual Property (IP) legislation - Telecom competition - Price regulation and taxation - Licensing for network operators
Emerging technologies	The laws, regulations and policies that govern technologies that are currently in development or expected to be available within the next five years, and are expected to create significant social and/or economic effects.	- Regulation for new technologies
Data protection	The laws and other legal mechanisms that ensure that processed data is shared and governed appropriately, so that the right data assets go to the right place at the right time. Areas to be included: data privacy and protection, communications privacy, access to public information, open government data, freedom of information.	- Data protection
Human rights	Human rights cover the extent to which rights and freedoms are upheld in the digital space.	- Right to equality and non-discrimination - Right to privacy - Right to association - Right to freedom of expression

6.5. Economy

Economic opportunities abound as a result of digital transformation. This pillar assesses economic activity as a result of the enablement and use of digital technologies. This is the collection of networks, transactions and professional interactions driven predominantly by the private sector that digital technologies accelerate. It encompasses the extent to which digital is embedded in businesses and financial services. It also covers the strength of the local ecosystem which can drive innovation and the adoption of responsible practices in the economy.

Sub-pillar	Definition	Components
Business	The market effect that digital technologies have on traditional businesses and more digitally based (or "tech") businesses. This includes the adoption of Information and Communication Technology (ICT) and digital technologies by existing businesses, startups and e-commerce.	- E-commerce and ICT - Business technology adoption - Start-ups
Financial services	The extent to which individuals and firms have access to financial services as well as the availability and usage of digital finance (including digital payments, saving, borrowing, insuring, and investing).	- Financial service penetration - Digital finance
Standards of responsibility	The adoption of international good practices and standards by business and the financial sector. This could cover digital (e.g. data privacy and protection), social, environmental and governance aspects.	- Responsible businesses - Circular economy
Innovation ecosystem	The presence of the constellation of key ingredients to drive innovation; such as relevant institutions, incentive mechanisms, investment opportunities and human capital.	- Implementation support institutions - Incentives - Investment - Human capital

7. Conclusion

Digital transformation is not a destination, but a journey. It is fundamental to every one of the SDGs. It is about using digital and technology to improve the lives and livelihoods of individuals, communities and countries. This ranges from improving public services, to tackling issues of marginalization by including people in development processes and positively affecting their human rights online and offline. It can rapidly expand the availability, affordability, quality and level of access to many essential services and products, leading to a material improvement in outcomes in many SDG-related areas. It can uphold social, economic and cultural rights in areas such as health, education, food security, standard of living and economic employment. For governments, digital transformation can improve their speed and success in engaging individuals – and delivering crucial services. It can also lead to efficiencies in cost and time and is an important driver in preparing societies and economies for the future.

However, with the prevalent digital divides across and within countries, the benefits of new technologies are often not distributed equally among all people. The International Telecommunications Union's (ITU) latest Global Connectivity Report[5], estimates that, in 2022, one-third of the world's population was still unconnected and that many struggled with expensive, poor-quality internet access that does little to materially improve their lives. Many of these gaps correspond to differences in infrastructure, access and capacities, as well as to deeply entrenched discrimination and inequalities such as those between men and women, young and elderly, urban and rural areas and across social groups.

Digital transformation also poses significant risks, including with respect to the protection of human rights. Algorithms often reflect and can reproduce existing biases. Social media can be misused to spread hatred. The collection and processing of a large amount of personal data without due consideration for the right to privacy can have significant implications for rights more generally.

Thus, digital transformation is not merely about technology. It is also about strategy and new ways of thinking and working. Most importantly, it is about people and their inclusion in every aspect of the process. An inclusive digital transformation ensures that digital technologies are universally available, accessible and adopted and that they enable meaningful and safe use of technology for all. This entails a thoughtfully designed and implemented change process focused on maximizing the benefits of digitalization for people, particularly those at the societal margins. In that, an inclusive digital transformation:

[5] International Telecommunication Union (2022): Global Connectivity Report 2022.

- addresses the needs of the poorest and most vulnerable, including those who are not connected,
- mitigates the tendency of digital transformation to exacerbate existing inequalities,
- empowers underrepresented groups to take part in a meaningful way,
- protects people from the adverse effects of digital technologies,
- enables promotion of human rights both online and offline.[6]

UNDP's inclusive Digital Transformation Framework is designed to support partner countries in tracking their progress across the various elements of their digital transformation journey in order to create inclusive and resilient digital ecosystems. It serves as a basis for discussion for how UNDP can support them. It can encompass other existing frameworks and is meant to complement ongoing digital work within UNDP.

[6] OECD (2021): Managing inclusive digital transformation, lessons from 100 countries

8. Annex

Additional details about each of the framework categories can be found in the following section. These include commonly asked questions about each category, illustrative indicators and known constraints.

8.1. Major changes from previous version

Change	Description
Addressing *Inclusivity*	In the current proposed version, instead of addressing inclusivity through a separate pillar, it is addressed by incorporating the "Principles of Digital Inclusion" at the core and using the lens of inclusion as part of every pillar. The previous sub-pillars (i.e. Access, Protection of Human Rights and Trust) are thus reallocated in other parts: • Aspects related to Access are moved to People (Skills, Design for Inclusion) and Connectivity (Affordability and Availability) • Aspects related to Protection of Human Rights are moved to Regulation • Aspects related to Trust are moved to People This helps in applying the lens of inclusion to different sub-pillars while also retaining the ability to consider inclusion-specific aspects as separate categories when it comes to assessing how a country performs on them.
Adding *Connectivity* as a separate pillar	Connectivity is included as a separate pillar because it is often a focus for government. The pillar has been conceptualized in a way that considers both the supply of and the demand for connectivity as well as incorporating UNDPs principles of inclusivity. On the supply-side, the 'Physical infrastructure' sub-pillar covers the availability and the quality of digital infrastructure (e.g. : telecommunication networks, storage and processing and services and devices). The 'Access enablers' sub-pillar covers what can be considered "soft" aspects of inclusive connectivity. This sub-pillar covers the affordability of products and services to access the internet despite socio-economic conditions, as well as the availability of services and products that are accessible to all, regardless of location, age, gender and other demographic categories which might lead to marginalization.
Detailing out the *Economy* pillar	'Innovation ecosystems' has been moved from the Infrastructure pillar to the Economy pillar to better reflect its nature. Infrastructure has been subsumed under Connectivity and refers to the hard infrastructure for telecommunications and broadband. 'Innovation

	ecosystem' includes elements such as availability of investments, supporting institutions, human capital, and policy frameworks which support innovation. **'**Ethical standards**'** has been replaced by 'Standards of responsibility.' It encompasses the emerging consensus on responsible business (e.g. corporate social responsibility (CSR), environmental social and corporate governance (ESG) and corporate sustainability) and financial sector practices (e.g. impact investing, sustainable finance, green finance). 'Financing services' is renamed as 'Financial sector' to reflect all relevant aspects of the financial sector. In particular, it covers the penetration of the financial sector among individuals and firms as well as the extent of the availability of digital finance.

8.2. Mapping the Principles of Digital Inclusion across the Framework

The table below maps the Principles of Digital Inclusion across the different Framework pillars and sub-pillars. It attempts to illustrate how the principles are incorporated in practice.

The darker the shade in the table below, the greater the emphasis on the principle.

Pillars and sub-pillars	**Principles of Digital Inclusion**		
	Universal access	Promotion of trust	Protection of human rights
People			
Usage and adoption			
Digital literacy skills			
Civic engagement			
Cultural norms			
Digital commons			
Identification			
Payments			
Data exchange			
Connectivity			
Physical connectivity			
Access enablers			
Government			
Implementation capacity and systems			
Digital public services and platforms			
Leadership and strategy			
Open government			
Regulation			
Cybersecurity			
Fair market competition			
Emerging technologies			
Data and privacy			
Human rights			
Economy			
Business			
Financial sector			
Standards of responsibility			
Innovation ecosystem			

8.3. Common questions and answers

Principles of Digital Inclusion

Question	Answer
How are the principles used in practice?	The Principles of Digital Inclusion are included at the core of the framework. Every pillar is evaluated through the lens of inclusion. For instance, in the case of the *Connectivity* pillar, this approach implies that aspects related to affordability must capture the socioeconomic divide and aspects related to availability must capture the urban-rural divide. Similarly, the *People* pillar captures the educational divides.
How are human rights taken into account?	The protection of human rights is captured by considering how the four key aspects of human rights in the digital space are addressed in the regulatory regime of a country. These keys aspects are the right to privacy, freedom of expression, access, and freedom of association.
How is *right to access* and the *access* principle different?	Access to digital technologies, the internet or mobile telephony is currently not recognized as a right under the international human rights framework. This implies that there is no legal obligation to provide such access. However, access is fundamental to the exercise and fulfilment of many other civil, political, cultural and economic rights and for the achievement of many SDGs. Therefore, the framework does not speak of a *right to access* but does ensure that *access* is included as one of the core principles.
Which specific groups of people do the Principles of Digital Inclusion involve?	Many different categories of groups at the risk of exclusion are considered. These include (in alphabetical order): • Children, • Elderly, • Ethnic, caste and/or religious minorities, • Indigenous people, • Lesbian, gay, bi, trans, intersex, queer +, • Migrants and/or refugees, • Persons with disabilities and/or special needs, • Persons who risk exclusion due to their socioeconomic backgrounds, • Rural populations, • Women and girls, • Youth neither in employment nor in education or training (NEET).

People

Question	Answer
How is *usage* and *adoption* different to *access* under the Digital inclusion Principles?	The principle of *access* to digital technologies makes direct reference to the right of people to be connected regardless of structural barriers such as gender, skills, socio-economic background, geography, or culture. *Adoption* refers to the actual level of adoption of digital technologies that have been achieved in a society; while the *usage* principle points to the different purposes people use technology for.

Digital Public Infrastructure

Question	Answer
What is the difference between Digital Public Goods (DPGs) and Digital Public Infrastructure?	DPI is an inclusive and rights-based approach to shaping digital transformation. It consists of a number of open and interoperable technical foundations, most often: digital identity solutions, digital payment mechanisms and data exchange processes. These are enabled by a strong governance and regulatory framework. Part of the DPI approach is to emphasize the use of open and interoperable systems, which support national ecosystems to innovate, embed, and scale useful digital solutions, resulting in an accelerated national digital transformation. These systems can be, but need not to be, DPGs. While DPI is an approach, Digital Public Goods are more tangible and concrete in scope. They are open-source software, open data, open AI models, open standards, and open content that adhere to privacy and other applicable best practices, do no harm by design and are of high relevance for the attainment of the 2030 Agenda. As such they may be used as specific technical solutions – potentially as part of a DPI approach – to support countries' ability to deliver digital services. There are specific DPGs for digital ID systems, data exchanges and digital payments and financial inclusion services, all core elements of DPI.
How does the Framework interact with the DPI approach and DPG solutions?	A DPI approach is integrated in the Framework to underscore the importance of developing shared digital infrastructure based on principles of openness, interoperability and unified standards. The Digital Transformation Framework provides an assessment and planning tool for countries to choose which sector to prioritize. The assessment includes the extent to which each sector is ready to reuse DPI components and share data safely. Examples of this include authenticating identities of people or sharing and receiving payments on the digital payment rail. In addition, it looks at whether

	the governance is adapted to handle a shared infrastructure, as opposed to sector-isolated stacks of systems, data and processes. DPI is a rights-based approach to national digital transformation that emphasizes an ongoing and deliberate effort to develop and implement open, interoperable and standards-based digital infrastructure. Underlying digital components that help to catalyse a wide range of services are considered foundational DPI. These components include digital identity, digital payment mechanisms, and data exchange infrastructure. Foundational DPI can be cross-cutting and may serve different sectors. For instance, an individual can use their digital ID to open a bank account or register for medical care at a hospital. A DPI approach can be applied within sectors too. For example, an information management system for a hospital would be considered a health-sector (or health 'sectoral') DPI. An open-source content delivery platform for teachers and students would be an education sectoral DPI. Open data systems to improve weather, climate, and hydrological analysis could be considered a climate sectoral DPI. This approach has some unique characteristics compared to foundational DPI, that focus on the unique contexts, challenges, or priorities found within particular development topics. A DPG is either open-source software, open data, open AI models, open standards, or open content that adheres to privacy and other applicable best practices, does no harm by design and is of high relevance for attainment of the 2030 Agenda. The Framework ensures consideration of the DPI approach by including it as an overarching enabler. DPGs may, and indeed are likely to, form a significant part of the specific technical solutions required to apply DPI.
How could the Framework be applied to address sector specific challenges?	The Framework is used as a reference model in the assessment, planning and implementation of digital initiatives. It helps assess the digital strengths and weaknesses of a country and supports national digital strategies and priorities. As a reference model, it can help identify strengths and weaknesses with respect to levels of digital readiness in specific sectors within specific countries. The Framework should be used as an analytical tool to frame discussions on specific sectors identified by countries as priorities.