DPI ROADMAP PLAYBOOK

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UPDATED EDITION

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FOREWORD

As the world turns its gaze to Africa in 2025, a historic milestone unfolds: South Africa's inaugural G20 Presidency. This moment transcends mere symbolism—it is a call for Africa to lead global discourse and redefine the future of inclusive and equitable economic transformation. At the heart of this opportunity lies Digital Public Infrastructure (DPI), a cornerstone for unlocking the continent's potential as a unified and competitive force in the digital age.

The African Continental Free Trade Area (AfCFTA) represents a bold step toward economic integration for the continent since its independence. The adoption of the AfCFTA Protocol on Digital Trade and its eight (8) Annexes by the Assembly of Heads of State and Government of the African Union (AU) marked a watershed moment and demonstrates a commitment by AU Member States to eliminate barriers to cross-border digital commerce. By prioritising interoperable digital payments, digital identity systems, and secure data transfers, this legal framework lays the groundwork for a thriving single digital market. These are not merely technical components; they are the arteries of opportunity for women, youth, micro, small and medium entrepreneurs, persons with disabilities, and rural communities, among other underserved groups, to innovate, trade, and thrive across borders.

This DPI Playbook emerges as a critical bridge between ambition and action. Crafted by African voices for African realities, it provides policymakers and practitioners with a roadmap for designing and deploying DPI that embodies our shared principles: inclusivity, interoperability, and digital sovereignty.

My call is to view this Playbook as more than a technical guide. It is a manifesto for Africa's digital renaissance – a vision in which seamless digital systems empower small businesses in Kigali to reach markets in Casablanca, where a farmer in Mauritania accesses real-time data to optimise harvests, and where a young innovator in Lagos scales a solution to tackle climate challenges continent-wide.

The road ahead demands unprecedented collaboration. Governments must harmonise policies; private sector leaders must invest with purpose; civil society must safeguard equity; and development partners must align support with African priorities. Therefore, South Africa's G20 Presidency amplifies our agenda, let us seize this moment to shape global norms on DPI, ensuring they reflect the diversity, dynamism, and aspirations of our continent.

Africa's digital future will not wait. Let this Playbook ignite the urgency, creativity, and collective will to build it today.

H.E. Wamkele Mene
Secretary-General
AfCFTA Secretariat
23 June 2025

FOREWORD

On March 26, 2025, the South African government reached a milestone in its digital transformation journey when the Cabinet approved the Digital Transformation Roadmap. Our Roadmap aims to deliver on the Government of National Unity's commitment to inclusive growth, efficient service delivery, and ensuring that government services are accessible to all South Africans. A flagship initiative under Operation Vulindlela - the 7th Administration's structural reform program led by President Cyril Ramaphosa - the Roadmap is anchored by the Digital Public Infrastructure (DPI) principles of delivering integrated public services safely, securely, and seamlessly.

The Cabinet's approval of the roadmap and the subsequent public launch led by the Minister of Communications and Digital Technologies, Mr. Solly Malatsi, followed a process of nine months during which we undertook extensive analysis, diagnosis, and consultation across the government. We also sought to learn from international experiences in Brazil, India, and other countries. With the help of many domestic and international partners, we worked out the best way to apply this approach to our needs in our context.

If there had been a Playbook on how to create a DPI Roadmap at the time, it would no doubt have guided and perhaps even expedited our journey. This DPI Roadmap Playbook incorporates the learning from our experience, combined with other wider experiences. We trust it will be helpful to other countries that are also on the 'long walk' to digital transformation, which benefits citizens and society.

THE PRESIDENCY
REPUBLIC OF SOUTH AFRICA

Khule Duma
Director: Project Management Office, Private Office of the President,
Republic of South Africa
23 May 2025

ABOUT THIS PLAYBOOK

The DPI Roadmap Playbook aims to guide people in countries interested in developing and implementing an approach to digital public infrastructure (DPI) through building national DPI Roadmaps. It offers key insights, tips, takeaways, and resources to guide the development of a national roadmap. Throughout the Playbook, you will find practical examples from countries that have embarked on a DPI journey, including India, the UK, South Africa, Ethiopia, Nigeria, Rwanda – all of which are at different stages of a DPI journey.

The DPI Roadmap Playbook is intended for:

- **Government officials** responsible for overseeing, managing, or taking part in the process of digital transformation in a country, who may work for a digital government agency (within the Ministry of ICT, Presidency or National Planning Agency); for other Government departments implementing digital public solutions, or for a regulatory agency such as a Central Bank, or Data Protection Office.
- **Staff in private sector companies, civic sector groups, and academia** who may be contracted by government or funding agencies to support a given country – or countries – in their DPI journey.
- **Stakeholders and staff at multilateral, bilateral, or philanthropic funding agencies** which provide financial and/or technical assistance to support DPI agendas.

Section 1 sets out the relevance of roadmaps and how they are helpful. Section 2 frames the high level considerations in starting a DPI journey and is most relevant for high level decision makers who are short on time. Section 3 steps through a DPI Roadmap process for those involved in the leading or facilitating of a roadmap process. Section 4 provides some implementation pointers for those charged with implementing a DPI Roadmap.

A beta version of the Playbook was launched in June 2025 during meetings associated with South Africa's G20 Presidency. This version refreshes the content by adding an update on how that journey has played out so far, while also adding more country examples as well as further insights about the roadmap process which have come to light since then.

The Playbook assumes a background familiarity with what the DPI approach is, as much has already been written about *what* DPI is and about *why* it is beneficial. As such, the Playbook curates some key general resources in its Annex but does not dwell on these questions. Rather, it addresses the question of how to develop and use digital roadmaps as a practical tool to implement a DPI approach. Note, however, that this Playbook does not address the detailed question of how to implement a particular DPI system. The guidance for specific implementation varies by system: some relevant sources for this are cited in the Annexure.

CONTENTS OF THE PLAYBOOK

HELPFUL TERMS IN THE PLAYBOOK

The DPI Roadmap Playbook introduces various terms and acronyms. Some may be familiar to you, while others may be newer. Their definitions are outlined below to support your effective use of this Playbook.

Term	Meaning
AfCFTA	**The African Continental Free Trade Area** – brokered by the African Union and operationalized in 2021 – establishes a trade bloc across its members with the aim of increasing socio-economic development.
DPI building block	A foundational component of a DPI approach that promotes reuse and interoperability among systems.
DaaS	**DPI as a Packaged Solution**, or DaaS, is a rapid deployment approach that allows organizations to implement DPI building blocks in an accelerated timeframe by using cloud services.
Digital roadmap	A document – sometimes called a blueprint – that sets out **an actionable process to implement changes over a defined time horizon as part of digital transformation efforts.**
Digital transformation	The process of **integrating digital technologies into all aspects of an organization, government, or society**, fundamentally changing how it operates and delivers value to customers or citizens.
DPI approach	A way of designing, deploying, and governing a **foundational, interoperable digital ecosystem** that enables **secure, inclusive, and efficient** delivery of essential public and private services. Read more in the Annex.
DPI journey	The **full lifecycle of a DPI approach from design to implementation** and ongoing operation.
DPI Roadmap	A **specific type of digital roadmap that embodies a DPI approach.**
DPFM	Digital Public Financial Management, or DPFM, refers to the use of **digital technologies, automation, and data-driven systems** to enhance the efficiency, transparency, and accountability of **government financial management processes.**
"+1" DPI approach	An approach to digital transformation that favors small, quick, and incremental improvements to slow and long changes in digital systems. Read more here.
eKYC	**Electronic Know Your Customer, or eKYC,** is a **digital identity verification process** that allows businesses, financial institutions, and governments to verify a person's identity **electronically and remotely.**
G2P	Government-to-person, or G2P, payments such as social benefits, pensions, or unemployment payments, which are common use cases for a DPI approach.
Hyperscaler	**A large-scale cloud service provider** that offers **highly scalable, on-demand digital infrastructure** for computing, storage, and networking.
IDWG	The Inter-Departmental Working Group, or IDWG, is the body set up to coordinate the Roadmap process in South Africa.
Microservices architecture	**A software design approach** where an application is built as a **collection of small, independent services** that communicate via APIs.
Use case	A particular digital application that provides demonstrable benefit to an identified category of users or citizens.
Vendor lock-in	The situation when a company or organization becomes **overly dependent on a specific vendor's technology, products, or services**, making it difficult or costly to switch to an alternative provider.
Whole-of-government approach	**A collaborative and integrated governance approach** where different government departments, agencies, and their stakeholders work together to achieve common objectives.
Whole-of-society approach	A governance framework **extending beyond a whole-of-government approach in which the government collaborates with other sectors of society**, including businesses, civil society, academia, and communities, to address complex challenges. This does not equate to a government collaborating with everyone; rather, this approach rests on identifying and engaging with those stakeholders outside of government who are most affected and/or have the most to offer around a solution.

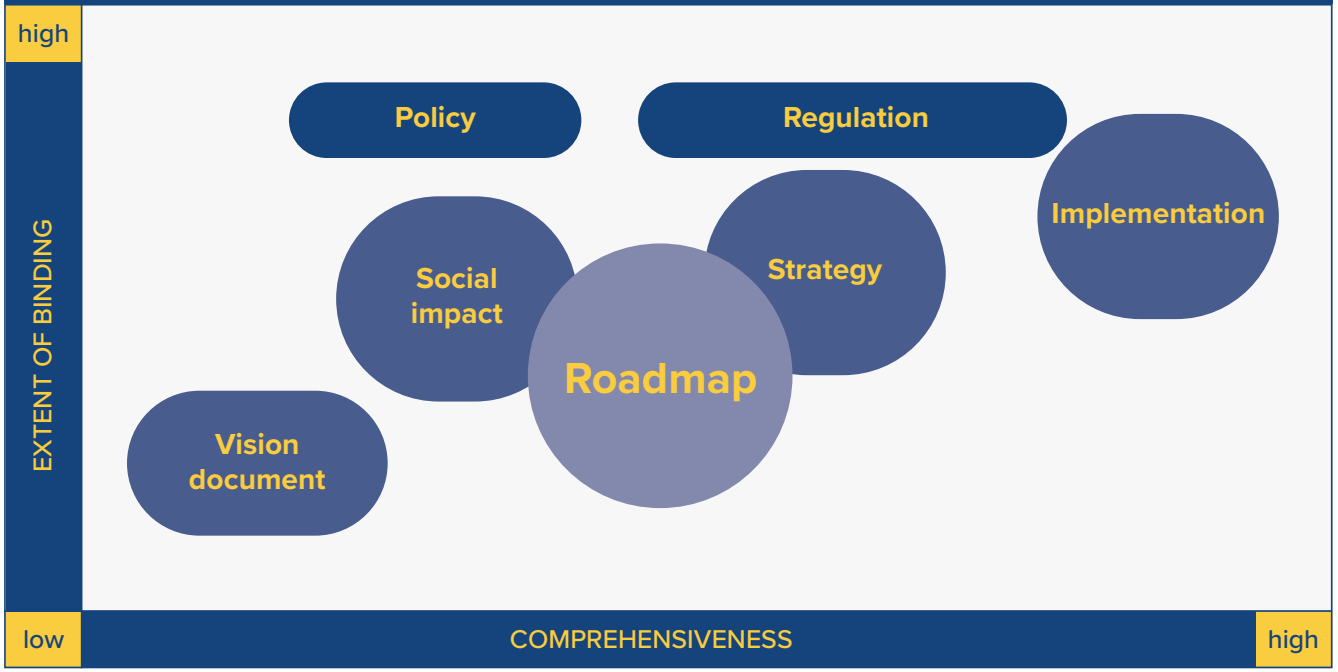
SECTION 1

WHAT IS A DPI ROADMAP AND WHEN DO YOU NEED ONE?

Today, most countries have a digital transformation strategy.[1] An increasing number of countries have also signaled both the interest and commitment to adopt a digital public infrastructure (DPI) approach to digital transformation.[2] A DPI approach combines open technology standards with robust governance frameworks to address societal-scale challenges that usually cut across different sectors and silos. Implementing a DPI approach involves building and/or enhancing foundational digital building blocks, such as digital identity, digital payments, and data exchange. Achieving the alignment and coordination necessary for cross-sectoral change is challenging. In this context, a DPI Roadmap can be a helpful tool to prioritize and coordinate change. Sometimes, a different name–such as blueprint or framework–is used. In this Playbook, we use the term 'roadmap' to refer to a set of processes which led to a defined outcome, as defined below. This Playbook focuses on how to develop a DPI Roadmap as a part of the longer DPI implementation journey.

Publishing a roadmap can serve as an official signal to embark on a DPI journey or to progress it further, if efforts are already underway. A DPI Roadmap sets out a clear, feasible destination for the next phase of the journey. However, the process leading up to this point can be just as important in bringing coherence to a complex and fast changing environment with many stakeholders. The DPI Roadmap scaffolds DPI implementation in some or all of these four key ways.

FIGURE 1: Roadmaps alongside other related concepts



A DIGITAL ROADMAP

is the outcome of a multistakeholder process which creates a clear mandate for cross-cutting digital change within an organization, government and/or society.

A DPI ROADMAP

is a type of digital roadmap which embodies core DPI principles, enabling the building or enhancement of foundational digital building block systems.

[1] 148 countries reported having a digital transformation strategy in the 2022 World Bank Govtech Maturity Survey.
[2] Since its launch in 2023, more than 30 countries have signed up to the 50-in-5 campaign, which requires commitments to share learning, technology, and best practice around DPI.

1. A DPI ROADMAP PROVIDES A LINK BETWEEN HIGH-LEVEL DIGITAL VISIONS AND STRATEGIES AND DETAILED IMPLEMENTATION PLANS

Roadmaps navigate the tricky balance between certainty and flexibility – providing sufficient clarity to inform resource allocation around longer-term outcomes, while also allowing for agility to make adjustments along the way. A roadmap can follow from other policy instruments like high level visions and strategies, yet also distinct from them in its scope (how comprehensive it is) and its function (how prescriptive it is), as highlighted below. A roadmap also likely leads to the development of detailed plans to implement key components. But the roadmap itself sits between the two, linking them so that there is coherence and alignment from vision to implementation.

For example, Ethiopia has recently refreshed its national digital strategy, including an explicit reference to DPI (Case 1). This strategy creates a strong foundation for a roadmap for implementation to emerge.

CASE 1:
ETHIOPIA'S NATIONAL DIGITAL STRATEGY FOR 2030 INCLUDES DPI AS A BACKBONE

DIGITAL ETHIOPIA 2030 (DE2030) positions DPI as a core enabler of the country's next phase of digital transformation. The national digital strategy was developed under the leadership of the Prime Minister's Office and Digital Transformation Council through a nationally led, multi-stakeholder process involving federal ministries, regional governments, private sector actors, academia, and development partners. DE2030 builds explicitly on lessons from Digital Ethiopia 2025 and seeks to align with Ethiopia's Ten-Year Development Plan. The new document notes that earlier efforts suffered from fragmented implementation, limited interoperability, and weak data governance—issues that DE2030 aims to correct through a more integrated architecture and stronger institutional coordination.

Ethiopia's DPI stack—comprising Fayda digital ID, interoperable digital payments, secure national data exchange(s), and the national addressing system—forms one of DE2030's core strategic pillars. The strategy highlights DPI as "the backbone of a digitally inclusive, innovation-driven, and AI-ready economy," essential for scaling secure public services, accelerating financial inclusion, and enabling private-sector innovation.

Key takeaway: A DPI Roadmap can serve as a practical tool to translate the broad aspirations of national visions into interoperable, scalable, and sustainable digital infrastructure solutions that enable national and regional goals and priorities.

2. THE ROADMAP PROCESS HELPS TO BUILD THE ALIGNMENT AND SHARED UNDERSTANDING NECESSARY FOR ITS IMPLEMENTATION

A DPI Roadmap plays a critical role in building the alignment required for effective implementation by creating a shared understanding of what a DPI approach entails, why it matters, and how it connects to national priorities. While developing a roadmap takes time and effort, the process itself helps sensitize political leaders, senior officials, and implementing agencies to DPI principles, trade-offs, and sequencing choices—reducing fragmentation and increasing institutional buy-in. This early investment in awareness and coordination often yields dividends in the form of smoother, faster, and more coherent implementation.

For example, South Africa's digital roadmap process led to the creation of an Inter Departmental Working Group for inter-agency coordination which will guide its implementation (Case 2).

CASE 2:
WHY SOUTH AFRICA CREATED A DIGITAL ROADMAP

DIGITAL TRANSFORMATION is not a new concept in South Africa, but despite a proliferation of policies, strategies, and initiatives, a 2024 diagnostic concluded that the country lagged its peers. It highlighted a lack of coordination across government, leading to duplication and missed efficiencies.

In response, the Office of the President convened an Inter-Departmental Working Group (IDWG) in September 2024. The IDWG was led by a Steering Committee chaired by senior civil servants in the Presidency, the National Treasury, and the Department of Communications and Digital Technologies who reported to an Inter Ministerial Committee. The IDWG convened participants from over 20 national government entities in a six-month long, whole-of-government process, culminating in a Digital Transformation Roadmap launched in May 2025. This Roadmap extends beyond DPI but is explicitly grounded in design principles that embody a DPI approach: interoperability, scalability, modularity, and agility, with decentralized delivery and privacy and security by design.

Key takeaway: Policies and visions alone do not create the practical alignment needed for progress. A roadmap can help establish alignment and drive implementation.

3. A DPI ROADMAP BRINGS THE COUNTRY CONTEXT INTO SHARP FOCUS

No two countries are alike, so it naturally follows that no two roadmaps will look alike. The substance of a good roadmap should be customized to the local needs and situation. By reviewing and analyzing the country's context, a DPI Roadmap establishes a shared understanding of the starting point, and sets priorities for DPI implementation, including the investments needed.

For example, Nigeria's 2025 DPI Framework describes the country context, reviewing the status of the existing pillars of DPI in digital identity and instant payments, before focusing on how to build up the pillar of data exchange (Case 3).

CASE 3:
NIGERIA'S DPI JOURNEY

Like many other AU member countries, Nigeria has long had a national digital economy policy and strategy: the latest one for the period 2020 to 2030 was launched in 2019 before the term DPI existed. However, some of the foundational components of DPI have been in place for a while:

- **DIGITAL ID:** the National Identity Number NIN was launched in 2012 and had been issued to 121m people by mid 2025, with an online ID authentication service available in 2025.
- **INSTANT PAYMENTS:** launched in 2011, NIBSS Instant Payments was one of the earliest real time account-to-account schemes worldwide; and by 2024 was among the top five in the world by volume.

However, progress in national data exchange has been slower, in part due to the absence of enabling laws.

In 2025, Nigeria's journey towards DPI implementation accelerated significantly, with the federal government taking several important steps. In March, the Federal Ministry of Communication, Innovation and Digital Economy launched its DPI Framework around supporting life events. This document serves as a roadmap in that it prioritizes, identifying the absence of a Nigeria Data Exchange as the 'missing link' in Nigeria's DPI stack, and recommends the institutional infrastructure to build it.

Key takeaway: A DPI Roadmap should review progress in order to prioritize areas of focus going forward.

4. A DPI ROADMAP ANTICIPATES RISKS AND ENABLES ACCOUNTABILITY

A well-designed roadmap considers risks and safeguards early and addresses them proactively. It defines indicators of progress and calls for their publication to build accountability for execution. At best, a poorly designed roadmap gains little traction; at worst, it risks causing delay or even failure during implementation.

For example, South Africa's Digital Service Unit has published a DPI Safeguards Compliance Checklist which operationalises the Universal DPI Safeguards (G20/DPGA 2024) across all DSU-led and departmental digital transformation initiatives (see Step 6 in Chapter 3).

For all these reasons, a DPI Roadmap can be a useful tool at all stages of national digital maturity–from those countries just starting out to the more common 'brownfield' situation where a country has some elements of functional DPI but wishes to advance further. However, not all countries are ready for a roadmap

process as it can demand significant resources and commitment across different ministries. As an alternative, taking a practical, targeted use case-driven approach within the scope of one ministry or agency can build awareness and receptivity for the DPI approach, laying the groundwork for a more productive roadmap process in the future.

While a roadmap process can be a useful tool, historically it is not a prerequisite to starting a national DPI journey. For example, India never developed a national DPI Roadmap but rather embarked on its DPI journey to solve a problem. However, India developed a guiding philosophy that shaped both their DPI journey and their core DPI stack operating at a national scale today (Case 4).

Rwanda, too, does not yet have an explicit DPI Roadmap but has found it useful to engage in a roadmap-type process to clarify use cases and priorities in 2025, leading to what has been called a 'tacit' or unwritten DPI Roadmap (Case 5).

CASE 4:
WHY INDIA DOES NOT HAVE A NATIONAL DPI ROADMAP

India is well known for DPI building blocks like **AADHAAR (DIGITAL IDENTITY)** and **UPI (INSTANT PAYMENTS)**, which are widely accessible and increasingly used across the whole society. However, India's DPI journey did not rely on a single comprehensive national roadmap, but rather what has been described as an 'invisible infrastructure' of policies, capacities, ecosystems, and leadership which emerged and converged over time.

At the policy level, a series of foundational working papers and frameworks established the intellectual groundwork for India's DPI success. The Open Digital Ecosystems White Paper articulated how to build interoperable digital platforms that could operate at India's scale. The Electronic Consent Framework and the Data Empowerment and Protection Architecture tackled the complex challenges of data rights, privacy, and user control in digital systems. These documents represented deep institutional learning on how to architect digital systems that could serve a billion people while balancing innovation, inclusion, and privacy. Additionally, the launch of Digital India in 2015 provided the overarching vision and political commitment that accelerated these initiatives.

The institutional backbone was equally critical. Organisations like the National e-Governance Division and National Informatics Centre provided technical capabilities and institutional memory built over decades of implementation. These institutions represented not just organisational capacity but deep, accumulated knowledge of operating at India's scale and complexity.

Key takeaway: If a country already has strong alignment around the foundational elements of a DPI approach, including political will, a roadmap may not be necessary.

CASE 5:
RWANDA'S TACIT DPI ROADMAP

Rwanda has been on a digital transformation journey for more than twenty years. The country has had a series of five year national development strategies, which since 2022, have been focused on achieving the goal of Vision 2050–becoming a high income country by 2050, with a recognition that ICT is a key enabler captured in sectoral ICT plans.

Rwanda also has the foundational elements of DPI either in place or underway: an instant payment system called **eKASH** first launched in 2022; a widely issued national ID which is now in the process of becoming a digital ID; and sectoral data exchange initiatives, with a National Data Sharing Policy launched in 2025.

Despite having all these elements, Rwanda has lacked a roadmap to align the common building blocks so as to address prioritized national use cases. During 2025, a 'tacit' DPI Roadmap has been developed under the auspices of RISA by AFR, an independent local organization which has served as a trusted catalyst, able to work across government as well as private sector and donors. The Roadmap is tacit in that it is not captured in a single document but rather serves as the common understanding which has emerged around a set of agreed use cases. These will be implemented by a new DPI Center of Excellence which will build the capacity for design and execution of DPI initiatives in-country and across Africa.

Key takeaway: Even an unwritten or 'tacit' DPI Roadmap which cements agreement among key parties can help the coordination and alignment which will deliver on the national strategies.

SECTION 2

WHAT ARE THE KEY CONSIDERATIONS IN PREPARING FOR A DPI ROADMAP?

Before developing a DPI Roadmap, policy makers need to apply their mind to three high level considerations.

- **Consideration 1:** How to locate DPI in the set of wider national priorities?
- **Consideration 2:** What should be within the scope of a national DPI approach?
- **Consideration 3:** Is the country ready for a DPI Roadmap process?

The answers to these questions will help to frame the scope and place of a DPI Roadmap in national policy and priorities and whether it is indeed helpful.

CONSIDERATION 1: HOW TO LOCATE DPI IN THE SET OF WIDER NATIONAL PRIORITIES?

DPI is relatively new as a term, though it has evolved out of the successful digital practices of a group of nations including India and Estonia over the past two decades. However, it exists in a digital policy space increasingly crowded by both legacy and new frameworks, laws and standards. Important among the newer issues closely related to DPI are data and how it is governed, and Artificial Intelligence (AI). Recent national digital strategies consider all these issues: for example, Digital Ethiopia 2030 explicitly lists both of these areas (with AI addressed under the heading of 'Industry 5.0') as key enablers alongside DPI.

A DPI approach must fit into this complex and fast changing environment. These three actions can help to find the appropriate space.

1. ARTICULATE THE LINKS TO OTHER CORE DIGITAL POLICY AREAS WITH A FOCUS ON DATA AND AI

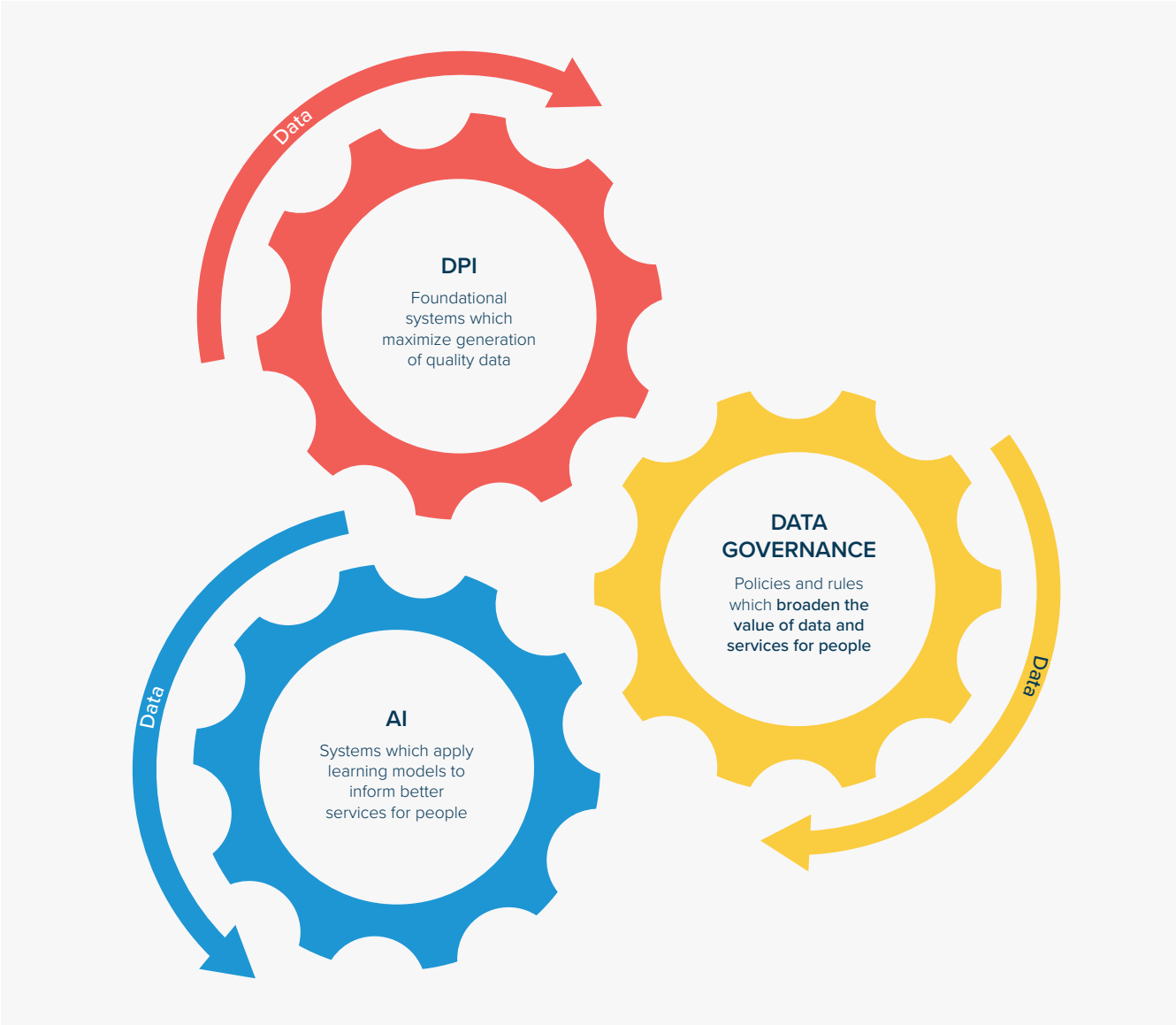
Among digital policy areas which compete for priority and attention, DPI has particular linkages to data and AI. While these areas are distinct, a dependence on data links DPI and AI. Although data exchange is identified in itself as a category of foundational DPI, the use of data pervades all the categories of DPI.

So how are these areas related? Data governance refers to the laws, standards and practices which shape the flow of data while DPI is about the operational layers of digital systems which serve as "foundational, re-usable digital building blocks...designed for the public benefit."[3] The link between these two is clear: DPIs process data at large scale; and as such, are subject to data governance laws and standards; while data governance requirements apply well beyond DPIs only.

AI refers to a cluster of digital applications built on "the cognitive ability of machine agents that mimics human cognition in processing information and executing tasks for which the machine agent is trained."[4] DPI systems increasingly integrate AI tools to enhance their efficiency, through agentic automation, resilience through risk detection and mitigation, and inclusivity through improved natural language interfaces. However, AI carries impact for the economy and society well beyond its effect on DPI.

While data governance and AI shape how DPI is designed and built, DPI in turn translates data governance into operational systems through design choices around the consent architecture, federated data exchange and auditable workflows. For example, well functioning digital identity systems enable consent-based data sharing to take place in a secure, privacy-preserving manner which promotes sound data governance. Similarly, "AI-ready DPI" can create and enable permissioned access to high quality data sets. These may be used for the purpose of training future AI models but do not have to be centralized.

[3] Drawn from the World Bank definition of DPI, World Bank 2025.
[4] Govtech glossary, WBG (2025).



DPI and AI are also alike in that each carries the potential for large-scale impact. As a result, if not overseen properly, each may cause large-scale or even systemic risks.

In addition to the similarities in principles above, there are also similarities in the practices used to design and implement these approaches, including those set out for DPI Roadmaps in this Playbook. For example, national AI strategies and data governance frameworks would also benefit from stakeholder engagement throughout and by considering priority use cases and risks.

2. PRIORITIZE THE NATIONAL GOALS WHICH DPI CAN BEST HELP TO ACHIEVE

National digital transformation strategies typically aim to achieve at least a subset of the five broad goals identified by David Eaves and Beatriz Vasconcellos[5], set out in the first column of the table below. For example, Digital Ethiopia 2030 states three of these goals explicitly in some form. The goals are not mutually exclusive and can even become mutually reinforcing over time. However, policy makers need to start their DPI journey with a sense of how a DPI approach may best contribute to the achievement of prioritized goals, in order to set realistic expectations.

National Goal	How DPI Contributes	Illustrative examples from recent documents[6]
1. Improve public service delivery	DPI enables faster and more efficient services for citizens through the use of shared rails for identity, payments and data exchange. Waiting times and wasted time through multiple capture of the same data can be reduced; while eligibility assessments for services can become better targeted.	South Africa's *Digital Transformation Roadmap* commits to functional digital ID, real-time data exchange, and a unified service platform ("MyMzansi"), explicitly designed to make services faster, remote, and reliable for citizens.
2. Promote fiscal resilience	DPI reduces costs created by duplicated systems; digital identity systems have been shown to reduce fraud and leakage in benefit schemes, while more efficient payments lower transaction costs, and data sharing may improve revenue collection.	*Digital Ethiopia 2030* identifies DPI as essential for reducing bureaucratic inefficiencies and creating fiscal space by digitising processes in priority sectors.
3. Enhance digital inclusion & resilience	Universal digital ID enables access to online services while accessible payment services enable inclusion in the economy; DPI systems can also support the provision of remote services during national emergencies.	Nigeria's *DPI Framework commits* to bridging the digital divide and ensuring accessibility across the population, including rural and vulnerable groups.
4. Catalyse economic growth & innovation	DPI systems offer open APIs and lower entry barriers for a range of players which allows for innovation in business and services models which can lead to growth.	*Digital Ethiopia 2030* frames the digital economy as a growth engine where DPI underpins priority sectors by enabling data flows and digital transactions
5. Ensure digital sovereignty	DPI can promote domestic control and oversight of foundational digital systems through the use of open standards and open source software, which reduce the risks of vendor dependence.	Nigeria's *DPI Framework* protects against vendor lock-in, ensures interoperability, manages geopolitical risks, and promotes local innovation and domestic digital public goods.

While the table above shows how DPI solutions can help achieve each one of these national goals, DPI alone cannot achieve any of the goals. For example, following a DPI approach cannot achieve national digital inclusion on its own: this will also require the rollout of physical connectivity infrastructure and other inclusive policies. There may even be tensions among the goals. For example, if not all citizens are able to use apps on smart phones, then any DPI system which prioritizes inclusion as a goal will need to offer additional access channel options. This may incur additional costs in the short run at least, affecting fiscal goals. Although DPI is no magic solution for achieving all goals, it is fundamentally an engine for collecting, harnessing and using inclusive data towards the achievement of each national goal.

Referencing and clarifying existing national goals—and understanding how they translate into DPI priorities—is essential for shaping the scope of a DPI Roadmap and identifying the actors who need to be involved. For example, if the emphasis is on catalysing digital economic growth, deeper engagement with private sector players will be required to understand their incentives and align them. By contrast, improving public service delivery falls more directly under the control of government agencies. In constrained fiscal environments, where cutting costs and waste is required, this clarity is even more relevant.

Once attuned to national priorities, a DPI Roadmap may offer a way of sequencing how to address them. Many

[5] David Eaves and Beatriz Vasconcellos (2025) "Digital Public Infrastructure is the New Global Tech Bet—but everyone is betting on something different".
[6] Other examples can be found in the country publications listed in Annex A.

governments articulate broad ambitions for whole-of-society digital transformation, but their practical priorities often start with improving public service delivery. Indeed, that has been the progression for India which built momentum by first demonstrating DPI's value in achieving fiscal goals through reducing leakage in social transfer programmes. The same core DPI building block of digital identity used to deliver this goal then also helped to unlock cost savings in private sector use cases such as eKYC for account opening, starting a ripple effect of innovation now sweeping across various sectors of the economy, from education to agriculture.[7]

While DPI delivers tangible benefits, no country starts a digital transformation journey in a political vacuum. There will always be different interest groups within government and outside which will be positively or negatively affected by any change. The political process will determine whether and how they are able to influence change. That is why the identification of key stakeholders and their priorities needs to be done using a political economy lens, which should be further explored and understood during the roadmap process.

If digital roadmaps are keyed to national priorities and can learn from previous phases of development, they are more likely to endure through changes of administration. The UK's digital roadmapping has seen some of these shifts in response to learning and to changing priorities (Case 6).

CASE 6:
THE ROAD TO THE UK'S NEW DIGITAL ROADMAP 2026-2030

Describing it as "an action plan for what is next", the UK Government Digital Service launched its latest digital roadmap for the period 2026-2030 in early 2026. The roadmap has five key aims expressed as easier lives, faster growth, firmer foundations, smarter organisations and higher productivity and efficiency.

This latest digital roadmap from the UK government seeks to implement its 2025 Blueprint for Modern Digital Government which introduced a six point plan with priority reforms. One of the areas identified for reform was the strengthening and extension of digital and data public infrastructure. Corresponding activities include mandating the publication of a standard set of APIs by public organisations and creating a national data library to find and reuse data across public sector organisations. So-called 'kickstarter initiatives' included a new GOV.UK Wallet enabling digital credentials. Under the Blueprint, an AI-specific roadmap entitled the UK Compute Roadmap was also published in July 2025.

The Blueprint and its associated digital roadmaps seek to learn from the State of Digital Government Review. This independent review of the UK government's digital approaches concluded that while the UK enjoyed periods as a global leader in digital government, progress over the past fifteen years had been uneven, too slow and not systemic enough, reflected in a number of indicators of fragmentation, under-digitisation and rising cyberrisks.

This less-than-satisfactory outcome had resulted despite substantial prior efforts to implement a whole-of-government approach, including a previous national Roadmap for Digital and Data (2022-2025) and an earlier review on the Challenges of Implementing Digital Change (2021, subsequently packaged in a 2024 Guide for senior leaders and audit and risk committees).

Key takeaway: Roadmaps are not panaceas and need to evolve in response to changing national priorities, always informed by previous experience.

[7] "India's DPI: Accelerating India's Digital Inclusion" describes the wide ranging landscape of DPI building blocks applied across multiple sectors including logistics, health, education and agriculture in India today – Nasscom and AD Little (2024).

3. IDENTIFY INTERNATIONAL LINKAGES AND DEPENDENCIES

Although much of the focus of DPI implementation today is at the national level, DPI cannot be built in isolation. Even if the goal of a chosen DPI approach is to buttress digital sovereignty, no country can afford to ignore accepted international standards in key areas.

In the area of payments for example, ISO 20022 is a business and semantic modelling framework that governs how specific payment messaging standards are defined, generated and maintained. This standard has been increasingly adopted by central banks and financial market infrastructures around the world. The area of digital identification is more fragmented yet also has clear standards covering certain specific functions and processes. For example, the International Standards Organisation (ISO) has defined some of the technical building blocks such as for identity management (ISO 24760) and biometric data interchange (ISO 19794), while the Open ID Foundation manages the mostly widely used standards for online authentication; and the World Wide Web Consortium has set standards for verifiable credentials. Technical standards like these lay a foundation for domestic DPI systems to be able to link across national borders, bringing efficiencies at a regional and international level.

At a regional level, blocs of countries may sign on to conventions or treaties which have legal force around their digital laws and policies. Several African Union (AU) instruments set legal requirements which promote convergence around digital matters. The AU Convention on Cyber Security and Personal Data Protection (known as the Malabo Convention, adopted in 2014 though not yet ratified) requires member states among other things to enact comprehensive data protection laws; criminalise a wide range of cyber offences and align national laws on electronic transactions, evidence, and signatures.

The African Continental Free Trade Agreement (AfCFTA), which has been ratified by a majority of member states, has the goal of promoting cross-border trade. In the absence of an explicit AU DPI policy, the Digital Trade Protocol adopted under the AfCFTA envisages cross border interoperability in foundational DPI categories. The Protocol's Annexures explicitly set out requirements on member states in areas of cross-border digital payments, data exchange and digital identification. Once sufficient AU states have ratified the Protocol, it will become binding on them and will shape the DPI approach of AU members.

Emerging global and continental frameworks for AI, data governance and DPI take the form of 'soft standards' that already shape and guide national deployments. The African Union adopted a continental Data Policy Framework in 2022 establishing common principles, norms, and policy directions for how African countries should collect, use, share, protect, and benefit from data. In 2024, AU Executive Council endorsed a Continental AI Strategy to guide AI deployment and governance across the continent in line with overarching AU priorities. While the AU has yet to adopt a continental DPI policy, the UN at a global level published the Universal DPI Safeguards Framework as part of the Global Digital Compact in 2024. This provides normative guidance through proposing sets of Foundational and Operational principles for the building of DPI. However, even though frameworks like these three have been separately developed and published at different times, there is in fact considerable commonality at a principled level in how they address the management of risks for data, DPI and AI.

Domestic DPI Roadmaps have to take into account these international conventions and frameworks which will shape their choices in these areas. But just as international frameworks affect national strategies and roadmaps, so national roadmaps can also accelerate the pace of implementation of international frameworks. Cross-border agreements may gain little traction unless there are also aligned national roadmaps in place to implement them.

Roadmaps have also been used as a way to align complex sets of actions by multiple players in a cross-border environment. As an example, the G20 developed a Cross-Border Payments Roadmap to align a complex menu of concerted actions by multiple countries and international bodies over time to achieve goals, which were articulated as part of the process (Case 7).

CASE 7:
THE G20 CROSS-BORDER PAYMENTS ROADMAP 2020-2027

The G20 Cross-Border Payments Roadmap was initiated to address systemic challenges in international payments, including high costs, inefficiency, and limited access. In 2019, the G20 mandated the Financial Stability Board (FSB), in partnership with the Committee on Payments and Market Infrastructures (CPMI), to assess the barriers and propose reforms. Following the publication of a diagnostic report in April 2020, the FSB conducted extensive consultations with public authorities, industry participants, and international organizations. Engaging the right stakeholders early was important to shaping the content and credibility of the Roadmap.

The finalized Roadmap, endorsed by G20 Leaders at the Riyadh Summit in October 2020, outlines work needed across five focus areas: improving regulatory frameworks, enhancing payment infrastructures, standardizing data practices, promoting market efficiency, and exploring innovative payment models. Implementation responsibilities were allocated between public authorities and private sector actors, with coordination led by the FSB, CPMI, and other standard-setting bodies through the Cross-Border Payments Coordination Group.

While the Roadmap is non-binding, it is reinforced by political commitment, reputational incentives, and a structured annual monitoring process. In 2021, the G20 adopted specific quantitative targets (KPIs) for 2027 related to cost reduction, speed, accessibility, and transparency to further focus implementation efforts. The FSB's annual progress review in 2025 reported: "While the majority of the Roadmap actions have been completed, these efforts have not yet translated into tangible improvements for end-users at the global level. It is unlikely that satisfactory improvements at the global level will be achieved in line with the 2027 Roadmap timetable. The KPIs for 2025 show only a slight improvement at the global level since the KPIs were first calculated in 2023."

While the adoption of clear targets with structured monitoring has helped to keep up focus on Roadmap actions over multiple years and across a widely dispersed ecosystem, the G20 Cross Border Payments Roadmap also shows that the Secretariat function requires considerable effort and resources to sustain the engagement necessary to translate high level vision into action.

Key takeaway: A roadmap can be used to galvanise attention to address complex cross-jurisdictional issues and sustain attention over time, but needs a capacitated secretariat to keep up the momentum on execution.

CONSIDERATION 2:
WHAT SHOULD BE WITHIN THE SCOPE OF A NATIONAL DPI APPROACH?

This second consideration addresses the choices and tradeoffs which affect the scope and focus of a national DPI approach.

1. WHICH HIGH-LEVEL CHOICES ARE THERE IN A DPI APPROACH?

While countries must choose their own goals and scope for digital initiatives, if they wish to adopt a DPI approach, then certain underlying core principles are not negotiable. These are shown in the Figure below.

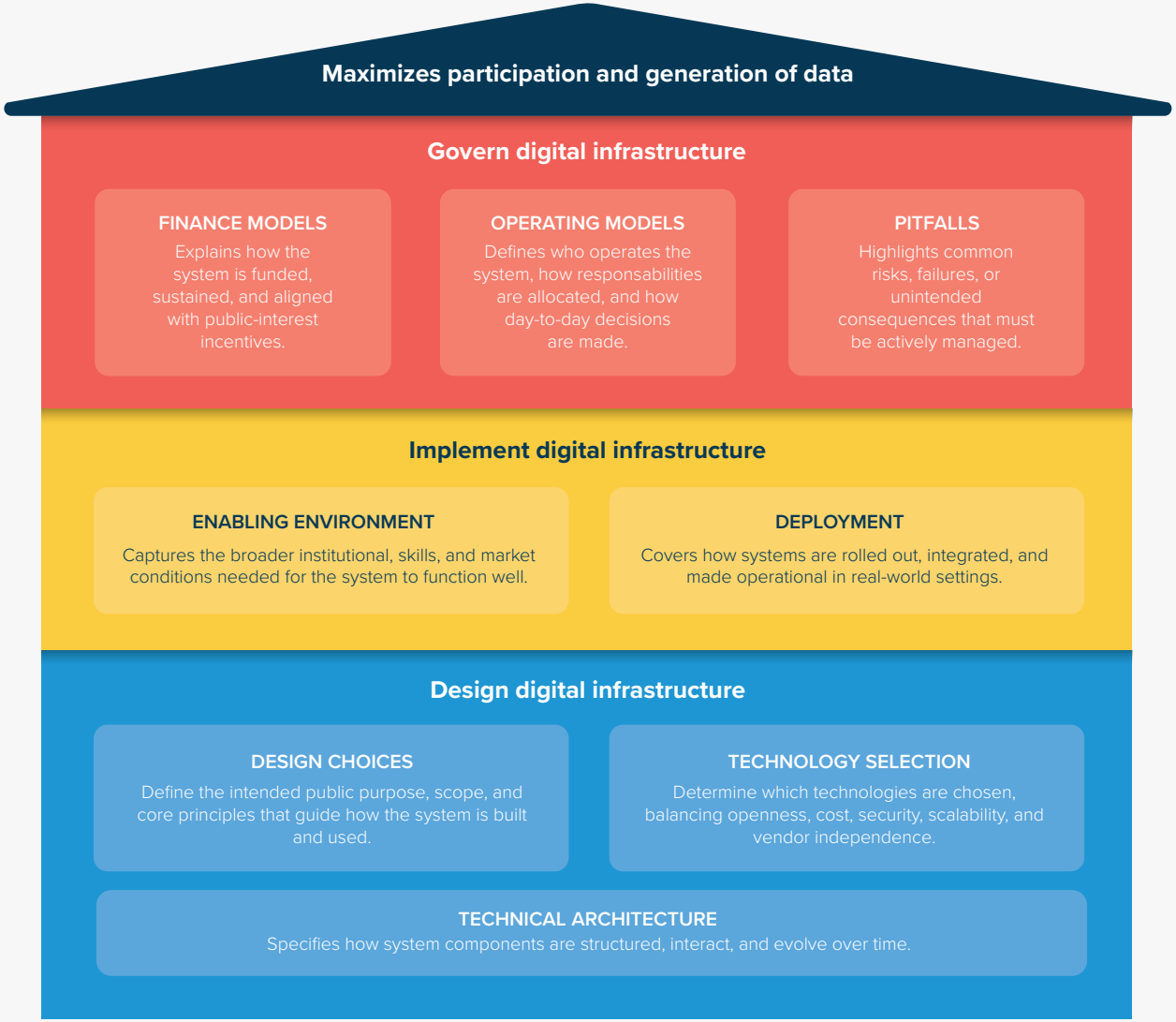
Although they are not choices, the core principles are nonetheless quite broad : for example, while they insist that the system building blocks be reusable (Principle 2), they do not require that open source solutions are used though these may be preferred where available and appropriate. That would be resolved as part of a technology design choice. The DPI principles also require calibration in local context: for example, there is a spectrum of possibilities as to how federated and decentralized (Principle 4) it is possible and desirable to be.

Built on the foundation of these principles, the DPI approach presents a series of strategic choices at each stage of its lifecycle: during design and implementation, and under ongoing governance over oversight. The key areas of choice are reflected in the 'windows' or boxes within the 'DPI House' below. The DPI Roadmap process should address and provide clarity on these choices. But even before starting a roadmap, it is important for policy makers to be aware of the landscape of choices which will be involved.

WHY THESE PRINCIPLES MATTER				
01. INTEROPERABILITY	**02.** MINIMALIST, REUSABLE BUILDING BLOCKS	**03.** DIVERSE, INCLUSIVE INNOVATION	**04.** FEDERATED & DECENTRALIZED	**05.** SECURITY & PRIVACY
› **Choice** of solutions and services for individuals › **Scale** of access and adoption for individuals › **Competition** in markets while remaining interoperable	› **Feasibility & success** of digital intervention › **Privacy** protection based on minimalism › **Combinatorial innovation** by market › **User-centric** solutions › Financial **sustainability** (lower cost of the DPI) › **Evolvability** & extensibility	› **Inclusion** › **Scale** › User **choice** › **Resilience** because of diverse providers › **User-centric** solutions	› **Autonomy** of institutions & players › **Fewer intermediaries;** more peer-to-peer transactions › **Cybersecurity privacy resilience** - avoid overdependence on any one system	› **Public trust** in the infrastructure › **Protection** of individuals from harmful actors

Source: CDPI DPI Wiki

KEY CHOICES IN BUILDING THE "DPI HOUSE"



Source: based on diagram first created by Digital Impact Alliance (DIAL)

At the **design stage**, choice clusters relate to:

- ***Design principles:*** how to translate the broad principles above around interoperability or modularity into local relevant terms; or around which citizens are served and what this means for user centricity.
- ***Technology selection:*** for example, whether to use cloud-based or on-premises data infrastructure; or open source or proprietary solutions.
- ***Technical architecture:*** including which of the major building block systems to focus on.

At the **implementation stage**, the choices relate to:

- ***Enabling environment:*** for example, how laws in areas like data protection or norms around stakeholder engagement affect an implementation.
- ***Deployment issues:*** which will likely include how to do capacity building and provide support, as well as setting and monitoring KPIs.

Common pitfall: A roadmap can get caught up in theory, when it should be grounded in reality. Ensuring the path set out by the roadmap is feasible will require a firm understanding of choices, trade-offs, and the enabling environment.

The **governance stage** applies oversight throughout, affecting choices regarding:

- ***Financing models:*** whether DPI will be funded by fiscal subsidy or user fees, or a combination of both.
- ***Operating models:*** such as whether new infrastructure should be publicly owned and operated, or operated via a public-private partnership, or privately under regulation.
- ***Avoiding common pitfalls:*** such as duplicating efforts, creating siloed public services or monopolistic commercial providers.

Navigating these choice sets will be informed by the use cases which are selected and prioritised during a DPI Roadmap process. While a DPI Roadmap should not address implementation details (as these will follow in implementation plans for specific building blocks), it must still establish that the preferred route is feasible. This means considering the enabling environment, including governance and oversight, around the initiatives.

To become more familiar with these choices, the Annex lists key credible resources for further reading in each area. Experts and key partners may be able to act as 'sherpas' to help navigate the complex choice landscape.

Key takeaway: Lean on your network for guidance and insights drawn from their experience. This can include reading credible resources, organising study tours, or holding direct consultations.

[8] Source: Edoardo Totolo (2025) *DPI's Unspoken Tradeoffs.*

2. IDENTIFY POTENTIAL TRADEOFFS

Applying the principles of a DPI approach in practice surfaces trade-offs. Part of the role of a DPI Roadmap process is to understand and explore these trade-offs, so as to reach an initial position on the difficult choices they may involve. Being aware in advance of possible tradeoffs ensures that there are fewer surprises during the DPI Roadmap process.

Edoardo Totolo has labelled the tradeoffs as tensions which result from clashes between some of the core objectives of DPI at the axes of the Figure below.[8] The four tensions shown here are:

- The ***trust tension*** arising when the pressure for rapid implementation of a DPI solution compromises consumer protection or safety mechanisms: managing this requires a deliberate choice of pace which does not involve "moving fast and breaking things";
- The ***competition tension*** resulting from public DPI operators expanding downstream into market provided services: this tension must be navigated through establishing clear boundaries over what can and will be provided through utility operators.
- The ***sustainability tension*** when open source software or subsidized solutions reduce initial costs but conceal long term maintenance or dependence on fluctuating public budgets: resolving this tension requires careful choice of solutions which look beyond cost factors only.
- The ***legitimacy tension*** when state-led systems are used for political control or when a preference for digital sovereignty for control prejudices inclusion.

CONSIDERATION 3:
IS THE COUNTRY READY FOR A DPI ROADMAP PROCESS?

We have seen that countries at different stages of digital development – from South Africa to the UK – have used roadmaps as a tool for digital transformation. However, not every country needs a DPI Roadmap or is ready to develop one. There is little point in spending the time, energy, and resources needed for a DPI Roadmap if there is insufficient intra-government alignment or broader societal support for the outcome.

Test your readiness for a roadmap process by asking four key questions shown below.

Readiness factor	Considerations
1. Are there existing national roadmaps, visions, or plans that require updating or revision?	Many countries have these in some form. The key question is what they cover, and whether they are clear, current, and relevant to the present context. *If these existing documents are adequate, then a DPI Roadmap may not be needed.*
2. Is there a sufficient understanding of and openness to a DPI approach in core agencies?	Levels of understanding about a DPI approach will vary. At least one senior policymaker with authority over a country's digital agenda should understand how DPI connects to national priorities and be open to the journey. *If not, a process of building awareness and understanding may be needed first.*
3. Is there a government agency with the authority to convene or endorse a roadmap process?	A whole-of-government approach requires a government agency with a mandate to at least convene other departments and agencies. *If not, the process is unlikely to have the breadth of support needed, and it may be better to start with a single DPI use case or building block within one department (as in the +1 DPI approach).*
4. Is there sufficient time to do this, and does the responsible agency have the technical and financial resources needed?	Good roadmaps take time and resources. Some resources can be outsourced, but this will require a budget. Section 3 outlines what may be needed. *If time or resources are limited, it may be better to identify necessary skills and fundraise first.*

In general, strong endorsement from a government agency with a mandate over digital affairs is essential (question #3 above). But with the other questions, there may be ways around a negative answer. If there is not sufficient inhouse capacity to run the roadmap process (question #4), it may still be possible to secure technical support from private consultancies or international agencies (such as those listed in Annex B). While external partners can assist, a government agency with the appropriate authority must remain actively involved and preferably lead the process. If there is not yet a widespread enough understanding of what DPI is among affected ministries (question #2), then the DPI Roadmap process should accommodate the time to build that up.

In practice, deciding on readiness for a DPI Roadmap is often an iterative process, cycling between the level of ambition and the resources needed to deliver on it. For example, even if a government digital agency is available to lead the process, it may still lack clarity on how DPI aligns with national priorities or what resources are required. There may be a need first for further engagement to clarify and build sufficient understanding.

Even if most responses are "no," you can still make progress on a DPI agenda. For example, momentum can be generated by demonstrating progress on a narrower front, starting with building, improving, or extending a DPI building block in a narrow use case – as proposed in the "+1" approach advocated by Pramod Varma, the chief architect of India's DPI journey. This approach begins by asking: *How can a DPI approach be applied to solve a specific challenge within the current mandate?* The answer will vary depending on the agency asking the question.[9]

[9] CDPI has a list of suggestions of where to start for a range of different agencies, from central banks to identity authorities.

SECTION 3

WHAT ARE THE ESSENTIAL STEPS TO DEVELOP A DPI ROADMAP?

C.

After the first-order considerations of priorities and scope have been addressed, the DPI Roadmap process can begin. This section describes how it starts with a clear mandate, and then may follow a structured seven step process. This process is described here in linear form but in practice, it is likely to be iterative, with some steps in parallel and feedback loops between them. The whole roadmap process is intended to produce this artefact as an outcome: a clear roadmap document which authorizes and coordinates complex change across multiple public entities.

WHAT SHOULD THE MANDATE FOR THE DPI ROADMAP PROCESS COVER?

A clear mandate for a DPI Roadmap ensures the roadmap process is rightsized, meaning that the efforts are proportionate to the scale of the objectives and the risks involved. This requires a set of important choices about the DPI Roadmap process. These include how much time is available, who should lead the process, who must be consulted, and what resources are necessary and available to support it.

One way to create clarity around these choices is to draft a mandate, or terms of reference, for the DPI Roadmap process. This may be as simple as a letter addressed to the agency or unit charged with leading the process. The mandate needs to come from a senior policymaker at an agency with sufficient authority to convene and influence all the parties affected by the scope of the DPI Roadmap. While it need not be long, the mandate should provide clarity on most, if not all, of these elements.

A DPI Roadmap mandate should specify:	Example
1. The **larger societal objectives** to be achieved, i.e., what are the real priorities?	"The most important objective is to reduce the cost of providing basic government services and the friction of citizens' interacting with government agencies."
2. The **timeframe** within which the DPI Roadmap must be completed, i.e., how must this process fit into a cycle of decision-making or budgeting?	"The DPI Roadmap must be completed within 6 months of the date of this letter in order to be considered in the national budgeting process."
3. The **governance of the DPI Roadmap process**, i.e., who makes decisions during the process? The mandate may nominate a steering group under a chair or convenor.	"A steering committee convened by person X comprising senior officials from these agencies shall be responsible for overseeing the roadmap process."
4. The **extra resources** to be provided to the process, if any, i.e., is the mandating authority also providing staff to manage or participate in the process on a part-time or full-time basis?	"The secretariat for the process will be provided by this agency. They have a budget of up to $X to hire supplementary technical resources to support the process as part of their current year budget."
5. The **basis for reporting back** to the mandating authority during the process, i.e., will updates be provided at fixed intervals, such as monthly, or at key milestones?	"The Steering Committee shall provide updates on their progress to the Ministerial Digital Transformation Committee on a bi-monthly basis."
6. **The authority who will ultimately approve** the DPI Roadmap, i.e. will it be a Minister, a Ministerial Committee, or the full Cabinet?	"The DPI Roadmap will be reviewed by the Ministerial Digital Committee and recommended to the Cabinet for approval."
7. Any **specific instructions** for the engagement process, i.e. which stakeholders must be consulted?	"The Secretariat shall ensure that consultation takes place with all affected government ministries and shall engage, at a minimum, the following bodies representing the voice of civil society …."
8. Any **risks or political sensitivities** – especially if they would not be known or obvious to the team.	"The Trade Ministry is currently reviewing accession to a cross border digital trade protocol. The implications of this decision need to be factored into the DPI Roadmap."

FOLLOWING THE STEPS: HOW TO BUILD A DPI ROADMAP?

There are seven steps to building a DPI Roadmap. Not all these steps are strictly sequential; some can be undertaken in parallel. For each step, this Playbook provides insights from the 2024/2025 South African Roadmap process as a practical illustration of how the step was implemented in that context.

7 STEPS

STEP 1:
SET UP A DPI ROADMAP TEAM

A good DPI Roadmap is resource-intensive, so it is important to establish a core team with the necessary skills and resources.

The DPI Roadmap mandate should identify at least the individual responsible for convening a steering group. That person may also serve as the team leader; but if they cannot, they should ensure that a suitable team leader is appointed with the authority to make decisions during the process. The team leader will need the support of a core team which would include at least these following roles:

- A **team leader**, with the authority and experience to convene and manage a multistakeholder process. The team leader does not need technical DPI expertise but must be able to draw on it from experts, when required. This role may not be full-time, but the leader should be constantly accessible during the DPI Roadmap process.
- A **project manager**, who can procure and supervise technical resources, arrange convenings and oversee workstreams. This role is likely to be full-time depending on the scale and intensity of the roadmap process.
- A **communications specialist** who can focus on identifying key audiences and projecting key messages about the potential for DPI during the process. This role will be essential by the end (see Step 7) but is worth identifying earlier to help with engaging stakeholders.
- **Technical leads**, who may oversee work in particular areas of activity. For example, it may be useful to have access to an expert focused on each of the core DPI building blocks, such as payments, identity, and data exchange, as well as experts familiar both with current technical capabilities within government and with applying a DPI approach in practice.

The DPI Roadmap team may comprise a mix of government officials and advisors. This team is not necessarily the same group that will be responsible for implementing the DPI Roadmap, although some overlap is highly desirable for continuity and momentum.

CASE 8.1:
APPOINTING A CORE ROADMAP TEAM

Two Directors in the Office of the President were actively involved in leading the Roadmap process, which required on average a third of their time. Importantly, they had experience managing other complex multistakeholder processes through Operation Vulindlela, an initiative aimed at implementing priority reforms in key sectors.

The platform of Project Vulindela gave the core team the authority and convening power to engage other government departments and set up an Inter-Departmental Working Group. The process was overseen by a steering committee comprising the top civil servants (Directors General) in the three most engaged departments: the Presidency, the Department of Digital Communications and Technology, and the National Treasury. They were supported by a consulting team from a private consultancy, funded through a project known as Digital Innovation in the Public Sector, which was originally intended to support data-sharing use cases within the South African government. The consulting team contracted technical leads with expertise in key areas of interest, including digital payments, social grants, and digital identity.

Key takeaway: Officials from an appropriate state agency should provide leadership for the process – external resources can supplement and support them.

Key output: At the end of this step, the core team should be in place, with the appropriate roles and corresponding levels of availability.

STEP 2:
IDENTIFY CORE STAKEHOLDERS AND DESIGN A PROCESS TO BUILD A COALITION

A good DPI Roadmap results from a well-managed process in which key important stakeholders – those who likely can affect or who are affected by the outcomes– are all engaged at some level.

Designing and building DPI is an exercise in multi-stakeholder engagement. This engagement starts during the DPI Roadmap phase when the goal is to shape the Roadmap so that it gets the necessary support for adoption. The underlying aim of engagement at this stage is to build a coalition for change among those who can affect or who are affected by the changes which DPI will bring. This coalition needs to be broad enough to give the DPI Roadmap the best likelihood of traction, but also tractable enough to manage.

The number and range of stakeholders engaged during a DPI Roadmap process will depend on the context, local norms and the scope set out in the mandate. Even then, the level of engagement must be targeted based on the stakeholder's potential influence on the outcome; and prioritized based on the resources and time available to the core team. There is an inherent tension to manage: on the one hand, the goal of inclusive participation suggests casting a broad net to maximize representation in shaping the direction and focus; on the other hand, the ability to create and manage a group that is focused enough to identify shared goals and drive meaningful action suggests a more strategic approach to stakeholder engagement. In general, starting with more modest goals around size and diversity of stakeholder groups can help build momentum and demonstrate success. However, the question of whom to engage and how to do so should remain a strategic issue throughout the DPI Roadmap process.

The nature of engagement will vary depending on the purpose. To decide this will require identifying the different stakeholder groups to:

- **Inform:** the starting levels of knowledge around DPI will determine how much it will be necessary to inform stakeholders through providing information, whether through workshops, online courses, readings or one-on-one briefings.

- **Understand or seek advice from:** some stakeholders will have vital roles in any DPI journey because of their position or experience; and this means identifying them earlier in order to reach out to interview at Step 3. For those whose expertise would make them valuable throughout the roadmap process, you may consider convening an Advisory Group or Panel with no decision making role but can be used to test ideas.

- **Co-create with:** the core team will need to identify a wider group with whom to brainstorm and test the best emerging approaches; this working group would comprise people invited from key affected institutions; if the composition of this group has not already been defined in the mandate, then it would be important to consider carefully at this step who should serve on it. If it requires inviting agencies to nominate representatives, there will be a lead time before it can be convened. Since a working group formed from across the government may quickly become quite large, the core team may decide to establish specific thematic subgroups—for example around the DPI building blocks like digital payments, identity and data exchange.

STEP 2:

IDENTIFY CORE STAKEHOLDERS AND DESIGN A PROCESS TO BUILD A COALITION

Consult: once preferred approaches start to emerge, there will be a need to identify affected parties who need to be consulted at least to understand their concerns, if not to persuade them.

Engagement should be premised on the recognition that the ultimate users of government services are the civil servants at the front end of service delivery; and citizens and residents, not those most likely to be nominated to working groups. The general views and needs of these user groups can be understood through research during landscaping (Step 3). However, particularly when it comes to prioritizing and sequencing use cases (Step 4), there is a good case also to engage end users in co-design processes; and to test solutions on them. This requires time and skills in citizen engagement but will likely result not only in better design, but also in stories and persona which can help to build the case for change (Case 8.2).

The roadmap process may also help to establish consultation mechanisms which may endure through implementation, through which more stakeholders can become involved over time. The goal during the Roadmap process need not be to repeatedly convene large groups representing broad cross-sections of society. Rather, the goal for engaging with external stakeholders could be to shift the nature of who engages in and shapes digital policy issues. Ultimately, intentionally bringing new and diverse perspectives into a DPI Roadmap process is critical to long-term implementation success.

CASE 8.2:

BRINGING IN DIVERSE VOICES

During the South African Roadmap process, the core team commissioned end-user research to validate the baseline experience of citizens with the government services emerging as priority areas through the IDWG process.

During a one-month period in late 2024, a market research group convened a series of focus group discussions with key citizen profiles to understand their concerns and experiences. This included grant recipients, youth, women, and small and micro business owners. This research brought the voice of people in South Africa to the design process and helped ground the Roadmap in their lived experiences. It also helped to develop the persona of a young woman – named Thandi in the Roadmap – to provide a more people-centered lens to show how the changes proposed in the Roadmap would result in positive changes in her life. In the Roadmap, Thandi's journey is tracked from her current state to how her life improves in the future.

Key takeaway: Formal engagement channels are needed but should be supplemented with technical advisory groups and market research.

Key output: After this step, there should be a list of priority stakeholders and a plan to engage them within your timeframe and capacity.

STEP 3:
UNDERSTAND THE EXISTING LANDSCAPE WELL

Since DPI is never implemented in a vacuum, understanding both the political economy and policy and technology context is crucial.

In addition to taking into account the political economy of national priority setting, the core team will need to understand better the complex national web of legacy technologies, prevailing institutional arrangements, and existing policies. Few countries now begin their digital transformation journeys in a near-greenfield environment like Estonia did in the early 2000s.

Developing a comprehensive inventory of existing software assets across government entities is an important step within a DPI Roadmap. This could be in the form of a static, web-based catalog or a more dynamic, interactive approach, such as deploying an instance of the open-source Digital Impact Exchange. Having a clear view of existing software and associated deployments will enable countries to identify reusable components, reduce duplication, and integrate legacy systems more cost-effectively into DPI and enterprise architecture.

Another component of this step is taking stock of laws and regulations that are applicable to digital service delivery, data protection, and institutional responsibilities over digital domains. For example, digital payment systems are regulated by central banks. Understanding the ambit of laws, policies, and regulations will illuminate what is feasible in the current landscape; what reforms are most needed; and how best to prioritize and sequence reforms. For instance, questions may arise such as: Are comprehensive data protection laws a prerequisite for investments in data-sharing systems? Can the creation of an effective data protection authority be done effectively in the absence of data protection laws? While there is no one-size-fits-all answer to these decisions, a DPI Roadmap can prioritize areas where existing policies, regulations, or institutional norms, often from specific sectors like financial or health, offer a feasible starting point while providing directional signals for longer-term changes. Many DPI initiatives may be designed to work within existing legal frameworks, avoiding the lengthy delays that legislative reform often requires. Rather than overhauling entire regulatory structures, governments can focus on leveraging policy interpretations, executive decisions, and regulatory sandboxes to enable rapid and iterative deployments of digital solutions.

CASE 8.3:
BUILDING A VIEW OF WHAT IS NEEDED

South Africa's core Roadmap team undertook a comprehensive landscaping exercise even before the start of the formal Roadmap process. The team held numerous bilateral and group meetings to understand the landscape and identify stakeholders at both institutional and individual levels.

The findings were consolidated into a presentation deck, forming part of a consultation process that helped build a shared view of the current landscape – especially of the extent of duplication and fragmentation of digital initiatives. This exercise informed the prioritisation of subsequent efforts.

Key takeaway: Comprehensive landscaping is necessary but takes time; prior inventories may be available to accelerate it.

Key output: After this step, there should be a landscape analysis that outlines the starting context of laws, policies, and major systems, mapped to the main stakeholder identified earlier which controls or influences them.

STEP 4:
PRIORITIZE AND SEQUENCE USE CASES

At the heart of the DPI Roadmap process is the choice and sequencing of key use cases.

A use case is a "practical application enabled by DPI that addresses a particular problem or fulfills a need".[10] A use case is designed using digital components like data exchanges, registries and verifiable credentials built on top of data—digital records and information. The DPI Use Cases Explorer provides a searchable catalog of 'implementation examples'—cases of how a use case has been addressed in a particular setting. This can provide useful illustrations to inform the prioritization and sequencing of use cases in the DPI Roadmap process.

The selection of initial use cases will depend on careful consideration around feasibility and potential, among other factors. A scorecard, like the example shown below, highlights common criteria that may be used to decide which ones to prioritize.[11] The weightings of the evaluation factors will change depending on contexts.

Example of a use case description	
What is the use case?	Land Ownership Certificate
Who is served by this?	Rural populations
DPI building block	Verifiable credentials (data exchange)
Services unlocked	Access to loans, benefits, land use rights, digital property transfer, climate carbon credits, etc.
Evaluation:	
1. **Alignment:** To what extent does this use case align with the overall mandate for digital transformation?	This use case is aligned with the strategy of transforming how the government operates, reducing bureaucracy, and putting the user at the center. The land ownership certificate would simplify access to their property titles and facilitate their access to credit from the financial sector or benefits based on land use.
2. **Impact:** If successful, how many people will be affected? What are the realistic benefits for: a. Citizens? b. Government departments delivering it?	Total number of verifiable credentials to be issued: 10 million land ownership certificates. The application and issuance process for certificates is reduced from 200 days to 0. This represents savings of $<< insert amount>> million for the government. We estimate that with the verifiable credential, 70% of landowners will have access to their property titles for the first time, while 40% of landowners will be able to access credit in the country's financial sector.
3. **Feasibility:** To what extent can this use case be delivered without dependencies on other systems that need to be changed first? This may include consideration of rapid approaches to deliver.	This building block (verifiable credential) integrates with existing rural registry systems to issue certificates without the need to develop new business applications. It integrates the new building block with the existing credential holder (the government-managed digital wallet), utilizing the country's digital identity infrastructure. The acceptance of the verifiable credential by various organizations and the private sector requires a minimum regulatory framework for legal validity, as well as integration of verification APIs with accepting parties.
4. **Risks:** What are the possible downside consequences of making this change directly, and indirectly through other systems?	The biggest risk is developing the technology without assessing the full impact (end-to-end) of the use case. Coordination with the organisations that will accept verifiable credentials and provide access to services or benefits is key. There is no point in developing this if the user can't access what they want or need.

[10] As defined in the taxonomy section of the DPI Use Case Explorer available here.
[11] Other examples of potential use cases can be found via Govstack's Reference Use Cases or The DPI Wiki.

STEP 4:
PRIORITIZE AND SEQUENCE USE CASES

In selecting use cases, the core team will look for catalytic leverage points where changes will likely generate further change. A DPI Roadmap is, in many ways, a sequenced portfolio of priority use cases. Since the portfolio will likely need to be adjusted over time, roadmaps that disclose their prioritisation criteria will facilitate the inclusion of other use cases in the future.

The process of deciding on priority use cases is likely to be iterative. While the core team may start out the process with some hypotheses, these will likely be refined or discarded during the DPI Roadmap process once feasibility comes into sharper focus. For example, a common starting place for DPI use cases in India and South Africa are social protection programs. This is because such programs are large in these countries, affecting many citizens and requiring substantial resources to operate. A DPI approach can provide efficiencies to help offset these high costs.

When assessing feasibility of use cases, the sequencing should be top of mind. Even if a use case is identified as a priority, it may depend on other factors that need to happen first. As a result, a priority use case may need to be sequenced later, in favour of starting sooner with a lower priority case with fewer dependencies.

Legacy IT systems often constrain the scope for change. One way to navigate this is to pilot use cases which are amenable to modular, reusable, and open-source solutions. In general, pilots and modular deployments allow countries to test, iterate, and refine approaches, ensuring scalability and sustainability while demonstrating tangible benefits to citizens and businesses. By starting with high-impact, low-effort interventions, such as verifiable credentials, eKYC frameworks, or targeted government-to-person (G2P) payments, countries can drive early adoption, attract investment, and lay the foundation for larger-scale DPI implementations in time.

Offering DPI as a Packaged Solution (DaaS) is one approach that enables governments to roll out scalable and adaptable DPI components efficiently, without first having to develop their own deployment infrastructure or having to select vendors to develop bespoke solutions. DaaS will still require local systems integrators to modify and deploy the solutions; but the typical development cycle may be reduced from years to months as a result.[12]

CASE 8.4:
CHOOSING USE CASES

South Africa's roadmap process prioritized four high-level initiatives built around use cases. For each, the Roadmap assigned a lead department and defined a set of success indicators for five years, in two intervals, to measure progress in the first two years and the following three years.

One of the prioritised initiatives centres around one of the country's major social assistance programs, the Social Relief of Distress (SRD) grant. SRD was designed and implemented quickly during COVID-19 to provide a temporary cash cushion for unemployed individuals without a major alternative source of income. However, it has endured well beyond the pandemic. In 2023, around 8 million applications were approved, with a budgeted annual payout of around $2bn, or 15% of total social assistance payments. The scheme has faced allegations of eligibility fraud and challenges in ensuring beneficiary access.

A DPI approach that upgrades digital identity for beneficiary verification, enables data exchange to improve means testing, and consolidates payment approaches for government payments, offers the prospect of relieving major pain points both for beneficiaries and government agencies experience in the payment of social programs like SRD.

Another initiative, the implementation of the MyMzansi app as a citizen portal for government services was identified as a way to achieve quick and visible traction (see progress to date in Case 8).

Key takeaway: Prioritizing use cases should consider pain points for the government, as well as citizens.

Key output: After this step, there should be a ranked list of priority use cases with a sense of their interdependencies and feasibility.

[12] Pramod Varma and other experienced DPI practitioners put forward the case for DaaS in 2024 Carnegie paper "The Future of Digital Public Infrastructure: A Thesis for Rapid Global Adoption".

STEP 5:
IDENTIFY RISKS AND DEPENDENCIES

The DPI Roadmap process identifies internal and external risks and aims to manage them.

Internal risks are those that impair the efficiency and effectiveness of the roadmap process over which the core team may have some agency. These include risks such as setting a scope or timeline that is too ambitious or not ambitious enough, or failing to galvanise a sufficient coalition for change. Both can mean that roadmapping results in wasted time and effort; or fails to satisfy expectations.

To manage internal risks, the core team should scan the landscape of identified stakeholders during the process to assess early signals of how affected government agencies may respond. Proactive scanning enables the engagement strategy to focus more on persuading potential detractors and, where this is not possible, on buttressing sufficient support from others to get around this.

External risks are those in the wider environment outside of the control of the core team which may undermine the feasibility of a proposed roadmap, or may lead to undesirable consequences. For example, a change in administration during the timeframe of a Roadmap may undermine support for further implementation if sufficient traction has not been achieved by that time. But similarly, DPI systems operating at large scale may bring new risks to the society if abused, which need to be understood even at the early stage so that safeguards may be designed early on.

The UN's Universal DPI Safeguards Framework has catalogued a list of external risks relating to DPI implementation and proposed a framework for how to mitigate them.[13] By acknowledging this category of DPI risks, the core team can ensure that safeguards are 'baked' into the process by design, rather than considered retrospectively when it may be too late to take them seriously.

Another category of external risks stems from the fast-changing international technology environment. Examples include cyberthreats or legal changes affecting cross-border data transfer, especially in a regional context. How these factors influence possible DPI Roadmap paths will need careful consideration. One way to make the DPI Roadmap more robust in the face of uncertainty and complexity is to build scenarios that reflect the possible environments in which it may need to be implemented (Case 8.5).

CASE 8.5:
CONSIDERING RISKS USING SCENARIOS

As part of South Africa's Roadmap process, the Inter-Departmental Working Group commissioned a set of scenarios to test the impact of external factors on the environments in which the Roadmap would unfold between 2025 and 2030. The scenarios were developed within two months by an external think tank. DPI-specific scenarios may be built into broader national scenario sets to highlight unintended or less understood consequences of change.

South Africa has a long history of using scenario-building to motivate societal change, dating back to the transition from apartheid. These scenarios are typically structured as vivid and plausible narratives that illustrate the implications of different choices. Scenario-building can therefore be used as part of a wider change management strategy to engage stakeholders in building these stories for themselves – especially in an environment of high complexity.

Key takeaway: There are creative ways to spur consideration of risks and identify needed safeguards throughout the process.

Key output: By the end of this step, there should be a prioritised list of likely risks, along with approaches to understand and mitigate them during the implementation process.

[13] The UN Safeguards website provides process recommendations and illustrated approaches in response to each risk identified.

STEP 6:

CONSIDER IMPLEMENTATION STRUCTURES AND SUSTAINABILITY FOR IMPLEMENTATION

A country will need an ongoing governance structure for its DPI journey as it moves from the roadmap stage to the implementation stage.

Just as the DPI Roadmap process itself requires a steering structure, the roadmap will have to set out the process of coordination and oversight during its implementation. This requires a governance structure for implementation which has sufficient authority and resources to oversee accountability for implementation and can adjust priorities as needed. This is not only because barriers will likely arise that may lead to re-prioritisation, but also because the inherent tradeoffs, such as those discussed in Section 2.2, will likely necessitate regular adjustment. During implementation there should be opportunities for continuous improvements based on regular learning. Similarly, further innovations may become available over the course of the implementation, which could accelerate or modify the route.

At the operational level, it is important to identify what resources are necessary to monitor and report on DPI Roadmap implementation and where these will come from. For example, if a suitable digital government agency does not yet exist, it may be necessary to establish a new unit, as in the case of South Africa. The DPI Roadmap should state the frequency of reporting to set expectations and create accountability. With sufficient resourcing, monitoring, and learning from implementation, this process can create a powerful body of evidence on the impact of specific practices and elements of digital transformation. This may support feedback loops for subsequent policy debates and inform roadmap updates where needed.

CASE 8.6:

ESTABLISHING NEW OVERSIGHT AND EXECUTION CAPACITY FOR IMPLEMENTATION

South Africa's Roadmap envisages a multi-level structure for implementation. At the senior level, an Inter Ministerial Committee comprising the three core ministries oversees the process. The IDWG includes other affected ministries and meets on a regular basis to review progress and to advise on proposed approaches and changes.

At the operational level, the Roadmap led to the creation of a Digital Services Unit located in the Office of the President. Staffed by a small but expert team, this unit leads the implementation of specific initiatives and support and monitors the line departments that will take the lead on others. The DSU also serves as Secretariat to convene the IDWG.

In Nigeria, the new DPI framework establishes two new entities to support implementation:

- A Presidential Committee on the Implementation of Digital Public Infrastructure chaired by the President with relevant Ministers, senior civil servants and heads of agencies including NIMC and NITDA as members. This Committee is intended to provide high level policy direction to the process, and will likely meet for the first time in 2026.
- The Nigerian Digital Public Infrastructure Centre (Ng-DPIC), an program office within the Federal Ministry, will be charged with designing, developing, operationalising, publicising and managing the 'Nigeria stack'.

Key takeaway: A roadmap should look ahead to the structures needed to coordinate and guide its implementation.

Key output: After this step, there should be a clear sketch of the supervisory and operational structure for the implementation stage, along with details on how they will be funded and supported.

STEP 7:
CREATE A CLEAR COMMUNICATIONS STRATEGY

A DPI Roadmap is in effect a common script of aligned actions across government departments; but merely having a script does not communicate the message to the target audiences in ways which enable change.

An important aspect of a roadmap process is to consider how the final DPI Roadmap will be communicated, both within government and to the public. Effective roadmaps are concise but often rely on substantial bodies of underlying material which may be useful for specific audiences to understand or have access to.

To produce a public-ready version of a roadmap, the core team will benefit from drawing on communications expertise, preferably from an early stage, to simplify technical language and sharpen messaging. Useful communication tools may include the use of citizen personas, visual aids, and clear narrative framing. If the target audience for the DPI Roadmap includes the general public, you should allow ample time and resources to create targeted collateral and ensure wider dissemination following the launch.

The communication needs for launching a DPI Roadmap can be considered in two phases:

Immediate communication of a new DPI Roadmap: This may include an initial public consultation phase during which comments and feedback are solicited and considered. This stage could also include tactics such as:

- Identifying common public misunderstandings about DPI and any existing mis- or disinformation around these themes
- Outreach to influential journalists and media prior to publication of the DPI Roadmap giving them background and perspective
- Convening targeted fora with selected stakeholders to build awareness and foster dialogue

Ongoing communication: The implementation of a DPI Roadmap will also require continued communication efforts to help build and maintain momentum around its initiatives. The details of these efforts are likely to be outside the scope of the DPI Roadmap itself. However, the DPI Roadmap may provide for the role of a Chief Communications Officer within the implementation team to lead such efforts.

CASE 8.7:
SOUTH AFRICA – COMMUNICATION STRATEGY FOR THE ROADMAP

The South African Roadmap process included the creation of a communications strategy to promote the Roadmap within government and across the broader society. At the heart of this strategy is the creation of a new brand 'Digital Mzansi' (a colloquial term which means 'digital South Africa') to signal the new approach. Digital Mzansi has a website (https://www.mymzansi.org.za) that contains the Roadmap and supporting materials. The Digital Mzansi Stakeholder Steerco was created to be a communications-focused counterpart to the IDWG, which would be chaired by a senior individual from the private sector.

The Digital Mzansi strategy includes:

- Distinct layers of communication, with deepening engagement for those with more vested interest
- Regular and sustained communication under a clearly identifiable brand
- Communication and engagement that provides substantial content, rather than procedural progress
- Authorization under the relevant government protocols.

Key takeaway: Distinctly branding the DPI roadmap implementation may help improve public communication. A multi-channel campaign may be required to socialise the message effectively.

Key output: After this step, there should be a plan to launch the DPI Roadmap to your target audiences, along with a clear sense of how communications will be sustained.

FRAMING THE CONTENT: WHAT IS IN A GOOD DPI ROADMAP?

The preceding seven steps generate the raw information and insights that are assembled into a DPI Roadmap. But what should the DPI Roadmap itself contain?

A good roadmap sits at the tip of an iceberg of information: it is a succinct document which crystallises key choices from a base of underlying research, engagement, and discussion. The attributes below constitute a checklist.

The decisions about how to frame the DPI Roadmap document start with defining its audience. *Who is expected to read it? Is the intended audience limited to staff within affected ministries or agencies, or does it include a wider group such as journalists, public influencers, or even the general public?* The target readers' level of familiarity with the concepts will affect how much background description is necessary. Access to supporting documents can be provided outside of the DPI Roadmap to keep the main document lean and readable.

Although the content of a roadmap will always be tailored to a given country context, a DPI Roadmap should typically include the sections shown in the 'essential' column below. Where appropriate, and if resources permit, additional elements can be included from the 'extended' column.

A GOOD ROADMAP:

- Assesses the country context clearly.
- Sets out the desired destination with sufficient clarity.
- Sets out principles or guidelines to apply throughout the process.
- Provides sufficient flexibility to adjust course where needed.
- Identifies key dependencies for sequencing initiatives.
- Provides a clear rationale for prioritizing initiatives.
- Sets out clear indicators to measure progress.
- Uses clear language and images to communicate effectively to its audience.
- Identifies the agency responsible for monitoring and updating the roadmap.

Key takeaway: Defining the target audience for the DPI Roadmap is an essential starting point that will determine what the end-product needs to be.

CONTENT OF A DPI ROADMAP

Essential Level | Extended Level

FOREWORD/ ENDORSEMENT	• Statement from mandating authority responsible for roadmap			A short statement from a relevant authority to create clear endorsement There could be multiple statements from affected agencies to add to authority
INTRODUCTION	• **Scope:** To which sectors and levels of government/society does this roadmap apply? • Intended readers of document • Time period of roadmap	All of these are covered at basic level Typically 3-5 years As for essential	• Process • Background on concepts	As for essential Describe the process followed and how it allowed for consultation; Include a primer on the concepts with further references for unfamiliar stakeholders
STARTING CONTEXT	• Identifying the driving motivator • Assessment of readiness of foundational systems • Reference and linkages to other existing relevant frameworks or roadmaps (domestic or international) • Identifying material risks and tradeoffs	All of these are addressed at a basic level Add greater depth of assessment of the existing DPI building blocks (possibly in annexes)	• Recognition of exogenous vs endogenous factors	Add greater depth of assessment of the existing DPI building blocks[14] (possibly in annexes) Including some level of scenario analysis may help identify exogenous and endogenous factors
GUIDING PRINCIPLES	• A set of principles about technology use and deployment which will be used generally and throughout the period to guide and inform decisions along the journey			This could be a simple table or list Including a rationale or extended description of principles will help
USE CASES SELECTED	• Prioritization: how they were chosen • Sequencing: general timing and how certain ones may be pre-requisites for others • Resourcing: what it will take to deliver • Responsible parties: who is charged with executing on a use case			Each of these should be addressed at a basic level Sequencing may be shown using a GANTT chart The description of use cases could include end user research and rationale for prioritisation
INDICATORS	• Monitor progress, at use case or overall level			These are covered at an overall level More details added could include sets of indicators for chosen use cases; and provision for external monitoring
GOVERNANCE OF DPI ROADMAP IMPLEMENTATION	• Who is responsible for monitoring progress? • What is the process to amend the roadmap? • When will reviews/updates be provided? • How will this capacity be resourced?			This at least specifies the core agency responsible for implementation More detail could be added on the roles and secretariat structure supporting the roadmap implementation
COMMUNICATIONS STRATEGY	• How will the roadmap be communicated to affected stakeholders?			This may not be part of the basic roadmap The enhanced level should describe the communication approach

Key takeaway: There are some essential components of any good roadmap and some which can be added if there is time. While a DPI Roadmap may have standard headings, no two country roadmaps will look alike.

[13] This would include the readiness of the system to play the role, which is required in the roadmap – therefore looking at use cases, availability, trust, and safeguards in place. One possible approach to assessing DPI system maturity is outlined in the 2024 NASSCOM and AD Little report, "India's Digital Public Infrastructure".

SECTION 4

WHAT DOES IMPLEMENTATION OF A DPI ROADMAP ENTAIL?

A DPI Roadmap is only the start of a longer DPI journey that involves implementing complex and varied approaches for different DPI building blocks. This rapidly becomes specific to the building block in question and is beyond the scope of this Playbook.

While some components of DPI, such as instant payment systems, already benefit from extensive implementation guidance, others such as data exchange are at earlier stages of having widely available practical resources. However, in a number of implementation areas such as monitoring, evaluation, and financing DPI, there is a clear demand for more practical guidance; and a wide range of research is underway adding to the evidence basis which will inform future guidance.

In this Section, we provide only some general pointers to how to implement a DPI Roadmap, which may also enhance understanding of the transition between developing the roadmap and its ongoing implementation.

CASE 9:

SOUTH AFRICAN ROADMAP SIX MONTHS INTO IMPLEMENTATION

By November 2025, six months after the launch of the South African Digital Transformation Roadmap, several milestones set out in the Roadmap had been reached:

- The Digital Services Unit was established as a specialized coordination and standard setting team based in the Presidency responsible for implementation within the inter-ministerial oversight and advisory structures which had been established during the Roadmap design;
- The core team of the unit has commenced the process of engagement with the range of digital initiatives already underway across government to ensure better alignment going forward; and
- The prototype of the MyMzansi app as a citizen portal for government services was launched within 10 weeks as a rapid demonstration of what can be delivered in a short period through agile processes and reusing existing components.

The South African Roadmap process so far has surfaced several learning points about what 'next generation' digital roadmaps could cover: these should look less like strategy documents, produced in a 'waterfall' manner, and more like iterative demonstrations of how change can happen through developing proofs of concept in prioritized use case areas. In this way, next generation roadmaps could both test the ground for delivery while demonstrating the potential solutions, functioning as 'engines of change'.

Key takeaway: DPI Roadmaps should not be lists of inflexible, unrealistic targets but rather seen as engines of change within an ongoing agile design-deliver cycle.

1. PICK THE RIGHT BATTLES

Governments operate within political and financial constraints, making it impractical to rebuild every system or digital product from scratch. Limited budgets, competing policy priorities, and administrative complexities mean that the central entity charged with implementation must be strategic in selecting its battles. Even after the DPI Roadmap is complete, the key is to continue to prioritise initiatives that offer the highest societal impact with the lowest execution barriers. These should be projects that can demonstrate quick results and build momentum while laying the foundation for broader DPI expansion. Success requires constant forward movement, progressing step-by-step towards the goal of a fully operational DPI ecosystem. Focusing on nationwide, scalable infrastructure instead of isolated digital products ensures that investments support long-term transformation rather than short-lived solutions.

2. ACCELERATE DPI IMPLEMENTATION BY LEARNING AND ADJUSTING THE APPROACH IN PRACTICE.

Taking an agile approach, rather than waiting years for bespoke design and implementation cycles to be completed, can help create quick wins and build momentum. The following strategies may support acceleration:

- Utilise pre-trained service providers to configure DPI components, ensuring compatibility with existing infrastructure.
- Scan and catalogue existing technologies and systems that offer the opportunity for enhancement and use.
- Train local teams to sustain DPI expansion without long-term external dependencies.
- Adopt Microservices Architecture, allowing for modular development, scalability, and flexibility in integrating various services. This approach reduces vendor lock-in and enhances adaptability for future technological advancements.
- Consider hyperscale cloud platforms that can support rapid scale-up and handle large operational demands efficiently.

3. ENSURE ONGOING ACCESS TO FINANCIAL AND HUMAN RESOURCES.

Although a DPI approach is likely to save money compared with traditional technology solutions over time, it still requires a multiyear financial investment, especially at the start. Governments should embed digital public financial management (DPFM) practices to ensure responsible allocation of resources. This includes prioritising DPI investments within national budgets and medium-term expenditure frameworks, ensuring stable multiyear operational funding for the implementation team and sufficient capital investment to build foundational DPI components.

There are also innovative financing mechanisms that may support implementation, including:

- Leveraging public-private partnerships (PPPs) to co-fund DPI projects.
- Mobilising multilateral funding from institutions like the World Bank, UNDP, and regional development banks.
- Exploring digital infrastructure bonds and green financing to support sustainable DPI growth.

Apart from finance, human capacity development is crucial to build the technical and managerial expertise needed to sustain DPI building blocks. Capacity-building programmes in the public sector can:

- Train government officials on DPI policy, governance, and data security.
- Partner with universities and the tech sector to build a skilled workforce.
- Ensure inclusive capacity-building programs, targeting underserved communities.

4. ESTABLISH REAL-TIME MONITORING SYSTEMS, IMPACT ASSESSMENT FRAMEWORKS, AND PUBLIC ACCOUNTABILITY MECHANISMS.

DPI is, at its core, meant to improve lives by accelerating service delivery and promoting economic growth. To that end, embedding the UN Safeguards and reporting on their effectiveness ensures that a DPI approach remains equitable, privacy-conscious, and resilient is critical to any roadmap. These systems create feedback loops that enable the updating of a DPI Roadmap, so that it remains relevant during its time period. Actions to create accountability include:

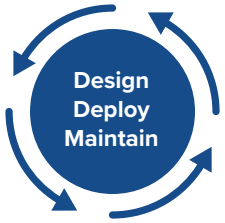
- Define and monitor standard KPIs in the following areas:
  - Adoption metrics (for example, percentage of population using DPI services)
  - Service delivery efficiency and cost (for example, time reduction in benefit disbursement)
  - Inclusion indicators (for example, accessibility in rural areas and gender-based usage gaps)
  - UN Safeguards maturity assessment
- Deploy digital dashboards that enable real-time tracking of DPI performance for adaptive decision-making.
- Establish public accountability mechanisms, including:
  - Publishing annual DPI reports and service efficiency metrics
  - Setting up grievance redressal platforms, which record user feedback and facilitate speedy resolution
  - Engaging in ongoing citizen consultations to refine DPI services based on user input
- Leverage AI for continuous monitoring, like AI-driven analytics that can detect inefficiencies, automate fraud detection, and enhance service optimization.
- Conduct iterative adaptation, utilising predictive analytics and machine learning to proactively forecast and address DPI bottlenecks.

Understanding the impact of digital transformation through DPI requires a rigorous focus on outcomes. In practice, this could take the form of metrics to assess progress at the level of input and evaluation using four categories (Access, End user experience, Accountability, and Sustainability) and at the level of outcomes and impacts on people, households, government and private sector.

A DPI MONITORING APPROACH

Source: DIAL

DPI IMPLEMENTATION LIFECYCLE



DPI attributes
> Interoperable + extensible
> Private + secure
> Foundational
> Transparent + publicly accountable
> Inclusive + non-discriminatory

INPUT + EVALUATION METRICS

Access
> Available
> Affordable
> Inclusive + non-discriminatory
> Reductions in barriers to use at the service level

End-user experience
> Convenience
> Ease of use
> Satisfaction
> Meaningful redress
> Data portability

People + Households

Accountability
> Public oversight
> Transparency
> Security
> Consumer protections
> Data protections
> Privacy protections
> Participatory process
> Responsiveness to feedback

Sustainability
> Trust
> Financial sustainability
> Maintenance practices
> Monitoring systems
> Scalability
> Human capacity
> Interoperability
> Extensibility
> Developer tools + support
> Standardized processes

Government + Markets

OUTCOME + IMPACT METRICS

People
> Trust in the digital ecosystem, etc.

Households
> Health, education, resilience, empowerment, etc.

Government
> Efficiency, citizen satisfaction, etc.

Markets
> Entrepreneurship, growth, etc.

SECTION 5

WHAT ARE SOME NEXT STEPS?

A good DPI Roadmap should become a valued guiding framework.

A good DPI Roadmap takes an investment of time and effort. This investment should be proportionate to the potential return measured in terms of attaining national priorities. The payoff comes downstream through gaining faster, surer momentum during implementation and avoiding delays and wasted effort. Crafting a good whole-of-government DPI Roadmap first can be seen as a down payment towards expanding the approach to cover wider swathes of the society, unlocking broader benefits.

Indicators like these suggest that a DPI Roadmap is, in fact, valued and valuable:

- Stakeholders continue to refer to the given DPI Roadmap to guide decision-making more than a year after publication.
- The given DPI Roadmap remains relevant to changing circumstances, even if updates are needed.
- The country's position on its digital journey is clear, helping align the actions of all stakeholders.
- Progress indicators or markers are published regularly to support accountability.

This Playbook sees a DPI Roadmap not as a precursor to a DPI journey but as an integral and useful part of that journey. The DPI Roadmap process itself should signal and entrench the very principles that make the DPI approach compelling — agility, responsiveness, openness, modularity, and privacy and security by design.

ANNEX A: USEFUL DPI RESOURCES TO SUPPORT ROADMAPS

There is a large and fast growing number of useful resources about DPI. We cannot attempt to curate the whole body of material, but in this Annex, we provide a consolidated list of targeted resources, some of which have already been cited, to supplement the Sections of this Playbook.

1. EXAMPLES OF EXISTING DIGITAL ROADMAPS

This Playbook refers to a variety of different types of roadmaps — not all are DPI Roadmaps, as they may be broader (data and digital) or specific to a particular building block of DPI (such as digital payments). You can reference examples (including some not referenced to illustrate the space) through the links in the table below.

Throughout the Playbook, we cite numerous other country level examples of digital strategies, blueprints and roadmaps at country and international levels:

- Ethiopia: *Digital Ethiopia 2030* (Case 1)
- Nigeria: *Supporting Life Events: DPI Framework* published in 2025 by the Federal Ministry of Communication, Innovation and Digital Economy (Case 2)
- South Africa: Digital Transformation Roadmap 2025 (Case 3)
- UK (Case 6)
  - Digital Roadmap 2026-2030
  - Roadmap for Digital and Data (2022-2025)
  - State of Digital Government Review (2025)
  - Blueprint for modern digital government (2025)
  - UK Compute Roadmap (2025)

Geographic level	International	G20 Cross-border Payments Roadmap		SDG Regional Roadmap Roadmap to Regional Integration for WTO Trade Agreement
	National	Bangladesh Digital Payments Roadmap	UK Digital and Data Roadmap 2022 South Africa Digital Transformation Roadmap 2025	
	Sub-national		Tamil Nadu Digital Transformation Strategy	
		Sector-specific	**Whole-of-government**	**Whole-of-society**
		Scope of coverage		

- G20 (Case 7)
  - Enhancing Cross-border Payments Stage 3 Roadmap (2020)
  - FSB's Consolidated progress report for 2025
- Africa:
  - In *Digital Public Infrastructure: A Practical Approach for Africa* (2025), three African researchers set out their view of how the African context matters for DPI.

For a list of DPI-like systems in place globally and for a dashboard on current trends, see the DPI Map.

2. WHAT ARE THE KEY CONSIDERATIONS IN PREPARING FOR A DPI ROADMAP?

There are now a number of foundational reports that provide a clear introduction to the 'what' and 'why' of DPI. If we were to suggest just one, it would be the following comprehensive and updated framing overview from the World Bank:

- *DPI and Development: a World Bank Group Approach* (2025)

CDPI's DPI Wiki distils years of practical implementation experience and insight across countries and is designed to be a living resource, constantly updated with what is new and what is important. It includes a section that guides the choice of possible first use cases, together with technical notes about each of the DPI building blocks outlined further below.

But these also may be helpful:

- DPI Approach: A Playbook: UNDP's original DPI Playbook from the year that DPI launched on the G20 stage (2023)
- *What is Good DPI*?: DIAL asks about the characteristics that make DPI good (2024).

On linking DPI to other national digital priority areas:

- On DPI and AI: *DPI-AI Framework: Building AI-Ready Nations through Digital Public Infrastructure* (2026), Dan Abadie CDPI
- On data governance: *Data Governance Toolkit Navigating Data in the Digital Age* (2025), The Broadband Commission available here

Additional references on choice elements in the DPI House (Section 2.2) :

- **Design stage:**
  - Design choices:
    - » DIAL Blog by Kassim Vera "From Backend to Citizen: Design Systems as the Translation Layer for Digital Government" available here.
  - Technology selection
    - » Govstack Building Blocks Specification available here
    - » On open source choices: see Marwala Tshilidzi. "Building Digital Infrastructure Through Open Source and Its Possibilities," United Nations University, UNU Centre, 2025-07-02, available here
  - Technical architecture
    - » Data exchange: see DIAL's 2024 Report "Data can drive shared prosperity for governments, businesses, and citizens. Unlocking it requires trusted data exchange." Jonathan Dolan, Sarthak Satapathy and Bernard Sabiti available here
    - » Digital ID: ID4D Practitioner's Guide available here
    - » Messaging: see the case study on UK Notify by Hannah White and David Eaves from UCL's IIPP available here

  - » E-signatures: Tullis, Christopher; Constantine, Nay; Cooper, Adam. 2024. “Electronic Signatures: Enabling Trusted Digital Transformation”. Washington, DC: World Bank, available here

  - » Instant Payments: World Bank’s FASTT Project “Implementation Considerations for Fast Payment Systems” (2021) summarizes the learning on a range of topics related to the implementation and oversight of instant payments; AfricaNenda Foundation “State of Inclusive Instant Payment Systems SIIPS in Africa report 2025” summarizes learning on the implementation of instant payment systems in Africa

  - » Verifiable credentials: CDPI (2025) User Centric Credentialing and Personal Data Sharing available here

- **Implementation stage:**

  – Deployment:

  - » GovStack Implementation Playbook available here

  - » Measurement and evaluation: see the case made by DIAL in 2025 here for a common impact framework

  - » Support and training: Digital Frontiers with CDPI offers a 3 week online course available here

- **Governance** stage:

  – Finance models:

  - » David Eaves, Diane Coyle, Beatriz Vasconcellos, and Sumedha Deshmukh, The Economics of Shared Digital Infrastructures: A Framework for assessing societal value. Policy Report 2025/02 available here

  - » Gavin Krugel, Financing DPI Models and Planning Considerations, Genesis Analytics 2025 available here

  – Operating models:

  - » Eaves, D. and Rao, K. (2025). Digital Public Infrastructure: a framework for conceptualisation and measurement. UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2025-01). ISSN 2635-0122 available here

  – Pitfalls:

  - » UN DPI Safeguards website provides its main report (2024) and further resources

  - » On DPI tradeoffs, the CFI Insights paper by Edoardo Totolo, DPI’s Unspoken Tradeoffs, identifies some of the main challenges to be navigated.

3. ADDITIONAL READING ON DPI ROADMAP PROCESS

Below are additional readings for some of the steps of the DPI Roadmap process.

Step 2: Identify and develop multistakeholder engagement strategy

- Multistakeholder Governance for DPI, CoDevelop with Caribou Digital, draft (forthcoming)

- DIAL Paper on the role of civil society organizations in DPI development in Africa by Risper Onyago (2025) available here

Step 3: Landscaping

- On engagement with other regulators: Digital Public Infrastructure and Digital Financial Services: Convergence, Landscape and Regulatory Considerations, CCAF July 2025

Step 4: DPI use cases

- The DPI Explorer provides a searchable repository
- DIAL Expert comment by Sarah Farooqi on how use cases bridge strategies and real world impact, October 2025, available here

Step 5: Risks

- The Universal Digital Public Infrastructure Safeguards Framework: the UN Office of the Secretary General's Envoy on Technology and UNDP published this framework in 2024 which calls out potential risks and provides a guide to building safe and inclusive DPI.

Step 6: Governance and sustainability

- G20 Guidelines for Integrated Governance of DPI from the Digital Economy Working Group of G20
- Genesis Analytics's 2025 report on Financing Digital Public Infrastructure: Models and Planning Considerations

4. MONITORING, EVALUATION AND LEARNING FOR DPI

The need for DPI metrics to monitor both usage and impact on people is widely recognized. Yet, accurate and standardized measurement is at an early stage. DIAL has initiated a process to make progress in this area. As an example of applying learning arising from the use of DIAL's Digital ID Assessment in Ethiopia, you can read this 2025 paper available here. The DPI Measurement Community convened by the DPI Map team at UCL also brings together DPI practitioners and researchers to develop a common language and shared practices for effective measurement.

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WHAT THE PLAYBOOK CONSORTIUM PARTNERS OFFER

All of the partners in the Consortium which created this Playbook provide different forms of assistance for countries on the DPI journey as shown below.

Partner	Forms of support offered	Website
AfricaNenda Foundation	AfricaNenda Foundation supports central banks, instant payment system operators, policymakers, regulators, and financial inclusion advocates to accelerate the design, development, launch, and continuous improvement of inclusive instant payment systems (IIPS) in Africa. AfricaNenda Foundation works at all levels of the financial ecosystem to provide technical assistance and policy support, engage in capacity building, share knowledge and best practices, and advocate for inclusivity.	www.africanenda.org
Better than Cash Alliance	Through policy advocacy, technical assistance, and institutional capacity building, the Alliance helps advance usage of responsible digital payment systems that expand access, empower underserved populations, and enable digital public service delivery at scale.	www.betterthancash.org
Centre for DPI	CDPI provides pro-bono technical (tech neutral) advisory for countries at all stages of the DPI journey	https://cdpi.dev/
Digital Impact Alliance	DIAL provides DPI pre-implementation support and data governance expertise to governments; This includes strategic interventions to: create decision-making frameworks for DPI design; map existing data and digital ecosystems; and build the capacity for ongoing self-assessments and improvements; and more. DIAL also hosts a peer learning platform for countries, the Africa Data Leadership Initiative, which fosters deep exchanges between policymakers, private sector stakeholders, and others to address emerging challenges and opportunities in Africa's data landscape.	https://dial.global/
Integral: Governance Solutions	Integral advises on the design and operation of effective governance for Digital Public Infrastructure.	www.integralsolutionists.com


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