

Annexure 2: DPI Public Value Measurement Framework¹

Purpose

Digital Public Infrastructure (DPI) is increasingly recognised as foundational to inclusive digital transformation and sustainable development. Despite rising investment, many digital systems remain fragmented – tied to individual programs rather than governed as shared infrastructure. This limits economies of scale and broader externalities DPI can generate.

One reason is reliance on conventional tools, such as cost-benefit or value-for-money assessments, which are designed for short-term projects and poorly suited to capturing DPI's long-term, systemic impacts.

This annex proposes a voluntary measurement framework to support strategic planning and evaluate DPI's public value. It is intended to be a tool that can be adapted according to local context to map potential effects of DPI investments with the aim of aligning digital investments with strategic development goals. It recommends consideration of three types of effects, four categories of metrics, and three stakeholder groups, as outlined below.

A Public Value Approach

Conventional digital evaluation methods (such as cost-benefit analysis or output-based metrics) often focus on short-term efficiency. A public value approach frames DPI as infrastructure—creating long-term, cross-sectoral impacts with broad, social spillover effects. Value creation depends not only on technical deployment but also on complementary factors like data access, quality and interoperability as well as governance, institutional capacity, and adoption.

The framework builds on DPI characteristics outlined in previous G20 and UN frameworks: interoperability, extensibility, public oversight, inclusion, and wide-scale uptake. It is intended to help governments think through public value-oriented outcomes that may be used for pre-deployment benchmarking as well as post-deployment monitoring and evaluation.

¹ Based on University College London's research: Eaves, D., Coyle, D., Vasconcellos, B. and Deshmukh, S. (2025). The Economics of Shared Digital Infrastructures: A framework for assessing societal value. UCL Institute for Innovation and Public Purpose. IIPP Policy Report 2025/02.

Framework Dimensions

1. Three Types of Effects

- **Direct Effects** are the most immediate and measurable benefits of DPI. They include efficiency gains, cost savings, improved reliability, and broader access to services. These effects stem from core functionalities and are often visible shortly after deployment. These metrics often serve as the initial justification for DPI investments. However, they do not capture the full scope of DPI's potential value.
- **Dynamic Effects** refer to broader outcomes that emerge as DPI scales and integrates across sectors. These include spillovers such as increased trust, institutional capacity, new use cases, and services built on top of DPI. Often catalyzed by interoperability and reusability, these effects compound over time and reflect DPI's systemic nature.
- **Market-Shaping Effects** capture how DPI can reconfigure economic incentives and market dynamics. At scale, DPI can alter competition, enable new business models, and shift power dynamics between governments, firms, and individuals. These changes often emerge gradually but are durable and path-dependent.

2. Four types of metrics²:

- **Reach:** service usage and population coverage;
- **Quality:** technical reliability, user experience, and system performance;
- **Impact:** contribution to development outcomes, such as inclusion, resilience, or institutional strength;
- **Value for Money:** cost-effectiveness and sustainability of DPI investments, with an orientation towards social value.

3. Three groups impacted by DPI

Governments, individuals, and private actors each experience DPI differently. A complete evaluation must consider how DPI enhances government service delivery and efficiency; empowers individuals through access, trust, and inclusion; and enables private actors to innovate, compete, and collaborate within shared digital systems.

² Based on Diane Coyle's RQIV framework: Coyle, D. (2010). Public Value in Practice: Restoring the Ethos of Public Service. BBC.

ANNEXURE 2: DPI PUBLIC VALUE MEASUREMENT FRAMEWORK

4. Illustrative Metrics and Indicators

The table below proposes illustrative metrics and indicators for each of the three types of effects

Public Value Metrics and Indicators			
Effects	Direct	Dynamic	Market-shaping
Defining Characteristic	Operational and service efficiency gains within core DPI functions	Network effects, spillovers and cross-sector externalities expanding DPI impact	Structural transformation in industries, societies, and market dynamics
Illustrative Metric	- Faster processing of government services - Increased authentication speed and accuracy - Public sector cost-savings (e.g. IT consolidation, reduced paperwork) - Distribution and cross-societal equity of access to and use of government services	- Financial services integrating e-ID for facilitating inclusion and access as well as service provision like credit scoring - Private sector using DPI for secure authentication - Cross-agency data-sharing for better service coordination - Environmental impacts of increased use of digital services	- Shift from cash to digital payments, increasing tax compliance - Growth of DPI-driven financial ecosystems - More competition, new monopolies or market dependencies forming around DPI services
Underpinned by Overarching Public Value Goals			
Metrics and indicators should stem from a government's overarching goals for public value, which can be determined through consultative processes. Such cross-cutting objectives and outcomes can inform the approach to setting out value metrics and tracing their long-term, societal impact. For instance, a shift towards a DPI system may enable additional access to services, which can lead to equitable growth.			

The framework also supports an interpretation of complex, layered outcomes

Recommendations and Next Steps

G20 members and international partners are encouraged to:

- Align on the common characteristics that determine the objective prevalence of DPI, to ascribe public value to DPI systems as opposed to siloed systems.
- Adopt an infrastructure-oriented approach to DPI planning and governance, recognising its systemic nature and engaging Finance and Planning Ministries in long-term stewardship.
- Expand what is measured by complementing efficiency metrics with indicators of reach, systemic effects, and market impact—aligning evaluation with strategic development goals.
- Incorporate the framework into national policy by adapting it to local contexts and using it to guide DPI investment, monitoring, and institutional learning.

We invite G20 members and international partners to collaborate in refining and piloting this framework, ensuring DPI investments generate long-term public value.

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