



Task Force 2  
Our Common Digital Future: Affordable, Accessible  
and Inclusive Digital Public Infrastructure



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# DIGITAL PUBLIC INFRASTRUCTURE FOR EFFICIENT CROSS-BORDER DATA FLOW

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# **Abstract**




**T**he rapid advancement and adoption of digital technology in the recent past has helped bridge gaps in geographies and markets, but it has also brought to the fore certain issues that are of concern for the G20. Digital divide, issues of data privacy, and security concerns are impediments to the G20 realising the potential of open Application Programming Interfaces (APIs), Digital Public Infrastructure (DPI), and cross-border data flow. Challenges posed by unchecked data extraction, data monopolisation, and obstacles to the sharing of legitimate data hamper the sharing of reliable information that can have positive externalities on livelihoods and overall development.

A collective response from the G20 is required to solve the challenges arising from issues of rights and privacy associated with data sharing. Drawing on India's experience in digital payments, this Policy Brief broadens the global dialogue and offers a framework around which a digital public infrastructure for efficient cross-border data flow can be structured. The brief recognises that driving meaningful conversations on cross-border data flow is not an easy task. To facilitate the growth of DPI, the brief outlines recommendations to help the global community adopt and develop a universal DPI that streamlines cross-border data flow and allows the G20 to reap associated benefits.



# The Challenge



1

## About DPI and its Benefits

**W**hen traditional infrastructure consisting of paper-based processes fell short in catering to people's needs during the COVID-19 pandemic, it impacted both the pace and the perception of digital transformation globally. Research on the social protection response to COVID-19 carried out by the World Bank Group's G2Px initiative found that, as the pandemic raged on, countries with robust digital platforms were able to provide 51 percent of their citizens with financial aid, through digital means; the reach was a far lower 16 percent in countries that could not rely on digital databases and platforms.<sup>1</sup> The crisis, therefore, served as an impetus for countries to enhance the efficiency of their governance mechanisms to ensure efficient functioning of the economy and promote the wellbeing of citizens. As many countries increasingly directed their focus on the creation of a resilient and agile digital infrastructure, it gave rise to the need for having an enabling, inclusive, open, fair, and non-discriminatory environment that also fosters the application of new

technologies, allows businesses and entrepreneurs to thrive, and protects and empowers consumers, while addressing the challenges related to the existing digital divide, privacy, data protection, intellectual property rights and online safety.<sup>2</sup>

An efficient DPI therefore becomes more important than ever as it builds resilience, especially during times of crisis. It helps build global financial and social inclusion by enhancing service delivery, minimising leakages, promoting innovation and effective resource utilisation while eliminating physical and cost barriers to reach the marginalised sections of the community.

DPI generally refers to solutions and systems that enable basic functions essential for public and private service delivery, i.e., collaboration, commerce and governance.<sup>3</sup> It is the cornerstone that enables the flow of people, money and information as it helps in the following:

- Identification: Enabling people and businesses to have digital identity in the form of electronic signatures and decentralised, verifiable credentials.


- Payments: Facilitating exchange of money between people, governments and businesses.
- Exchange of Data: Authorising a consent-based data sharing mechanism to enable data exchange across governments and businesses with adequate safety measures in place.

DPIs have become critical and indispensable in today's world as they provide a unique opportunity to aid countries in meeting their development agenda through various means. The following are some of their multiple benefits:

1. An enhanced DPI has the capacity to transform cross-border data flow, which forms an integral part of the modern digital economy. In today's world, data is a catalyst for innovation and transfer of data within and between countries is crucial to the development of the digital economy. Cross-border data flows are part of, and integral to, digital trade that facilitate movement of goods, services, people and finance. One analysis estimated that digitally enabled trade was worth between US\$800-US\$1,500 billion globally

in 2019.<sup>4</sup> According to a report by the McKinsey Global Institute, digital finance could raise the GDP of emerging economies by 6 percent.<sup>5</sup> The potential of low-income countries stands close to 10-12 percent, followed by 4-5 percent in the case of middle-income countries.<sup>6</sup>

2. An effective DPI that allows for an affordable and accessible cross-border data flow can help lower the existing cost of trade, impact the kind of goods and services being traded, and alter the factors that define a country's comparative advantage.
3. A global DPI that enables free flow of data can strengthen the delivery of public goods and services and help governments with data-driven insights to address issues and concerns to bolster national growth. The use of DPIs in identification of beneficiaries and making social welfare payments to them has significantly flattened the adoption and inclusion curve and helped in the horizontal expansion of social and financial assistance. Millions of formerly excluded and underserved customers across G20 countries are now moving from an almost exclusive cash-



based economy to formal financial services either through a mobile phone or other digital technology to access these services. As per the Global Findex Database 2021, 76 percent of adults globally now have an account at a bank or regulated institution such as credit union, microfinance institution, or a mobile money service provider. An improved DPI for cross-border data sharing can significantly help in capitalising on this aspect by expanding the scope, reach and scale of financial services by government and private institutions.

4. Efficient cross-border data flow enabled by a global DPI arrangement can empower companies to centralise their internal operations and serve multiple markets. This will particularly benefit small businesses that do not have an overseas footprint. It will also lead to improved service quality and lower prices for customers.

### Challenges to Global Adoption

Despite the benefits of DPIs, bottlenecks hinder the global adoption of a DPI that can enable cross-border data flow.

#### a. Exclusive and isolated efforts:

India's Unified Payments Infrastructure (UPI) is a classic example of a DPI which has successfully changed the face of (digital) payments. Given its ease of use and interoperability, UPI has been a decisive factor in nudging the country to embrace cashless payments. For its part, Thailand has set a remarkable example through the introduction of the 'PromptPay' where financial accounts are linked to IDs or contact numbers for cash transfers. Other countries such as Ukraine, Estonia, Togo, and Sri Lanka are rapidly investing in interoperable building blocks to enhance digital delivery of government services. The demand for DPI among different countries in many parts of the world has also grown significantly since the pandemic, with the World Bank's Identification for Development (ID4D) initiative currently supporting 49 countries in their implementation of digital IDs.<sup>7</sup> Figure 1 gives a snapshot of the crucial digital investments in different parts of the world that were launched as a response to the fallout of the COVID-19 pandemic.

Indeed, many countries have initiated efforts to build digital infrastructure to serve their population. However, with

**Figure 1: Digital Investments, Post-COVID-19**




Source: Meghan Sullivan, et al., “Accelerated digital government”<sup>8</sup>

the exception of a few—such as India, whose UPI is present in some form in the UAE, Singapore, Mauritius, Nepal, Bhutan, France and the UK—most of these are isolated efforts where spillovers from engaging with emerging technology are contained within geographic and national boundaries. Global cooperation and engagement for sharing of knowledge and best practices is absent, and this hampers the creation

of a mutually adoptable framework of DPI for the G20.

**b. Different approaches to data management:** DPI has the potential to address the common challenges that the global community is facing across a spectrum of issues, from expanding access to education to closing equality gaps. However, for the G20 to reap the benefits from digital connectivity, free





flow of data is integral. Yet, governments across the world have opted for different approaches to data sovereignty, including localisation, classification, privacy, and protection. This impedes cross-sharing of data across national boundaries. Financing constraints also pose a challenge, as well as the question of who would invest in data collection and exchange systems. The digital divide is undoubtedly a significant concern, with some countries lacking access to the internet and adequate datasets, affecting their ability to transact equitably with more data-rich countries. This only heightens existing inequalities instead of mitigating them.

**c. Lack of global consensus on cross-border data flow:** The G20 economies failed to arrive at a consensus during the Osaka Summit in 2019 on cross-border data flows owing to different approaches to regulating data. To help build a global consensus on this pertinent topic, the Financial Stability Board (FSB) stepped in and declared a “Roadmap for Enhancing Cross-border Payments” as among the priority agenda for the G20.<sup>9</sup> Part of the work was undertaken in 2021 and 2022 on establishing the foundational elements to address gaps in the existing systems and develop

new systems and arrangements. This includes a joint report by the Bank for International Settlements’ Committee on Payments and Market Infrastructures (CPMI) in collaboration with the BIS Innovation Hub, the International Monetary Fund (IMF) and the World Bank, titled “Exploring Multilateral Platforms for Cross-Border Payments”.<sup>10</sup> The report takes note of the costs, risks, challenges, barriers and benefits of multilateral platforms and their potential role to alleviate some of the cross-border payment frictions. This also includes efforts by the central banks to design and develop CBDCs with an objective to enhance cross-border payments. Despite these developments, however, a global roadmap for cross-border data flow is yet to be mutually adopted and enforced.


The imperative is to adopt an inclusive approach to allow cross-border data flow that will support economic growth, international trade, and financial inclusion. Success on this front would not be possible without deepening global cooperation and adoption of a collaborative approach among the G20 countries and other global public institutions.



# **The G20's Role**

# **2**






**A**s industries across sectors such as healthcare, education, communication and finance, increasingly rely on digital networks for the delivery of crucial services, DPI plays a unique and important role as a common enabler. DPI is foundational and cuts across sectors, enabling innovation by working together with policy processes and technology, all while benefiting the public. The benefits from a global DPI that enables cross-border data flow will transcend geographical, economic, and societal boundaries. Such a global framework that enables accessible and affordable sharing of data will promote social and financial inclusion and boost shared prosperity, thereby contributing to international stability, economic cooperation, and the universal attainment of the SDGs.

As a global platform, G20 can take the lead and encourage the establishment of a DPI that will, in turn, enable cross-border data flow. This can be done by adoption of priority areas identified by the FSB to implement projects that enhance cross-border arrangements by the 2027 target year.<sup>11</sup> To deliver on the FSB-recommended G20 Roadmap

for Enhancing Cross-Border Payments, the member countries of the G20 must commit to standards that are pre-defined and mutually agreed upon, which would allow updating of existing AML/CFT rules to enable transparency in data flow and payment charges and have in place a supervisory mechanism for consumer protection. There also needs to be regular monitoring and progress reporting to ensure that the actionable targets are met accordingly.

In addition to the FSB's recommendations, the G20 should also collectively consider other proposals, such as the recommendations outlined in this brief, that attempt to identify measures through which the grouping can support the interoperability of DPI systems. The G20, with its multilateral representation, can provide the right platform to strengthen international cooperation, improve cross-border payments, and accelerate the use of digital mechanisms. The G20 offers an opportunity for a global agreement that paves the way for effective coordination between policymakers, central banks, and relevant regulatory authorities across jurisdictions to remove national barriers and promote efficient cross-border data flow, thereby reducing



the digital divide and leveraging technologies for a sustained and inclusive future.

The Indian presidency, with its theme “*Vasudev Kutumbakam*” or “One Earth, One Family, One Future”, is the ideal platform to take this agenda forward as it is reinforced by the current government’s disposition through an enabling environment of policies, platforms and partnerships suited to the borderless character of the digital world. Drawing from its experience in digital payments through UPI, India can lead the way in ‘Payment system interoperability and extension’,<sup>12</sup> which is one of the

themes identified by CPMI, together with the FSB to enhance cross-border infrastructure and arrangements. India has already established partnerships with the United States, Japan, Bhutan and Singapore, to name a few, and is working towards faster, cheaper and more transparent cross-border payments. Linkage of countries’ digital payment systems will pave the way for interoperability of DPI systems and have significant social and economic impacts at the household, community, national and international levels as more people are brought within the folds of the formal financial system.




# **Recommendations to the G20**



# **3**






**T**his Policy Brief recommends the following actions for consideration by the G20.

**i. Build and strengthen global capacity to address digitisation risks.** While the FSB G20 Roadmap for Enhancing Cross-Border payments lays down standards for harmonising data exchange among countries, it is limited in scope when addressing cybersecurity and associated risks. As the world moves towards the adoption of a global DPI for cross-border payments, policymakers must navigate complex legal issues around data protection and liability for data breaches. Appropriate safeguards need to be in place to ensure data security and privacy, especially against the backdrop of different data protection regimes adopted by various countries, customised to cater to varied interests. As such, ‘security-by-design’ and ‘privacy-by-design’ are key principles, inclusive of technological and policy choices, that can be incorporated at all the stages of development of DPI to ensure data

security, business continuity, and incident management.<sup>13</sup> Enhanced technical and operational approaches that provide security and ease of transactions can only be developed through global cooperation. Governance standards with a defined framework to address present and emerging security risks need to be mutually agreed upon and piloted by all countries of the G20.

**ii. DPI initiatives on financial inclusion should be broadened in reach and scope.** India has been impressively leading the way in the adoption of DPI applications to expand the ambit of social and financial inclusion. The country’s UPI infrastructure, since its launch in 2016, has helped India achieve over 80-percent financial inclusion in six years—compared to the 46 years it would have taken without a DPI approach.<sup>14</sup> While one of the elements of India’s DPI, i.e. UPI, has expanded to countries such as Singapore, UAE, Oman, Saudi Arabia, Malaysia, France, and BENELUX markets—Belgium, the Netherlands and Luxembourg—there is a need for further global



adoption and integration of such DPis globally, especially in the markets of Africa and North America. Such interoperability and interlinking of DPis across the world will promote faster remittances between countries and bring down the cost and increase transparency in cross-border transactions. This instant, low-cost fund transfer will help bring more people into the formal financial fold.

**iii. Embrace an inclusive approach in the design of a global DPI for cross-border data flow.** A global approach to DPI for cross-border data flow should have an open and interoperable standard with a people-centric approach so that it can be easily adopted, reused, and replicated across geographical, social, political, economic and cultural lines. Countries around the world, especially low- and middle-income economies, have long understood the important role of a shared infrastructure in improving citizens' access to public service delivery. However, many such countries are still at the nascent stage of digital

transformation and do not have the adequate infrastructure to compete in the current digital economy. These countries require immense technical expertise and substantial resources to design and implement Digital Public Goods (DPGs) for the welfare of their citizens. Digital cooperation and an inclusive approach in the development and evolution of DPis can allow countries that are ahead of the curve to share their experiences to flatten the learning and adoption curve of other countries that are just starting out. To address global challenges and cater to the development needs of emerging economies, there is a need to design global DPis driven by the 'inclusive-by-design' principle.

**iv. DPI initiatives on financial inclusion should embrace the growth of microfinance institutions.** After decades of innovation, the market for microfinance is starting to mature. Microfinance institutions (MFIs) have played a key role in promoting financial inclusion and reaching out to small and marginalised



borrowers. These institutions should be integrated with DPIs to ensure that technology enables greater access to services to an increased population at a lower cost. International partnerships and cross-border collaboration in mainstreaming MFIs through DPIs will ensure financial and social inclusion and unlock access to hitherto overlooked low-income markets.

- v. **Encourage partnerships and strengthen capacity for sustained investments in global DPI for cross-border data flow.** To reap maximum outcomes and scale DPIs across geographies, the involvement of stakeholders beyond public authorities is an imperative. Engaging private players such as industry and companies, civil society and academia, will

help reduce transaction costs, ensure information symmetry, and pave the way for structural data exchange. Further, competition and innovation through private sector association can level up the existing quality of service delivery and security measures. For example, digital payment systems in India have been replicated by Indian and international companies in their introduction of diverse products and services.<sup>15</sup>

Digital inclusion is crucial for achieving developmental outcomes, and the G20 economies should encourage each other to work towards this goal over the next decade. Member nations can coordinate their efforts by cross-learning, sharing of best practices, and adopting multistakeholder strategies to overcome existing obstacles and promote the global adoption of DPI.

Attribution: Spriha Pandey, Gaurav Chaudhary and Kaushal Mahan, “Digital Public Infrastructure for Efficient Cross-Border Data Flow,” *T20 Policy Brief*, May 2023.



## Endnotes

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