Digital Public Infrastructure Roundtable: Roadmaps for the Adoption of Digital Public Infrastructure (DPI)

17th June, 2022

Artha Global organised a roundtable on the adoption and future of Digital Public Infrastructure (DPI). With Anirudh Suri, author of *The Great Tech Game*, the discussion focused on growth models of DPI in different jurisdictions, and the need for robust private sector and civil society participation to drive this growth. A diverse group of stakeholders were part of the discussion, from philanthropists and technology builders to policy thinkers and multilateral agency representatives. While looking at current DPI roadmaps, the participants also discussed financing models and potential lessons and examples from historical precedents that can inform DPI evangelisation.

Context

The roundtable started with a discussion about the two central arguments made in the book. First, since technology today is shaping geopolitics, and thereby, our economic and developmental destinies, it is imperative that nations have a game plan in place for navigating this period of rapid evolution. Second, while technology continues to shape our realities, it is important for stakeholders to remember that it has to be a two-way street. This means that our values and priorities as societies should also shape and reflect in the design and use of technologies we build. The author believes that the conversation on DPI lies at the intersection of these key ideas. Hence, it is critical to have conversations and build public discourse around the development, adoption and governance of DPI.

Institutional and Financial models

In India, currently, DPI is being conceived as a set of platforms, APIs and protocols, or the India Stack, forming the base upon which digital intermediaries such as account aggregators are built. The marketplace of apps and services, such as in the fintech and healthcare sectors, is the top layer. In this three-layered arrangement, the infrastructure layer (the building blocks) is largely being built and managed by government or quasi-government bodies. The middle layer could be driven by the private sector. However, the final layer of innovation or the application layer at the top is dominated by the private sector..

An instance of a statutory body controlling one of the building blocks is the Unique Identification Authority of India (UIDAI), which is mandated to issue Aadhaar to the residents of India. UIDAI functioned earlier under the Planning Commission (now NITI Aayog) and is now under the Ministry of Electronics and Information Technology (MeitY). It derives income mainly from services such as authentication and licensing. A slightly different model is the National Payments Corporation of India (NPCI) which is registered under the Companies Act. It was established by the Reserve Bank of India and a consortium of 10 promoter banks at that time. Subsequently, the number of shareholders expanded to about 55 banks in 2016. Over time

NPCI has rolled out several products including RuPay, Immediate Payment Service (IMPS), Bharat Bill Payment Service (BBPS), and Unified Payments Interface (UPI).

It is pertinent to examine the institutional and financing models of these two references for building blocks as they have implications on the governance, incentive structures and engagement of the shareholders in the growth of these entities and decide their future roadmap. The long-term success of these models will depend on the abilities of the entities to support continued innovation of the building blocks. For this to be possible, it is necessary that the institutional and financial models that are picked ensure that the entities do not become overly bureaucratic or stagnant over time. So far, hundreds of startups built their businesses on these DPI, demonstrating that the current models have unleashed great innovation. However, the participants agreed that stakeholders will have to continuously engage with the questions about the structures of institutions that are building the DPI and their financing models.

Transnational adoption of DPI

Transnational adoption of DPI will require coordination between agencies on principles as there are aspects that are political and contextual. It will also require international agencies to set the regulatory standards that individual countries and their respective regulators can adapt to. Finally, participants pointed out that countries will need to carve out their respective specific goals for the development of DPI.

Historical analogues

The historical analogues to DPIs are wide ranging: from the Global Positioning System (GPS) that is freely available and maintained by the US Department of Defense to the SWIFT system used by banks for inter-bank payment execution and settlement of payment data. These systems provide valuable examples of how values have spread using such infrastructure in the past as they have been used to support and evangelise liberal democratic values.

Values thinking in the design phase

The last point of note pointed out in the discussion was the importance of the citizens' perspective while building DPI along with the objective, design and implementation. The question of what DPI is solving for ranges from concentration of power to enabling innovation, and it is essential to do so while ensuring citizen rights are protected. The unintended consequences of building DPI need to be thought through with the right ethical safeguards built into the design, as DPI at scale has the power to change the trust and power structures in society.

Key Participants

- Benjamin Bertelsen (Digital Consultant, United Nations Development Programme)
- Vivek Eluri (Engagement Manager, Health International Innovation Corps)
- CV Madhukar (Founder and CEO, Co-Develop)
- Anupam Manur (Assistant Professor, Takshashila Institution)
- Shankar Maruwada (Co-Founder and CEO, EkStep Foundation)
- Juliet Mburu (Senior Digital Financial Infrastructure Specialist, Financial Sector Deepening (FSD) Kenya)
- Satish Mohan (Formerly at Red Hat, Co-founder and CTO of DHIWay)
- Jean Philbert Nsengimana (Chief Digital Advisor, Africa Centres for Disease Control and Prevention and Former Minister, Ministry of Information Communication Technology and Innovation of Rwanda)