What Is Digital Public Infrastructure?

Digital Public Infrastructure (DPI) is a relatively new and evolving concept, and as such, it doesn't yet have a universally agreed-upon definition. Broadly, DPI refers to the foundational digital systems that enable digital services at a societal scale[1]. You can think of DPI as the roads and bridges of the digital world, the basic infrastructure on which platforms and services are built.

While many components of DPI have existed in some form for years, global awareness of DPI increased during the COVID-19 pandemic, as countries with DPI initiatives in place were better able to deliver social protections quickly and at scale[2].

At the core of DPI are three key building blocks: digital identification systems, digital payments infrastructure, and data exchange systems. These systems enable a wide range of digital services, for example, a tax filing portal that uses digital ID for login, or e-commerce platforms that rely on digital payments[3].

The Role of DPI in International Trade and Development

DPI is significant to trade in the developing world because it expands market access and makes financial systems more accessible to people in low- and middle-income countries. DPI offers three key advantages that support sustainable economic growth: it broadens inclusion and participation, supports fairer and more dynamic markets, and reduces costs and inefficiencies[4].

As the global economy continues to evolve, trade is becoming increasingly digitized. Among the 43 major economies that represent 75% of global GDP, business e-commerce sales grew by nearly 60%, reaching $27 trillion in 2022[5]. DPI plays an essential role in enabling these transactions through digital payment systems and in building trust via digital services such as e-signatures, consent mechanisms, verifiable credentials, and data vaults[6]. Trust is fundamental to transactions. Without it, digital trade services cannot scale.

For Small and Medium Enterprises, or SMEs, accessing financing and navigating complex bureaucratic processes can be significant barriers to growth. DPI helps make trade financing more accessible by digitizing financial records and payment systems, enabling banks to assess creditworthiness and extend financing to SMEs[7]. DPI also supports digital payments systems[8], which reduces friction in References

business transactions and helps small enterprises enter the trade space.

A Case Study of Brazil's PIX System

Since 2020, Brazil has been developing PIX, an electronic payments system. When a transaction is done through PIX, it does not go straight from sender to recipient, but rather through a third-party Payment Service Provider (PSP). A PSP can be *any* bank, digital wallet, or fintech, extending financial services to those without access to traditional banks[9]. PIX is an example of DPI making trade more accessible to businesses by making transactions faster and more secure.

Although PIX is a domestic infrastructure, some store fronts in Argentina have begun accepting PIX. Argentina has high levels of tourists from Brazil, but high and rapid inflation in Argentina has meant that stores are losing money as they wait for credit card payments in clear[10]. PIX, which allows for instant transactions, has seen an uptake in Argentina. The PIX system not only encourages trade domestically, but also encourages cross border purchases and tourism related trade.

Challenges and Considerations for DPI Adoption

Although DPI can expand financial access for individuals and businesses, support market participation, and promote the trade of goods and services, it still faces several implementation challenges. The most cited barrier is limited capacity within governments, which may lack the technical skills and resources needed to design and implement DPI systems. Additional challenges include low levels of public trust, high costs of internet uptake, and regulatory environments that may not yet accommodate DPI development[11].

Addressing these challenges may involve investing in physical infrastructure to improve internet access, especially in rural areas. Additionally, strengthening government capacity through regional knowledge sharing, developing regulatory frameworks that foster trust, and promoting collaboration between public and private sectors can support the development and effectiveness of DPI[12].

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