


Chapter 3

Bridging the Digital Divide: A Strategic Framework for Deploying Inclusive Digital Public Infrastructure in Emerging Economies

Barkha Sachin Dange

 <https://orcid.org/0009-0009-3804-2090>

Ramdeobaba University, Nagpur, India

ABSTRACT

Digital Public Infrastructure (DPI)—the interoperable stack of foundational digital rails for identity, payments, data exchange, consent, and trusted services—has emerged as a powerful lever for inclusive development. Yet deployment in emerging economies is uneven, and the digital divide persists along axes of income, gender, geography, language, age, and disability. This chapter proposes a strategic, end-to-end framework for designing, deploying, and governing inclusive DPI. Drawing on lessons from diverse contexts, it synthesizes policy, technical, institutional, and societal levers into a practical roadmap emphasizing inclusion-by-design, safety, accountability, and sustainability. The chapter provides conceptual foundations, a typology of divides, case mini-studies, actionable design principles, governance models, financing options, risk management, monitoring and evaluation (M&E) metrics, and an implementation playbook.

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SUMMARY

Digital transformation is one of the defining forces of the 21st century, reshaping how societies organize, how economies grow, and how governments interact with citizens. For emerging economies, the stakes are particularly high. These countries face the dual challenge of catching up with global technological advances while also addressing deep structural inequalities in access to electricity, connectivity, education, and financial services. Against this backdrop, Digital Public Infrastructure (DPI) has emerged as a transformative lever. DPI refers to a modular and interoperable stack of digital identity systems, real-time payments, data exchange frameworks, consent managers, and secure registries that together create the rails for both public service delivery and private sector innovation. When designed inclusively, DPI can accelerate development by lowering transaction costs, enabling direct benefit transfers, fostering financial inclusion, and expanding access to healthcare, education, agriculture, and justice systems. It can empower women, rural populations, and marginalized groups who have historically been excluded from formal systems of state and market.

CONTEXTUAL BACKGROUND

Digitalization is not merely about technology adoption; it represents a profound reconfiguration of how states, markets, and societies function. In emerging economies, where gaps in physical infrastructure, financial inclusion, and public service delivery persist, digital systems offer an unprecedented opportunity to leapfrog traditional constraints (Qiang et al., 2009). The spread of mobile phones, cloud computing, and affordable connectivity has created the possibility of building digital-first service models that can reach citizens at scale, often bypassing legacy bottlenecks such as bureaucratic red tape or underdeveloped physical infrastructure (GSMA, 2022). For governments, this means lowering transaction costs in welfare distribution, tax collection, and regulatory oversight (Muralidharan et al., 2016). For individuals and enterprises, it means faster access to credit, healthcare, markets, and educational opportunities (Aker & Mbiti, 2019).

The COVID-19 pandemic underscored the indispensability of digital systems. Remote work, online education, digital payments, and telemedicine became lifelines during lockdowns. However, the crisis also magnified exclusionary patterns: students without devices were cut off from learning, rural households struggled with patchy connectivity, and small merchants without digital payment options lost customers (Alliance for Affordable Internet, 2021). These experiences highlighted that digital divides are not peripheral—they are central determinants of resilience and devel-

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