Going digital has played a special role as a catalyst in our economy

An open-source strategy for interoperability has let us build various affordable solutions on top of Aadhaar as a digital base

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The indispensability of digitalization as a foundation for almost every activity in an economy is well acknowledged. Growing internet penetration, affordable data, technological innovations and, above all, the government's thrust on digital infrastructure is ensuring faster delivery, better targeting and improved accountability.

The digital impact: During the period 2014 to 2019, India's core digital economy increased from 5.4% to 8.5% of gross value added (GVA). The digital economy grew 2.4 times faster than the overall economy during this period. The digitally dependent economy accounted for around 22% of the total economy in 2019, as per a Reserve Bank of India bulletin published recently.

The government's emphasis has been on developing digital public infrastructure (DPI), which: (1) ensures public availability of digital components for more participative service delivery systems; (2) triggers market-led innovations; (3) facilitates more affordable and faster on-boarding of services; and (4) aids the development of more transparent systems and thus improves user trust.

The cascading effect of Digital India geared towards improving accessibility, affordability, connectivity and inclusivity is now visible across the country. Aadhaar, a key component of our digital infrastructure, through its inherent virtue of uniqueness, has become an important tool of digital governance in India. As testimony, consider that nearly 1,700 welfare and good-governance schemes of the central and state governments use Aadhaar. Its use has ensured benefits reaching the intended beneficiaries without leakages. The list of examples is long. In our Public Distribution System (PDS), a significant reduction in foodgrain diversion thanks to computerized supply chain management, the removal of nearly 47 million fake/duplicate ration cards after Aadhaar data seeding of 750 million beneficiaries and automation of fair price shops resulted into savings estimated at $12 billion. Similarly, India's cooking gas subsidy scheme (PAHAL) has recorded savings worth roughly $8.5 billion and the farmer-support programme has recorded a reduction of 12 million tonnes in fertiliser sales to retailers, resulting in estimated savings of $1.2 billion.

Increased digital penetration: India has more than 1.17 billion mobile telecom subscribers, over 600 million smartphone users and 840 million internet connections. We had a 200% increase in rural internet subscriptions between 2015 and 2021, as against a 158% increase in urban areas, covering all villages with at least 4G mobile services. This is set to further reduce the rural-urban digital divide. Efforts are underway to enhance the capabilities of low-cost feature mobile phones, thus making the digital economy more inclusive.

The recently launched Digital India Bhashini project seeks to enable easy access to the internet and online digital services in regional languages, including provisions for voice-based access. This is poised to address Indian language diversity, as it aims to provide solutions in a medium that people can intuitively relate to.

Digital inclusion has driven formalization: Digitalization accelerates economic growth through better financial inclusion, greater formalization, increased efficiencies and enhanced opportunities. The digital public infrastructure that has successfully supported this endeavour includes Aadhaar, the Unified Payments Interface (UPI), Co-Win, DigiLocker, Diksha and other platforms.

In terms of the scale achieved, consider these numbers. More than 94.5% of our population now have Aadhaar IDs and more than 2.2 billion authentications take place every month. Similarly, at least 5.5 billion UPI-based transactions are now done monthly, a 75-fold increase in five years. Co-Win, a platform used for India's vaccination programme, recorded about 1.1 billion registrations. Further, as many as 140 million users now have DigiLocker accounts and as many as 5.6 billion official digital documents are stored for online access in its repository. The E-shram portal has seen the registration of 286.5 million unorganized-sector workers, the PM-SVANidhi platform has 4.4 million street vendors, while the Udyam portal has 12.7 million enterprises. The GST-payer base has doubled from 7 million to 14 million during the period from 2017 to 2022. All these data-points are indicative of how things are shaping up.

Open and participative digital innovations: In India, the supportive environment for innovation by both government and private players is driving innovations in the digital space. In the domain of new-age technologies such as artificial intelligence (AI) and machine learning (ML), for instance, India is a top contributor to open-source AI projects. As an indication, AI publications from India are growing at a torrid pace compared with the US, UK, EU and China, and a higher proportion of information technology workers in India are estimated to possess AI skills than any other G20 country.

The Indian government, on its part, is also actively collaborating with the IT industry for designing and testing newer applications and use-cases through a stream of captive sandboxes and test-beds. Public-private partnerships have been speeding up digitalization in India. This can be seen in the roles played by iSpirt for IndiaStack open public platforms, National Payments Corp of India (NPCI) for fast digital payments, Open Network for Digital Commerce (ONDC) for open digital commerce and also by other user entities that operate within the Unique Identification Authority of India (UIDAI) ecosystem.

India has realized the imperative of using (to the extent possible) standards, technologies and tools that are essentially open-source, thus avoiding the vendor lock-ins and high costs associated with the use of proprietary technologies. At the same time, this strategy is also encouraging interoperability among (and the scalability of) various solutions built on top of open tools, while enabling affordability.