



To cite this article: Shilpi Gupta (2026). RESILIENT DIGITAL PUBLIC INFRASTRUCTURE IN INDIA: THE TRANSFORMATIVE POTENTIAL OF AI AND BLOCKCHAIN, International Journal of Research in Commerce and Management Studies (IJRCMS) 8 (4): 66-78 Article No. 803 Sub Id 1340

## RESILIENT DIGITAL PUBLIC INFRASTRUCTURE IN INDIA: THE TRANSFORMATIVE POTENTIAL OF AI AND BLOCKCHAIN

CMA (Dr.) Shilpi Gupta

Associate Professor  
Amity Business School  
Amity University Chhattisgarh  
Orcid: 0000-0003-4382-3616

DOI: <https://doi.org/10.38193/IJRCMS.2026.8406>

### ABSTRACT

The government of India's Digital Public Infrastructure (DPI) has come to impressive scale, as seen in the 144 crore digital identities, 62 crore users of Digi Locker, 21.7 billion monthly UPI transactions in 2025 and the Ayushman Bharat Digital Mission (ABDM). However, the challenge of the coming decade is the maintenance of authentic, inclusive and resilient DPI service delivery every day, to 1.4 billion people across India, specifically those living in rural, linguistic, and economically vulnerable communities. The paper reflects the India AI Mission, the National Blockchain Framework (NBF), BHASHINI, Agri Stack, Unified Lending Interface (ULI) along with state-level blockchain pilots, highlighting the ability of AI to offer adaptive, predictive coverage intelligence and blockchain to offer structural belief and last-mile authenticity. Eight coverage dimensions are assessed in terms of current coverage, contribution of the AI, contribution of the blockchain and gaps. The author concludes that keeping DPI coverage is not separate from the smart and trustworthy infrastructure which AI and blockchain can offer together.

**KEYWORDS:** Digital Public Infrastructure, DPI Coverage, Artificial Intelligence, Blockchain, BHASHINI, Agri Stack, Financial Inclusion, National Blockchain Framework, Viksit Bharat

### INTRODUCTION

Digital Public Infrastructure in India has grown from a narrow interest project to becoming a comprehensive digital infrastructure system across India – comprising digital payments (UPI), document handling (Digi Locker), agriculture (Agri Stack), health (Ayushman Bharat Digital Mission), commerce (ONDC), and address (DHRUVA). Today, the JAM Trinity — Jan Dhan, Aadhaar, Mobile — that helped kick-start the Indian financial inclusion through digitalisation movement has grown into a much larger and complex ecosystem comprising over 58.16 crore Jan Dhan accounts and over 144 crore Aadhaar IDs as of April 2026 (Policy Edge, 2026).

Creating the stack is the easy part, though. The more difficult and sustained challenge is to ensure coverage, or that DPI services are consistently reliably, authentically, inclusively and delivered to all citizens. Failure to cover is in many forms: a rural beneficiary with poor connectivity who can't access UPI; a farmer with a contested land register whose land is not recorded anywhere except on paper and could be easily forged; a migrant worker who doesn't have a physical land record to prove his identity and thus is not eligible for welfare; a state government that's unable to determine if welfare has reached the intended recipient. Every failure of service is not just a service failure, it's a failure of trust, which is what DPI should be.

The paper argues that the two technologies that can be uniquely applied to coverage maintenance at scale are Artificial Intelligence (AI) and blockchain technology. The human dimensions of the coverage gap – language, literacy, credit history and geographic remoteness – are overcome by AI's adaptive intelligence. The institutional aspects—authenticity of the records, identity of the beneficiaries, data provenance and auditability—are covered by blockchain's structural guarantees. Their amalgamation leads to 'Digital Public Intelligence', a DPI ecosystem that not only provides services but intelligently monitors, adjusts and checks its own coverage as well.

### **State of DPI Coverage in India: Achievements and Persistent Gaps**

The DPI scale in India is unprecedented in the world. A decade ago, there had been 13.15 crore broadband subscriptions while as of November 2025 there were 100 crore subscriptions, a six-fold increase. Also, there have been 5.18 lakh 5G base transceiver stations installed across the country (PIB, 2026). UPI has recorded 21.7 billion transactions valued at ₹28.33 lakh crore during the month. Digi Locker has registered 62 crore users, issuing more than 8.46 crore documents (ORF, 2025). The ONDC platform launched in 2022, already has 616+ cities and 7.64 lakh registered sellers (PIB, 2025). The India AI Mission has put in place 34,000+ AI GPUs, establishing one of the world's largest public AI compute networks (EY India, 2026).

These are the largest that ever happened in the history of human beings enrolling voluntarily, in a digital public good. ABD Funds have resulted in saving of US\$41 billion to the government and 16.4 million farmers have availed of e-NAM with 585 agricultural marketplaces integrated and transactions worth of ₹700 billion have been facilitated (IIMB, 2024). The DPI model is being actively exported to other countries around the world with more than 20 countries implementing elements of the India Stack, for example, through the adoption of the platform MOSIP (Mandala Policy, 2025). Table 1 below shows the DPI Coverage Metrics for a longitudinal period between 2019 and the 2030 target, highlighting trends over time for all four identity, payments, documents, connectivity and rural access.

**Table 1. India's DPI Coverage Metrics: Longitudinal Trends (2019–2025) with 2030 Targets**

| <i>DPI Metric</i>                  | <i>2019</i> | <i>2021</i> | <i>2023</i> | <i>2024–25</i> | <i>Target 2030</i> |
|------------------------------------|-------------|-------------|-------------|----------------|--------------------|
| Aadhaar enrolments (crore)         | 125         | 131         | 136         | 144+           | 150                |
| Jan Dhan accounts (crore)          | 37.7        | 42.5        | 51          | 58.16          | 65                 |
| UPI monthly transactions (billion) | 1.3         | 4.6         | 8.7         | 21.7           | 50                 |
| DigiLocker users (crore)           | 4           | 10          | 29          | 62+            | 120                |
| Broadband subscribers (crore)      | 56          | 75          | 86          | 100+           | 150                |
| CSCs in rural areas (lakh)         | 3.0         | 3.6         | 3.9         | 4.17           | 6.0                |
| 5G BTS installed (lakh)            | —           | —           | 0.8         | 5.18           | 10                 |
| ONDC seller registrations (lakh)   | —           | —           | 0.3         | 7.64           | 20                 |

Note: CSCs = Common Service Centres; BTS = Base Transceiver Stations; ONDC = Open Network for Digital Commerce.

Sources: PIB (2025, 2026); ORF (2025); DD India (2026); Drishti IAS (2026).

### Persistent Disparities

While these progressions have been made, structural gaps continue to exist across three dimensions. The first is geography, with only 39% of rural households on the line and Common Service Centres (CSC), which are found in 417,000 rural locations, are not universally available and operational. The second axis is linguistic: India has 22 scheduled languages and hundreds of dialects – hundreds of millions of its citizens are literate in their native script but not in the dominant DPI interface language (English or Hindi). The third axis is socioeconomic; India's 490 million informal workers (estimated by the Digital Shram Setu mission) lack access to formal credit, skill verification, and social protection due to the absence of data trails in formal systems for these workers to support inclusion via AI (DD India, 2026). There is also a quality aspect to coverage – it will not suffice to just enrol a farmer in Aadhaar and leave the land records in a paper registry for mutation fraud, and it will not be enough to just issue a Jan Dhan account if mule account fraud erodes trust in mobile banking. Coverage involves ensuring that DPI services are maintained in terms of integrity, trustworthiness, and usability throughout the whole life cycle of citizen interaction with DPI services.

**Figure 1. UPI Monthly Transaction Volume Growth (2019–2024–25, in Billion Transactions)**

| Year     | Monthly UPI Transaction s (Billion) | Representation                                                                              |
|----------|-------------------------------------|---------------------------------------------------------------------------------------------|
| 2019     | 1.3                                 |  1.3 B   |
| 2020     | 2.2                                 |  2.2 B   |
| 2021     | 4.6                                 |  4.6 B  |
| 2022     | 7.4                                 |  7.4 B  |
| 2023     | 8.7                                 |  8.7 B  |
| 2024 –25 | 21.7                                |  21.7 B |

Note: Values represent end-of-period monthly transaction volume.

Sources: Coinlaw (2025); PIB (2025, 2026).

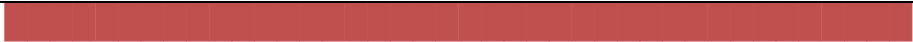
### Role of Artificial Intelligence in Maintaining DPI Coverage

Language and Literacy Inclusion: BHASHINI Countries like India face a lot of challenges regarding DPI coverage, but the most basic is language — and it is not connection. The BHASHINI platform –

India's AI-fuelled language translation and voice interface infrastructure – does just that. In May 2025, BHASHINI has been supporting 35+ languages with more than 1600 AI models and 18 language services, embedded in IRCTC, NPCI's IVRS systems and with police documentation (PIB, 2025). BHASHINI brings Digital Services to its citizens, who can access to the DPI services in their native language, but unable to access the English or Hindi user interface. The coverage implication is staggering – estimated 530 million Indians speak languages other than Hindi/English as their primary language. BHASHINI, along with Banking BHASHINI — an AI Language Model for financial services — allows these citizens to access services such as Jan Dhan banking, UPI payment and government schemes in their language, a commitment of the Constitution that is also beyond DPI scale (Policy Edge, 2026). This chapter discusses how AI-driven credit and the streamlined lending interface will enhance financial coverage. The United Nations Financial Interfaces (ULI), an initiative launched by the Reserve Bank of India (RBI), is the most direct way in which AI has impacted financial DPI coverage in India. With the ULI, financial institutions can tap into a range of trusted and consented data sources, including land records, agricultural data, cash flow histories, and more, helping to bridge this gap so AI models can make more accurate credit predictions for those without traditional credit histories. As of December 2025, 64 lenders (41 banks and 23 Non-Banking Financial Companies) are onboarded with more than 136 data services for 12 loan journeys (DD India, 2026). ULI with the aim of strengthening the credit penetration in rural/semi-urban areas is expanding ULI access with Regional Rural Banks and District Central Cooperative Banks. This is a structural change: AI makes it possible to move from the 'banking the banked' to the 'banking the unbanked' by generating data-driven proxy for trust in unbanked populations. Complementarily, RBI's MuleHunter.AI, introduced in December 2024, maintains quality of coverage by instantly detecting mule bank accounts for money laundering while keeping trust in UPI, which is crucial for their ongoing adoption in rural areas (DD India, 2026).

**Figure 2. Digi Locker Registered User Growth (2019–2024–25, in Crore Users)**

Growth in DigiLocker Users (Crore)

| Year    | Users (Crores) | Representation                                                                       |
|---------|----------------|--------------------------------------------------------------------------------------|
| 2019    | 4              |     |
| 2020    | 7              |     |
| 2021    | 10             |    |
| 2022    | 17             |    |
| 2023    | 29             |    |
| 2024–25 | 62             |  |

Note: 2024–25 figure includes all registered users till June 2025.

Sources: ORF (2025); PIB (2025); Wikipedia / Digi Locker official statistics.

### Blockchain Technology in Maintaining DPI Coverage

DPI coverage is only of any value when records on which services rely are genuine. A beneficiary whose land title can be fraudulently mutated, whose welfare entitlement can be transferred to a substitute recipient being a ghost beneficiary, whose academic credential can be fabricated isn't really covered by DPI — they have the form, but they don't have the substance. This fundamental need is addressed by blockchain technology, which offers strong structural assurances of data integrity with its cryptographic immutability: data that has been inscribed on a distributed ledger is unchangeable and cannot be tampered with.

The National Blockchain Framework launched on 4th September 2024 with a budget of ₹ 64.76 crore, offers a Blockchain-as-a-Service infrastructure to the Government Departments for deploying permissioned blockchain applications without having to build their own technical capabilities (DD News, 2025). As of October 2025, roughly 340 million government records had been verified on the NBF, making it one of the biggest government record authentication projects on the blockchain anywhere in the world. Almost 50% of the states have been conducting blockchain pilots for land fraud, grievance redressal and welfare delivery. Almost half of the states are conducting blockchain pilots for land fraud, grievance redressal and welfare delivery.

**Coverage by Ghost Beneficiaries**

Coverage failure via record fraud is a classic example in the Public Distribution System under National Food Security Act, which provides subsidised food grains to 800 million beneficiaries. The overall coverage that is reflected in the scheme is impeded by ghost beneficiaries, duplicate ration cards, diversion at the distribution point, etc. Unlike a local registry, blockchain-based beneficiary registries cannot be tampered with after a record has been created, since the blockchain components of the registry are defined and permanently recorded on the chain. Smart contracts can be programmed to release the food grain only after it is verified by means of a biometric authentication at the point of delivery, thus establishing an end-to-end auditable coverage chain.

The same reasoning goes with Direct Benefit Transfer (DBT) schemes: blockchain-based auditing ensures that each payment is permanently recorded on the blockchain, making it easy for the government and recipients to know that the money reached them. The institutional involvement in this use case is reflected in the specific mention of smart contract welfare disbursement in the MeitY's Blockchain India Challenge 2026. (Edunovations, 2026).

**Decentralised Identity**

The structural DPI coverage gap arises for India's 490 million informal and migrant workers, who are shifting between states, with their ins and outs altering their documentation, welfare and work records. Announced in October 2025, the Digital ShramSetu mission aims to leverage AI solutions, blockchain technology, and digital learning resources to develop a decentralised, blockchain-encrypted identity for workers that is portable and can be carried across geographies, allowing them to seamlessly access to skill verification, social security, and opportunities in the labour market (DD India, 2026).

Decentralised Identity (DID) systems, developed on blockchain, utilise Zero Knowledge Proof (ZKP) technology, taking this a step further, allow a worker to validate his/her eligibility for any scheme — MGNREGS, PM-SYM, PMJJBY — without compromising her/his complete identity, thus enhancing privacy along with increasing coverage. In the Indian context, the India Blockchain Alliance's prototype, Soul Wallet, shows this functionality (Coin Geek, 2024).

**Table 2. Blockchain Mechanisms for DPI Coverage Maintenance in India**

| <b><i>Blockchain Mechanism</i></b>      | <b><i>DPI Domain</i></b> | <b><i>Coverage Benefit</i></b>                                                                           | <b><i>Indian Deployment</i></b>                                              |
|-----------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Immutable Beneficiary Registry (PDS)    | Welfare / Social DPI     | Eliminates ghost beneficiaries and ensures last-mile delivery to genuine recipients                      | National Food Security ledger pilots in Chandigarh and Telangana (NBF, 2024) |
| Blockchain Credential Chain (Education) | Education DPI            | Enables instant, portable verification of academic awards anywhere; removes physical certificate fraud   | CBSE Certificate Chain via NIC – blockchain.gov.in (DD News, 2025)           |
| Decentralised Health Ledger (ABDM)      | Health DPI               | Patient-controlled consent; cross-provider data sharing without central pool; rural clinic access        | National Health Authority ABDM pilot (Kasyapa & Vanmathi, 2023)              |
| Land Registry on-chain                  | Revenue / Land DPI       | Tamper-proof property records; 340M records authenticated under NBF by Oct 2025                          | Telangana, Chandigarh, Karnataka, Jharkhand pilots (MediaNama, 2024)         |
| Decentralised Identity (DID + ZKP)      | Identity DPI             | Privacy-preserving proof of entitlement for rural/marginalised users without revealing full Aadhaar data | India Blockchain Alliance – Soul Wallet, ZKP pilot (CoinGeek, 2024)          |

|                                    |                       |                                                                                     |                                                                  |
|------------------------------------|-----------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------|
| AgriStack on-chain Registries      | Agriculture DPI       | Georeferenced farmer + land registries; loan disbursal directly via smart contracts | Digital Agriculture Mission; MoUs with 19 states (Protean, 2024) |
| Smart Contract Welfare Disbursal   | Social Protection DPI | Automatic, condition-triggered DBT payments; zero intermediary leakage              | MeitY Blockchain India Challenge 2026 (Edunovations, 2026)       |
| Supply-Chain Tracking (PDS/Pharma) | Distribution DPI      | Tracks commodity movement to last mile; AI + blockchain flag diversion anomalies    | ONDC pilot; NBF supply chain node (DD News, 2025)                |

Note: PDS = Public Distribution System; DID = Decentralised Identity; ZKP = Zero Knowledge Proof; ABDM = Ayushman Bharat Digital Mission. Sources: DD News (2025); MediaNama (2024); MicroSave Consulting (2025); Edunovations (2026).

### Convergence of AI and Blockchain

The strongest type of coverage maintenance come from the combination of AI and blockchain data provenance within federated learning architectures. Federated learning allows AI models to be trained using geographically scattered data sources (such as banks, state governments, hospitals, agricultural agencies, etc.) without the data ever leaving its home institution. Only model updates are sent across the network in encrypted form, ensuring privacy and a collective intelligence. By tapping into the wide diversity of India's DPI data ecosystem, this directly addresses the challenge that comes with standalone AI: Federated models are richer, more representative and less biased. Block Chain enhances Federated learning with two ways. It is crucial to note that it can also offer data provenance: every dataset in a federated model can be tracked back to its original source, ensuring that no poisoned or manipulated data will pollute shared models, especially in a DPI environment where bad guys can work to make credit scoring and welfare qualifying models more biased. Second, every change to this model and every aggregation of the models is recorded permanently on blockchain, ensuring that a fully transparent audit trail for AI coverage decisions is available to regulators, civil society, and courts to validate that actions are adequately explainable and not discriminatory. Telangana Data Exchange is an example of Federated Data Sharing, which is a non-central pooling model; and the Principal Scientific Adviser's December 2025 white paper on DPI for AI (PSA, 2025) explores Federated data access, consent based data flow, and coordinated compute exchange as 'more advanced elements' of

the DPI for AI roadmap (GovInsider, 2026). This puts India at the leading edge of a newly emerging, service as a service capability which is becoming ubiquitous across the world: coverage as a service from intelligent and trusted distributed infrastructure.

### **Challenges and Limitations:**

There are several structural barriers that limit the role of AI and blockchain in covering structures. The first is digital literacy: It is estimated that 600 million citizens don't have the basic digital skills to use DPI services independently. For transactional access, BHASHINI and voice interfaces help address this, while effective use of DPI engagement means having some digital capability, that PMGDISHA and its successors have not yet got in sufficient volume (Drishti IAS, 2026). Interoperability is the second challenge. The diversity of the DPI ecosystem in India is growing: Every platform is having its own set of DPI data standards, API architecture and governance framework such as Aadhaar, UPI, ABDM, Agri Stack, ONDC and Digi Locker, etc.

As blockchain is integrated into this ecosystem via the NBF, common standards that ensure that data on various chains can be understood by one another is still in the process of being developed, for example, a farmer's land record on Agri Stack could be verified through a bank's KYC process on a different chain (ORF, 2026). Algorithmic Accountability is the third challenge. An AI model trained to predict creditworthiness, assistance for welfare benefits or grievance routing can carry over existing inequalities if the underlying data it is modelled on is discriminatory. In November of 2025, India's AI Governance Guidelines introduced the concept of 'AI for All,' which encompasses principles such as dataset inclusivity and equitable access. While the 'AI for All' principles are applicable to all AI systems, the task of applying them to a dataset through auditable and enforceable standards falls under the domain of regulatory governance (Asia Society, 2025). Finally, blockchain energy and institutional deployment costs are not negligible for the required scale and maintenance of the nationwide coverage of DPI. The initial allocation of the NBF of ₹64.76 crore funds key infrastructural facilities but extending it to all 28 states, all PDS circuits and all Agri Stack registries will need significant additional and ongoing investments, as well as institutional capacity at the state level to run and maintain the blockchain nodes.

### **CONCLUSION**

There has been no such scale of digital enrolment and service delivery as has been realised in India's Digital Public Infrastructure in history. Coverage enrolment is not coverage maintenance. The success of DPI is the extent to which citizens continue to get genuine, inclusive and dependable services and services at every area of their life — as a migrant worker, a smallholder farmer, as a first-generation digital user in a non-English speaking rural community, as an elderly citizen whose biometrics are compromised, as a welfare programme beneficiary whose integrity relies on fraud-proof records.

With the evidence provided by the India AI Mission, the National Blockchain Framework, BHASHINI, Agri Stack, ULI, Mule Hunter, this paper has argued that Blockchain is the technology that can be leveraged to build a value chain for Agri-startups and, in more general terms, provide sustainable solutions to problems related to food security. Blockchain and AI, the two technologies with the biggest potential to solve the coverage maintenance problem at the Indian scale, are burgeoning and diverse, with pilots being launched at the state level. AI delivers the – intelligence that adapts and responds to the context transforming DPI rails into truly inclusive services. The structure of blockchain gives the trustworthiness that makes DPI records into genuine data. Their convergence, with proof of provenance via a blockchain in federated learning architectures, paves the way for DPI coverage that goes beyond the assumption, to the actualization, of universal coverage and inclusion.

Such a development process, towards Viksit Bharat 2047, passes through a DPI that is reliable and authentic to every citizen of India. It is not a vision that's open for optional upgrades such as those powered by AI or blockchain. The policy recommendations in this paper make that vision a reality, through evidence-based, concrete policy solutions.

---

## REFERENCES

---

- Asia Society Policy Institute. (2025, December 4). Utilizing Digital Public Infrastructure (DPI) as techno-legal solutions for AI governance. Asia Society Policy Institute. <https://asiasociety.org/policy-institute/utilizing-digital-public-infrastructure-dpi-techno-legal-solutions-ai-governance>
- Coinlaw. (2025). UPI statistics 2026: Insights and trends shaping digital payments. Coinlaw. <https://coinlaw.io/upi-statistics/>
- DD India. (2026, May). AI-powered financial inclusion reshaping India's digital economy. DD India. <https://ddindia.co.in/2026/05/ai-powered-financial-inclusion-reshaping-indias-digital-economy/>
- DD News. (2025, October 24). From certificates to property records: Blockchain adoption expands across India. DD News. <https://ddnews.gov.in/en/from-certificates-to-property-records-blockchain-adoption-expands-across-india/>
- Drishti IAS. (2026, March 10). India's digital transformation and growth story. Drishti IAS. <https://www.drishtias.com/daily-updates/daily-news-analysis/indias-digital-transformation-and-growth-story>
- Edunovations. (2026, March 2). Blockchain India Challenge 2026: MeitY initiative to strengthen digital governance. Edunovations. <https://edunovations.com/currentaffairs/national/blockchain-india-challenge-2026/>

- EY India. (2026, January 22). Harnessing AI and digital public infrastructure for Viksit Bharat. EY India Insights. [https://www.ey.com/en\\_in/insights/ai/harnessing-ai-and-digital-public-infrastructure-for-viksit-bharat](https://www.ey.com/en_in/insights/ai/harnessing-ai-and-digital-public-infrastructure-for-viksit-bharat)
- GovInsider. (2026, January 20). India looks towards a DPI approach to open up AI infrastructure. GovInsider Asia. <https://govinsider.asia/intl-en/article/india-looks-towards-a-dpi-approach-to-open-up-ai-infrastructure>
- Indian Institute of Management Bangalore (IIMB). (2024). Decoding digital public infrastructure: Scripting inclusive digital futures. IIMB CDPG. <https://www.iimb.ac.in/cdpg/pdf/Monograph-Decoding-DPI.pdf>
- Kasyapa, M. S. B., & Vanmathi, C. (2023). A privacy protection mechanism for Indian health care data exchange using blockchain. In 2023 Innovations in Power and Advanced Computing Technologies (i-PACT). IEEE. <https://doi.org/10.1109/i-PACT58649.2023>
- Mandala Policy. (2025, June 12). DHRUVA: How DIGIPINs are reinventing India's address system. Mandala Policy Substack. <https://mandalapolicy.substack.com/p/the-billion-digipin-project-indias>
- MediaNama. (2024, December 16). India tests blockchain for land deals in Karnataka, Jharkhand. MediaNama. <https://www.medianama.com/2024/12/223-blockchain-land-use-pilot-karnataka-jharkhand/>
- MicroSave Consulting. (2025, November 12). AgriStack: A DPI approach to transform Indian agriculture. MicroSave Consulting. <https://www.microsave.net/2025/11/12/agristack-a-dpi-approach-to-transform-indian-agriculture/>
- Observer Research Foundation (ORF). (2025, August 14). A decade of 'Digital India Mission': Achievements, gaps, and the way forward. ORF. <https://www.orfonline.org/research/a-decade-of-digital-india-mission-achievements-gaps-and-the-way-forward>
- Observer Research Foundation (ORF). (2026, February 5). India's DPI 2.0: From UPI to universal data empowerment. ORF Expert Speak. <https://www.orfonline.org/expert-speak/india-s-dpi-2-0-from-upi-to-universal-data-empowerment>
- PMF IAS. (2025, May 1). Digital Public Infrastructure: Achievements & challenges. PMF IAS Current Affairs. <https://www.pmfias.com/digital-public-infrastructure/>
- PolicyEdge. (2026, May). AI and digital public infrastructure are reshaping financial inclusion in India. PolicyEdge. <https://www.policyedge.in/p/ai-and-digital-public-infrastructure-are-reshaping-financial-inclusion-in-india>
- Press Information Bureau (PIB), Government of India. (2025). Ten years of digital progress: Building an inclusive and future-ready India. PIB. <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2025/jun/doc2025630578601.pdf>



- Press Information Bureau (PIB), Government of India. (2026, March 6). India's Digital Public Infrastructure. PIB. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2235812>
- Principal Scientific Adviser, Government of India. (2025, December 29). Democratising access to AI infrastructure (Version 3.0). PSA Office. [https://psa.gov.in/CMS/web/sites/default/files/publication/WP\\_Democratising%20Access\\_V3.0\\_29122025A.pdf](https://psa.gov.in/CMS/web/sites/default/files/publication/WP_Democratising%20Access_V3.0_29122025A.pdf)
- Protean eGov Technologies. (2024). DPI achievements diary 2024. Protean. <https://proteantech.in/articles/dpi-2-0-2-4-developments/>
- Talluri, A. (2024). DP-RTFL: Differentially private resilient temporal federated learning for trustworthy AI in regulated industries. arXiv. <https://arxiv.org/pdf/2505.23813>
- Vajiram & Ravi. (2025). Financial inclusion in India through AI and DPI. Vajiram & Ravi Current Affairs. <https://vajiramandravi.com/current-affairs/financial-inclusion-in-india-through-ai-and-dpi/>
- World Economic Forum. (2025, October 2). Building security into India's digital public infrastructure. WEF. <https://www.weforum.org/stories/2025>