



Bridging the Digital Divide for Inclusive Growth

This editorial is based on "[Bridging the Digital Chasm](#)," published in Financial Express on 27/07/2025. It highlights the need to address digital literacy gaps in India's digital economy, highlighting the need for improved financial literacy, better digital infrastructure, and stronger regulations to ensure inclusive growth.

For Prelims: [Digital India](#), [BharatNet](#), [5G rollout](#), [Skill India Digital Hub](#), [Start-Up India](#), [Jan Dhan accounts](#), [PMGDISHA](#), [GI Cloud \(MeghRaj\)](#), [e-Shram](#), [PM-SVANidhi](#), [Atal Innovation Mission \(AIM\)](#).

For Mains: Key Factors Driving India's Digital Economy, Barriers to India's Inclusive Digital Transformation & Related Measures.

As India **strides towards its goal of becoming a [developed nation by 2047](#)**, the rapid growth of its **[digital economy](#)** has emerged as a cornerstone of its transformation. **From fintech innovations to digital governance**, its transformation is being powered by technology. Flagship initiatives such as **[Digital India](#)**, the **[Jan Dhan-Aadhaar-Mobile \(JAM\) trinity](#)**, and the **[UPI](#)** have expanded digital access to unprecedented levels. While this digital revolution has paved the way for significant progress, it also presents a critical challenge: **who is being left behind?**

India's Digital Advancements

Mobile Subscriptions

India ranks second globally with 1.14 billion mobile subscriptions.

Internet Traffic

India has an average monthly data traffic of 16.9 GB, ranking third worldwide after Saudi Arabia and Russia.

5G Deployment

By the end of 2023, 10% of India's population had subscribed to 5G services, making India the second-largest market for 5G smartphones in early 2024, after China.

Digital Identity

Over 1.3 billion biometric IDs have been issued in India, enhancing digital identity.

Digital Payments

India recorded over 1,644 billion digital transactions in FY 2023-24, the highest globally.

ICT Service Exports

India's ICT services exports reached USD 162 billion in 2023, second highest globally after Ireland's USD 236 billion.

AI Projects

India contributes 23% of global AI projects on GitHub, leading in AI development.

Unicorns

India has the third-largest (after US and China) number of homegrown unicorns, showcasing entrepreneurial growth.

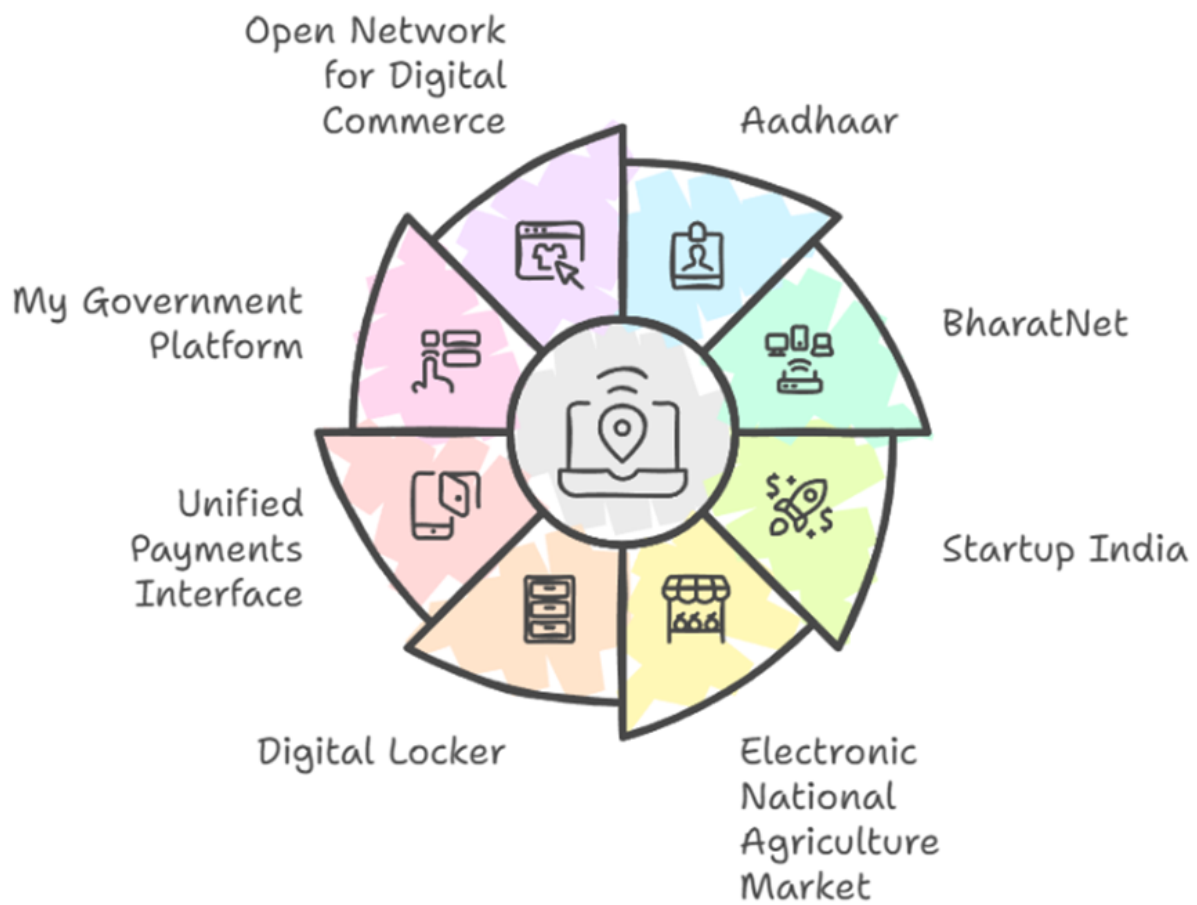
What are the Key Factors Driving India's Digital Economy?

- **Digital Payments Growth & Financial Inclusion:** The rapid rise of digital payments in India is not just a technological shift but a **powerful driver of financial inclusion, especially in underserved regions**.
 - In 2024 alone, UPI processed about 172 billion transactions, up 46% from 117.64 billion in 2023 (National Payments Corporation of India).
 - This is a **testament to both infrastructure expansion and behavioural change**, with more people turning to digital platforms for everyday transactions.
 - **RBI report** notes that nearly **a third of digital payment users now come from rural India**, and merchant adoption is rising in smaller towns and villages.
 - As of January 2025, a total of 54.58 crore Jan Dhan accounts have been opened, out of which 30.37 crore accounts **(55.7%) are held by women**.
- **Smartphone & Internet Penetration:** Affordable smartphones and inexpensive data have made India a **mobile-first economy**, expanding access to online education, digital payments, and entertainment.
 - According to the State of India's Digital Economy Report 2024, **India ranks as the third-largest digitalized country globally** in terms of economy-wide digitalization.
 - The country has a massive internet user base of over 900 million and **ranks 39th in the Global Innovation Index 2024**.
 - The '**Internet in India Report 2024**' reveals that active internet users reached 886 million in 2024, reflecting an 8% YoY growth.
- **Adoption of AI and Cloud Technology:** Companies are increasingly **integrating AI and cloud technology** to enhance productivity, improve customer experiences, and develop new services. This digital transformation is driving growth in both the cloud market and the overall digital economy.
 - As per the India AI 2023 Expert Group Report, **AI is expected to contribute USD 967 billion to India's GDP by 2035**. With 16% of global AI talent in India, second only to the US, the country is well-positioned to leverage AI for innovation and digital growth.
 - In 2020-23, India's cloud market accounted for 1.1-1.2% of the global market. The market

is projected to grow at a 24% **compound annual growth rate (CAGR)** from 2024 to 2027, reaching USD 20.3 billion by 2027.

- The **cloud market is among the fast-growing segments** of India's digital economy, which is expected to drive a fifth of the national GDP by 2030 (MeitY).
- **Global Capability Centres (GCCs) and Startup Expansion:** India has emerged as a global leader in GCCs, with **55% of the world's GCCs** based in the country as of 2022.
 - GCCs offer services such as R&D, IT support, and business process management to multinational corporations, significantly contributing to India's digital economy.
 - These centres cater **to North America, Europe, and Asia**, providing round-the-clock operations.
 - India's focus on scalable digital infrastructure like **UPI and India Stack** has helped **startups and SMEs** streamline operations and attract investors.
 - Digital platforms, particularly **e-commerce** and digital marketing, are now essential for business success.
 - India's exports of ICT services reached USD 162 billion in 2023, making it the **second-largest exporter globally**, after Ireland. This strong export performance highlights the growing importance of India's digital services on the global stage.
 - The **GI Cloud (MeghRaj)** initiative aims to provide **ICT services** via Cloud to all Government Departments at the Centre and States/UTs, promoting the Cloud ecosystem nationwide.
- **Digitalisation of Traditional Sectors:** India's digital economy is **projected to grow twice as fast as the overall economy**, contributing to one-fifth of national income by 2029-30.
 - In the Banking, Financial Services, and Insurance (BFSI) sector, **over 95% of banking payment transactions are digital**.
 - In the retail sector, while most companies are **opting for an omnichannel mode**, an interesting reverse trend is being seen. E-tailers and e-sellers such as **Nykaa, Urban Ladder, and FirstCry**, which began as completely online models, have, over time, invested in physical stores.
 - Retailers are incorporating technologies such as **Augmented Reality (AR)**, Virtual Reality (VR), and AI to enhance the shopping experience.
 - For instance, **virtual trials of accessories, skin analyzers** and predictive demand planning are being utilized to personalize services and optimize inventory management.
 - Other traditional sectors that are now **steadily transitioning to digital include education, hospitality, and logistics**.
- **E-Governance Initiatives-Services at Fingertips:** The Indian government has been at the forefront of integrating digital technologies for efficient service delivery.
 - Initiatives like **DigiLocker, MyGov, and e-District** provide citizens with easy access to essential services and documents at their fingertips.
 - These efforts significantly contribute to **improving governance, reducing bureaucratic hurdles, and promoting digital inclusion**.

Key Digital India Initiatives



What are the Barriers to India's Inclusive Digital Transformation?

- **Digital Literacy Gaps and Exclusion:** Rapid digital adoption has outpaced digital literacy, especially for women and rural populations. Only **24% of the population is financially literate**, with even lower rates among women and informal workers (National Centre for Financial Education - NCFE).
 - The **informal sector, contributing 45% to India's GDP, faces digital exclusion** despite initiatives like [e-Shram](#) and [PM-SVANidhi](#).
 - This disparity further widens the wealth gap, **creating multi-layered digital inequality** that deepens socioeconomic divides.
- **Barriers to Digital Adoption in Micro and Small Enterprises:** A significant number of micro and small enterprises still face barriers to fully embracing digital tools.
 - While **69% use digital wallets**, less than half have access to digital credit or e-commerce platforms.
 - A Centre for Effective Action study found **58% of merchants hadn't adopted digital payments despite low barriers**.
 - Barriers such as economic limitations, lack of trust in technology, and fear of fraud hinder broader adoption.
 - This **reflects a psychological and institutional gap**, preventing these enterprises from scaling and reaching their full potential in the digital economy.
- **Vulnerability to Cyber Fraud:** A lack of understanding of online security and consumer rights leaves low-income and informal workers vulnerable to cyber fraud.

- As per the Central Payment Fraud Information Registry, in **FY24, 13.42 lakh UPI fraud cases amounting to ₹1,087 crore were reported**, a drastic increase from the previous year.
 - As per the National Cybercrime Reporting Portal (NCRP), **digital arrest** scams and cybercrimes in India nearly **tripled between 2022 and 2024**.
- This growing vulnerability underscores the need for stronger **cybersecurity** awareness and consumer protection to ensure **digital tools do not become instruments of exploitation** for those least equipped to protect themselves.
- **Unregulated Digital Lending Platforms:** The rise of unregulated digital lending platforms is another significant challenge. These platforms **target users with minimal financial exposure**, offering loans at exploitative interest rates.
 - **Despite the Reserve Bank of India (Digital Lending) Directions, 2025**, unregulated digital lending platforms continue to operate outside the purview of regulators, **contributing to debt traps for vulnerable populations** and exacerbating financial instability.
 - A report by MeitY highlighted that over **1,000 unregulated lending apps operate in the country**, targeting low-income groups with limited access to formal credit.
- **Infrastructure Challenges in Digital Transformation:** India's digital infrastructure faces significant challenges, including slow broadband speeds, **uneven 5G rollout**, and **insufficient fiber-optic networks**.
 - Even though Indian internet speeds have increased, they are **still yet to close the gap on many of the high-income countries**-both in infrastructure-related challenges as well as India's overall digital divide.
 - As per the Speedtest Global Index, **India ranks 25th globally for mobile internet speeds** as of November 2024.
 - Moreover, India's fiberization rate stands at 44%, significantly **behind the target of 70%**.
- **Regulatory Bottleneck and Vacuum:** India faces significant regulatory bottlenecks and a lack of comprehensive frameworks in emerging sectors.
 - For instance, the **Digital Personal Data Protection (DPDP) Act, 2023** remains largely unimplemented, with key rules yet to be enforced.
 - Additionally, there is a notable absence of adequate regulations for **cryptocurrency**, AI-generated content, and other evolving technologies, leaving gaps in consumer protection, data privacy, and accountability.
 - This regulatory vacuum creates uncertainty and hinders the growth of these sectors, **impeding India's ability to fully capitalize on digital innovations**.

What Measures Can Be Implemented to Strengthen India's Digital Landscape?

- **Promoting Financial Literacy:** Financial literacy should be prioritised alongside basic infrastructure like roads and electricity. India can implement **nationwide financial literacy programs** targeting women, youth, and informal workers.
 - The National Centre for Financial Education (NCFE) can collaborate with **self-help groups**, **anganwadi workers**, and panchayats to deliver financial education at the grassroots level.
 - **Expand initiatives like PMGDISHA** to improve digital literacy in rural areas and include financial literacy modules in existing programs.
- **Inclusive Digital Infrastructure:** To overcome digital exclusion, affordable smartphones and low-bandwidth applications are essential. India **needs to ensure digital services are accessible even in remote areas**.
 - The **BharatNet Project**, aimed at connecting rural India with high-speed internet, could be expanded further to ensure that internet connectivity is more accessible for all.
 - Integrating **mesh networks, low-Earth satellites, and 5G Fixed Wireless Access** can further reduce infrastructure gaps. Internet access must be treated as a **basic utility, not a privilege**.
- **Strengthening Fintech Regulation and Consumer Protection:** Fintech regulation should be tightened, with a focus on faster grievance redress and enforcing RBI guidelines to protect users

from fraud and exploitative lending.

- The **RBI's Digital Lending Guidelines, introduced in May 2025**, are a step in the right direction, but stricter enforcement and regular audits of digital lenders are necessary to protect vulnerable users.
- **Promote Responsible AI Integration in Governance:** With India pushing for AI in public service delivery (e.g., [BHASHINI](#), [ONDC](#)), there is a need to ensure ethical, explainable, and inclusive AI deployment.
 - Public sector algorithms must undergo **periodic bias audits**, and government departments should develop AI-readiness frameworks.
 - **Encouraging indigenous AI innovation** through open datasets, sandbox environments, and public-private R&D collaboration will create context-aware solutions.
- **Data Privacy and Cyber-Security Awareness:** Cybersecurity must become a core pillar of digital development, not just a reactive strategy. Every tier of government should have a cyber hygiene protocol, with capacity-building for local officials and frontline workers.
 - Public digital infrastructure **must have cyber-resilience layers** by design, with audits, backups, and risk simulations. India should scale its [Cyber Swachhta Kendra](#) model to rural networks and Small and Medium Businesses (SMBs).
 - Moreover, effective implementation of the **Digital Personal Data Protection Act, 2023**, is crucial for safeguarding citizens' data.
 - The [EU's General Data Protection Regulation \(GDPR\)](#) sets a global benchmark for data privacy regulations. India could strengthen its data privacy laws by adopting similar frameworks.
- **Fostering Innovation through Startups and Incubators:** Promote digital startups by providing subsidies for R&D, tax benefits, and incubation support.
 - **India should expand startup incubators** and accelerators for digital businesses in rural areas to ensure inclusive innovation.
 - Initiatives like [Atal Innovation Mission \(AIM\)](#) and **Startup India** should include specific programs to support digital startups **focusing on rural development** and informal sector digital tools.
- **Institutionalise Digital Governance Standards across Ministries:** The digital maturity of ministries and departments varies widely.
 - A central **Digital Governance Standards Authority (DGSA)** should define **benchmarks** for user experience, data governance, grievance redress, and service uptime.
 - **Ministries should undergo annual digital audits** and receive rankings to foster healthy competition. Integration of services under a unified citizen dashboard can prevent duplication and improve accountability.
- **Regulate Platform Economy to Ensure Fair Digital Markets:** With the dominance of digital platforms across sectors (e-commerce, [gig work](#), fintech), India needs an updated digital competition framework.
 - **Laws must ensure** algorithmic fairness, data portability, and grievance redress for digital consumers and workers.
 - The **upcoming Digital Competition Bill** must be implemented with a focus on both market innovation and user protection. The government should also nudge platforms to adopt self-regulation codes. **A fair digital economy is critical for long-term sustainability.**

Conclusion

India's digital future hinges on addressing critical gaps in digital literacy, cybersecurity, and infrastructure. By focusing on inclusive policies, strengthening regulations, and improving financial literacy, India can ensure **broad-based participation** in the digital economy. The upcoming **Digital India Act** aims to provide a robust legal framework for the evolving digital landscape. The vision of "**Digital India, Inclusive India**" must center on using **technology as an enabler for all citizens**, ensuring that no one is left behind in the country's digital transformation.

Drishti Mains Question

Evaluate the challenges and measures for ensuring inclusive growth in India's rapidly growing digital

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Consider the following: (2022)

1. Aarogya Setu
2. CoWIN
3. DigiLocker
4. DIKSHA

Which of the above are built on top of open-source digital platforms?

- (a) 1 and 2 only
- (b) 2, 3 and 4 only
- (c) 1, 3 and 4 only
- (d) 1, 2, 3 and 4

Ans: (d)

Mains

Q. “The emergence of the Fourth Industrial Revolution (Digital Revolution) has initiated e-Governance as an integral part of government”. Discuss. **(2020)**