07 | Service delivery excellence: Optimising digital pathways

India's innovation journey is beyond urban success; it is a story of technological prowess transforming Bharat from the ground up.

India's development journey towards *Viksit Bharat 2047* hinges on the power of innovative, technology-driven solutions that bridge social gaps and create a sustainable impact.

The next few chapters showcase transformative efforts across multiple domains, whether enhancing public services with GenAI, empowering rural cooperatives through digital transformation or revolutionising healthcare delivery as part of the Ayushman Bharat Digital Mission (ABDM). Each initiative emphasizes the importance of digital in bridging rural-urban divides and building a future-ready digital infrastructure.

GenAI, for instance, is reshaping public service delivery by enabling real-time assistance and multilingual capabilities that bring government services closer to citizens. Meanwhile, digital cooperatives are also revolutionising rural finance, modernising the agricultural sector and expanding opportunities for women in rural communities. Similarly, ABDM is establishing new benchmarks for accessible and patient-centric healthcare, creating a seamless ecosystem of digital health records and services for every citizen.

These efforts underscore a unified vision of a future where technology enhances efficiency, inclusion and resilience across sectors. By placing its citizens at the heart of these digital advancements, India is paving the way for inclusive growth and setting an inspiring example as a nation committed to using technology to uplift its people.

7a. GenAI: A gateway to new efficiencies

Shri Abhishek Singh
Additional Secretary, MeitY

GenAI is increasingly being adopted in India to improve the efficiency of public service delivery. Many government departments at the centre and across states have introduced public-facing, GenAI-based tools and services. Countries adopting GenAI focus on AI sovereignty and rely on local AI ecosystems rather than offshore frameworks. The government is keen on collaborating with private companies and start-ups in this space to fortify the necessary technology ecosystem. With such efforts to use the growing power of GenAI in realising the vision of *Viksit Bharat 2047*, the ethical bias-free application of GenAI has emerged as a key focus area for stakeholders.

GenAI is no longer a futuristic concept; it is a reality that India is actively harnessing to benefit its citizens, bolster national security and support local businesses. A Deloitte survey establishes that India ranks first in the adoption of GenAI across Asia Pacific.[19] Indian companies are refining their strategy to make the most of AI opportunities.[20,21] The government is also rapidly adopting AI to deliver world-class services to the public.

Government agencies are advancing the use of AI in public services. Notable examples include the Jugalbandi chatbot, which facilitates access to government services, IRCTC's AskDISHA 2.0 virtual assistant and BharatGPT (India's first homegrown Large Language Model (LLM)). Other applications include AI integration in investor support processes by Karnataka and improved public service delivery in Telangana through AI-driven grievance management.

The discussions in *Ārohaṇa: Growth with Impact* focused majorly on GenAI as it is one of the transformative technologies that will help achieve the *Viksit Bharat 2047* vision. Experts shared their views on GenAI during various discussions during the event. For instance, they noted that AI models are primarily trained in Western datasets and underlined the need for Indian foundational models to be developed and trained on Indian datasets. They also pointed out a huge opportunity for companies to invest in R&D and develop products for the global market.

The Fireside Chat: The Power of GenAI explored how GenAI can improve citizen services, highlighting vernacular chatbots and inclusive digital access. In the panel discussion, "The Power of GenAI: Driving Service Delivery Efficiencies for Citizens and Businesses," experts from the government and private sectors discussed how GenAI is reshaping the

[19] Deloitte, Generative AI in Asia Pacific: Young Employees Lead as Employers Play Catch-up

[20] Deloitte, The State of Generative AI in the Enterprise

[21] Deloitte, State of AI in India

delivery of public services, the challenges ahead and the synergies required. Along with the panel discussions, experts also congregated for a *Manthan* on GenAI.

Panel: The Power of GenAI – Driving Service Delivery Efficiencies for Citizens and Businesses

Participants:

Anil Sagar, IAS, Government of Uttar Pradesh; and Sundar Nagalingam, Global Director, Nvidia

Moderator:

Saurabh Kumar, Partner, Deloitte India

India is taking bold strides in deploying GenAI to enhance governance. Many government departments have mandated AI-driven chatbots and are fast becoming the frontline communicators between these departments and citizens. From tourism services to healthcare inquiries, these chatbots are helping citizens get personalised answers in real time. Imagine planning a trip across India. A chatbot can suggest the best routes, timings and places to visit, all tailored to your preferences.

Strong computing power is essential to optimising GenAI's capabilities. The government and the private sector are collaborating to enhance computing capacity by modernising existing facilities and encouraging more research and development. GenAI works with gargantuan amounts of data. State-of-the-art data centres are key to efficiently and safely handling such huge volumes of data. The government is working with private players and start-up companies to build and enhance the capacity of data centres.

In the Asia-Pacific region, the increasing use of GenAI and the expansion of data centres are giving rise to a trend identified as Sovereign AI.

Sovereign AI is where every country wants to develop its indigenous computing infrastructure within its shores. They want to be self-reliant when it comes to AI computing capacity. Both the government and private sectors are heavily investing in building computer capacity. In addition to the three big cloud service providers, many smaller native Cloud Service Providers (CSPs) are also coming up and setting up AI-capable data centres.

> *We want to have good computing facilities so that companies can reuse all those computing facilities and generate those AI components that can be used elsewhere, both in the private sector as well as in the public sector.*
>
> **Anil Sagar**
> **IAS, Government of Uttar Pradesh**

The government of India is modifying and strengthening its semiconductor policies to accommodate the growing need for computing capacity and data centres. Uttar Pradesh boasts a supportive semiconductor technology ecosystem with many GPU chip design companies already operating in the state. Under its flagship scheme, “StartInUP,” the UP government has collaborated with IIT Kanpur to establish the CoE for AI and Innovation-driven Entrepreneurship. The CoE has helped incubate and accelerate over a hundred start-ups in the AI, ICT, IoT, cyber and AR/VR sectors. The state government plans to set up a 1,000-acre semiconductor park near Jewar International Airport, aiming for self-reliance in

In addition to the big three global CSPs, smaller native indigenous conglomerates are also setting up their own data centres. And these data centres are becoming AI-capable data centres.

Sundar Nagalingam
Global Director, Nvidia

semiconductor production and GenAI capabilities.
Upskilling students and the public with emerging AI technologies is key to broader adoption. Those aspiring to grow in AI should start by

To bridge the gender gap, the UP government has made initiatives to upskill five lakh women in GenAI technology. This will also serve as a strategic approach to reduce AI biases.[22]

strengthening their fundamentals in mathematics and computer science. The wider adoption of AI has its challenges. One of the most pressing issues is that AI tools can inadvertently reflect societal biases embedded in the data used to train them. The panel discussion emphasized that AI itself is not biased, but the data it processes can be. Global research is focusing on making AI systems more explainable and unbiased to counter the bias in AI. This is crucial for ensuring that AI-driven decisions in law enforcement, healthcare and employment are bias-free and accountable. With the conversation around AI ethics evolving, governments and organisations must work together to ensure that AI is used responsibly.

India is also taking a leadership role in AI adoption. AI will eventually transform how public services are administered, particularly in a populous country such as India. This change will lead to a future that is more efficient, accessible and equitable.

Fireside Chat: The Power of GenAI
Speaker:
Shri Abhishek Singh, Additional Secretary, MeitY

Moderator:
Sreeram Ananthasayanam, Partner, Deloitte India

In this session, Abhishek Singh shared his perspective on how GenAI can shape India's digital future. GenAI has the potential to transform the way citizen services are offered. For example, GenAI can revolutionise helpline services in the insurance, healthcare and agriculture sectors. AI-enabled chatbots can be used to deliver information to people in vernacular languages. The citizens need not visit a municipal office or a tax office to get their questions answered. They can obtain the necessary information at the touch of a button. Such systems are already in use in other countries and can be replicated in India. He emphasized the need for inclusive, citizen-centric infrastructure that reflects the country's linguistic and cultural diversity. With the increasing smartphone penetration, digital services should be made available to first-time internet users, especially in rural and semi-urban areas. Platforms such as Bhashini are helping bridge this gap by enabling voice-based access to government schemes in agriculture, health and education.

[22] https://government.economictimes.indiatimes.com/news/technology/yogi-govt-partners-hcl-groups-guvi-sawit-to-drive-genai-learning-for-women/113540633

Tackling the digital divide

Platforms such as UPI, DigiLocker and Aadhaar have simplified access to financial services and digital identity verification, reducing friction for citizens. True inclusion means services must be available in Indian languages and accessible through voice, allowing citizens to engage without intermediaries or technical barriers.

Localising AI for India

Current models trained on Western datasets often fail to reflect India's cultural and socio-economic realities.

> *Ask for an image of an Indian kitchen, and you might get firewood instead of a gas stove. We are working to correct that bias.*
>
> **Abhishek Singh**
> **Additional Secretary, MeitY**

To overcome such biases, the India AI Mission is developing an Indian foundational model using indigenous datasets. This includes building a structured, anonymised and interoperable data repository, supported by metadata standards and privacy tools, to ensure AI models are relevant and representative.

Balancing data privacy and AI innovation

While personal data is governed by the Digital Personal Data Protection (DPDP) Act, many AI applications rely on non-personal data, such as traffic patterns or infrastructure details. There is a need to equip departments with anonymisation tools and build confidence in data sharing.

Enabling AI-powered decision-making

India has a strong pool of AI talent, but compute has been a missing piece. That is now changing, with the India AI Mission setting up infrastructure with over 10,000 GPUs to support model training and

> *India is ranked number one in AI skill accreditation, and we have many trained engineers. However, computing is a challenge due to insufficient AI infrastructure.*
>
> **Abhishek Singh**
> **Additional Secretary, MeitY**

innovation. The next challenge is making public data usable. Many departments have valuable datasets but need support to organise, anonymise and share them securely. The India DataSets platform is helping bridge that gap by building capacity and providing the right tools to unlock data for meaningful AI applications.

From digital skilling to product innovation

The session concluded with a discussion on India's digital skilling landscape and the need to foster a product-oriented mindset. Abhishek Singh acknowledged that while India has long been a global IT services hub, domestic innovation in product development has lagged. Large IT firms should look at investing in R&D and building scalable solutions. Government schemes are also being launched to support product development and entrepreneurship.

India as a proving ground for AI innovation

India's digital infrastructure and widespread adoption create a distinctive environment for AI innovation. With strategic collaboration between the government and the industry, India is well placed to lead the next wave

of AI-driven transformation, delivering both societal impact and global relevance.

Manthan: GenAI

Participants:

Prakash Kumar, CEO, Wadhwani Centre for Government Digital Transformation; Sudhir Aggarwal, Director and Head – Client Partner, Wadhwani Centre for Government Digital Transformation; Pradeep Jhunjhunwala, Head of Partner Solutions Architecture, AWS; and Gautam Jha, Cloud Solution Architect, AWS

Guru:

S Anjani Kumar, Partner, Deloitte India

The *Manthan* centred around the practical applications and challenges of GenAI in various sectors, especially within government and public services. Several key themes were explored.

Use of AI in public sector operations

AI is revolutionising how governments function by improving the efficiency of complex and time-consuming processes. The discussion highlighted how AI is used in the following areas:

- **Procurement:** AI simplifies the creation, analysis and management of government procurement processes. Governments are using AI to generate and analyse Request for Proposals (RFPs), compare responses and identify discrepancies faster than manual processes.
- **Legislative drafting and policymaking:** GenAI can analyse legislation and provide summaries and suggestions for improvements by comparing similar laws from other countries. This application ensures that governments can quickly adapt to new challenges and regulatory needs.
- **Data processing and insights:** Government operations generate massive amounts of data daily, from field operations to citizen feedback. AI's ability to summarise large datasets and extract patterns is invaluable for decision-making. For example, in the defence sector, AI can analyse surveillance data, extract insights from incident reports and detect important patterns that human operators may miss.

In procurement, GenAI reduces effort across functions, from creating RFPs to getting and analysing responses and turning the data into actionable insights. The entire process, which sometimes takes weeks and months, can now be executed within days.[23]

AI for improved citizen services

With the adoption of AI for improved citizen services, the government aims to offer personalised, inclusive and responsive services.

- **Localised language services:** In multilingual countries such as India, where English is not widely spoken, AI is crucial for overcoming language barriers. For instance, the AI-enabled Bhashini tool can provide real-time support in over 20 Indian languages, offering citizens easy access to government schemes and services, regardless of their literacy level.
- **Real-time assistance:** AI can help citizens navigate complex bureaucratic processes, such as determining eligibility for various government schemes or filing complaints. The system can answer queries in local languages via voice or text, making it more accessible for rural or non-tech-savvy users. Integrating AI into government websites and services will enhance the delivery of services. For example, when citizens seek advice regarding agricultural practices or a particular insurance scheme by the government, they can quickly find relevant

[23] https://government.economictimes.indiatimes.com/news/technology/yogi-govt-partners-hcl-groups-guvi-sawit-to-drive-genai-learning-for-women/113540633

real-time information from GenAI-supported chatbots without physically visiting a government office.

Crisis management and digital twin technology

Government agencies can use AI to enhance their incident preparedness and crisis response capabilities. Advanced simulation techniques such as digital twins can greatly help disaster mitigation and crisis management.

Digital twins involve creating a virtual replica of a city or infrastructure to simulate various scenarios, such as natural disasters, public events or infrastructure failures. By running these simulations, governments can proactively plan to respond to crises. For example, a digital twin of Mumbai could simulate the impacts of a festival such as Ganpati immersion on traffic patterns, allowing authorities to optimise road closures and diversions for minimal disruption.

In real-time crisis management, AI can analyse large volumes of data (e.g., weather forecasts, public movement and resource availability) to give actionable insights, helping government agencies react faster and more efficiently during emergencies such as floods, pandemics or large public gatherings.

Education and training

AI tools can provide real-time translation of educational material in various regional languages, breaking barriers for students who may not be proficient in the language of instruction.

The *Manthan* also demonstrated two AI-based tools, one for training teachers and the other to help individuals practice with mock interviews. The InterviewAI conducted mock interviews and evaluated the interviewees for their clarity, persuasiveness, level of detail in answers, etc.

The Teacher Training AI provided specific feedback on conceptual clarity, voice modulation, pitch and use of filler words. Moreover, it captured the participant's facial expressions every 15 seconds and performed an emotional analysis. For example, the AI could identify the number of times the participant smiled and the number of times they were calm. This 360-degree feedback helps educators improve their teaching methods, ensuring students receive high-quality instruction regardless of geographical location.

Practical challenges of AI

Though AI has many potential use cases across various sectors, adopting GenAI has some practical challenges. The *Manthan* group explored those challenges and discussed the possible solutions.

Biases and hallucinations

AI models can unintentionally reflect biases present in the data they are trained on. For instance, if a model used for processing loan applications is trained on historical data where women were underrepresented, it might perpetuate discriminatory practices, unintentionally favouring male applicants.

AI hallucinations refer to instances where AI generates incorrect or nonsensical outputs. These hallucinations arise when AI models infer data without fully understanding it, leading to flawed decisions. For example, a legal AI tool might mistakenly generate non-existent case precedents because it relied on mock data used in training. AI outputs should never be accepted without human verification. Just as a new employee's work is double-checked until they gain experience, AI models also require regular monitoring and validation, particularly in the initial stages of deployment.

Privacy and data security
Data security and privacy are top concerns when deploying AI in public sectors. Governments must ensure that sensitive citizen data remains within national boundaries and is protected from unauthorised access. AI systems need to be configured to operate within strict guardrails, preventing them from accessing or sharing data beyond what is legally permissible.

They must also implement robust governance mechanisms, defining who controls and accesses the data that AI systems use. This involves anonymising personal data when required and providing full transparency in the decision-making processes of AI systems.

Synthetic data to address the lack of AI training data
In cases where governments lack enough real-world data, synthetic data generation is emerging as a solution. Some use cases, such as identifying fraudulent claims, don't have enough examples in the data to adequately train AI models. To overcome this, synthetic data is generated to simulate rare or unusual events, which can then be used to improve AI models' accuracy and decision-making capabilities. For example, synthetic data can be generated to simulate potential fraudulent claims in the insurance industry. AI models trained on this data can more effectively identify suspicious claims, even when there are few real cases.

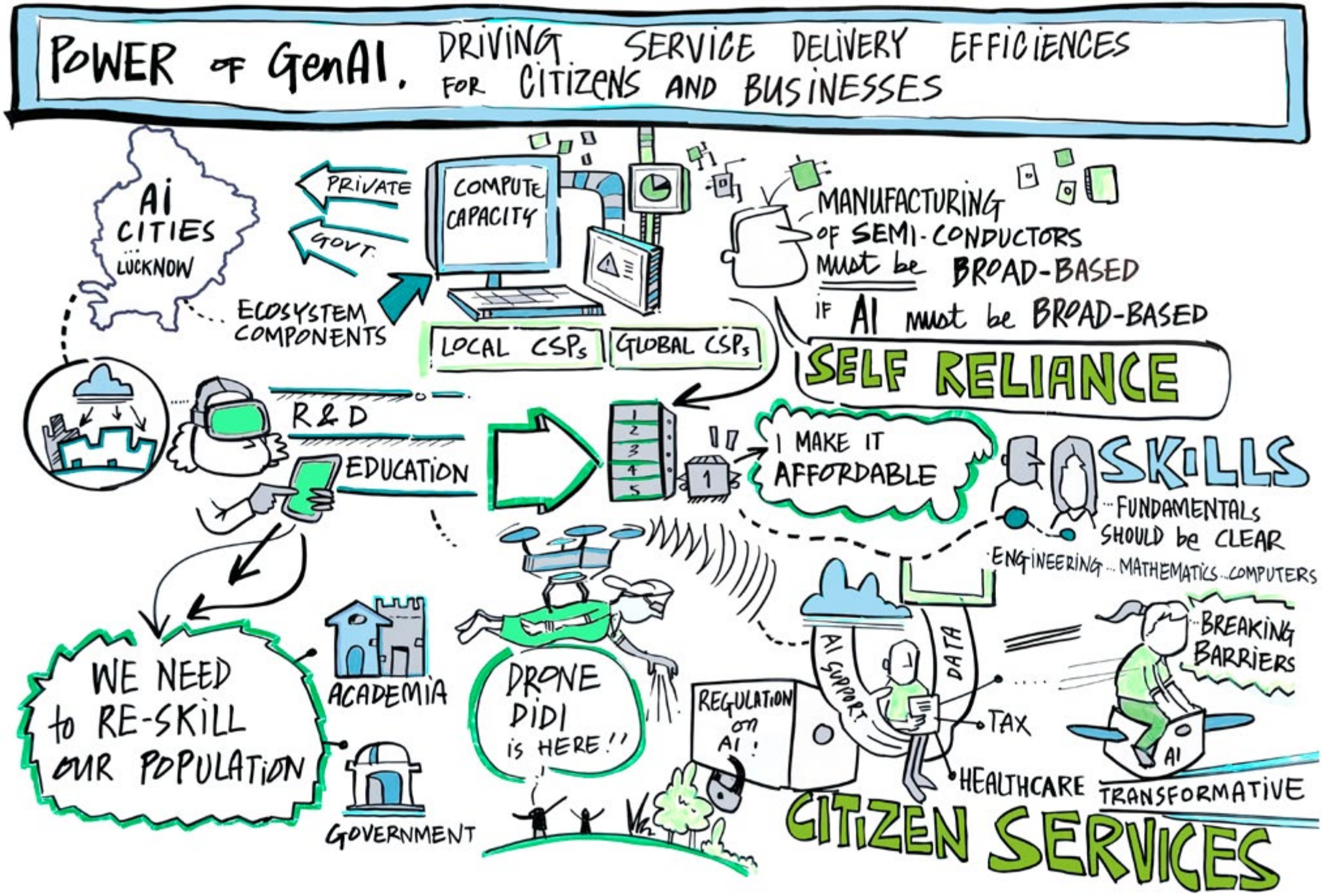
Customisation and guardrails
Governments must tailor AI systems to specific needs while maintaining tight control over their outputs. AI models must be adapted to the unique contexts of government tasks, such as policy formulation, procurement and service delivery. This involves configuring AI systems to prioritise the most relevant data and ensure outputs align with government objectives. AI models can be designed to integrate data from multiple departments, but the government must decide which data sources the model can access. Governments can ensure more reliable and controlled outputs by restricting AI to only trusted datasets.

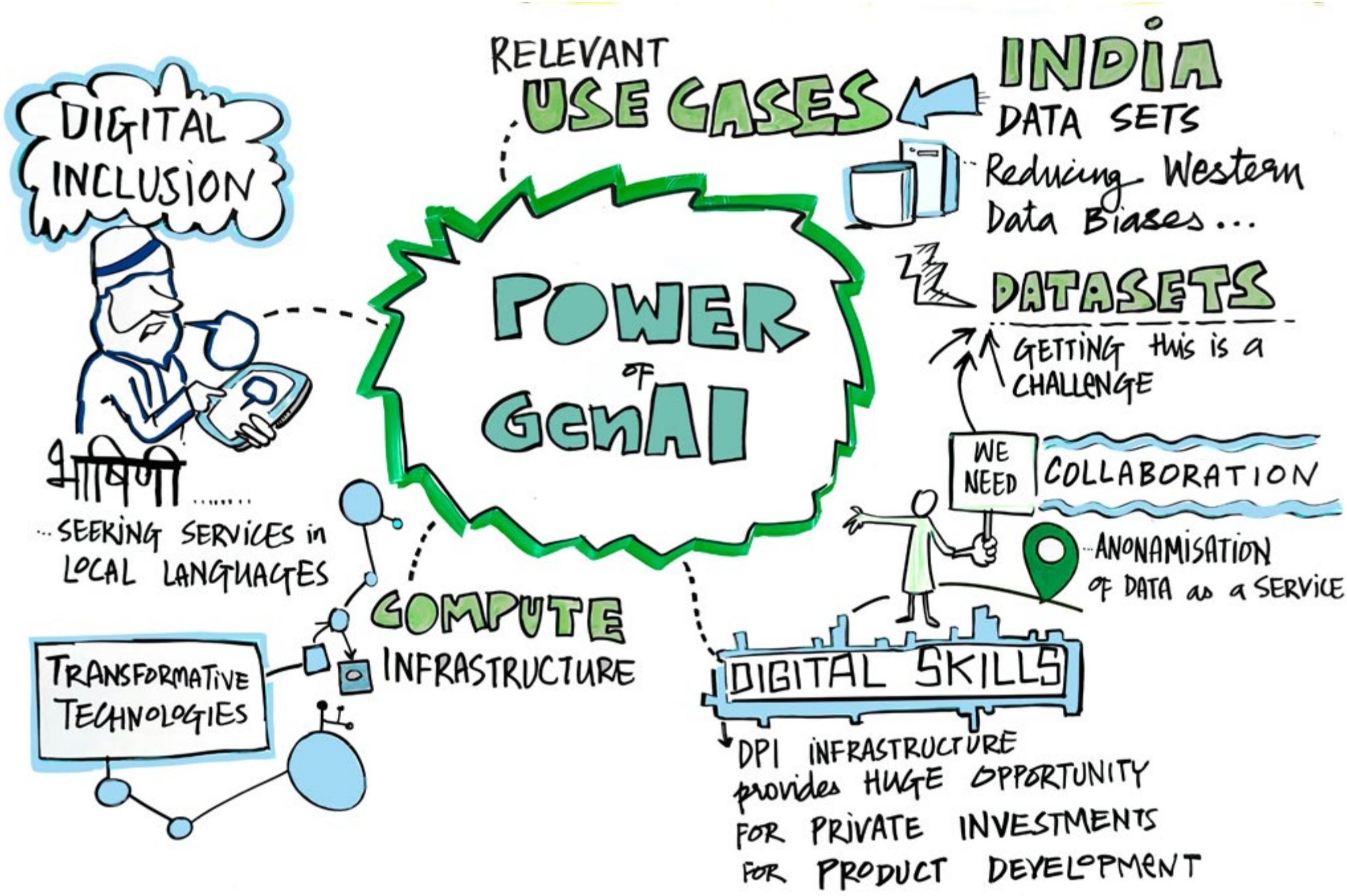
Guardrails are essential to control what an AI model can and cannot do. For example, an AI chatbot providing government services must only pull information from pre-approved sources, preventing it from giving inaccurate or misleading responses. This includes setting boundaries so that AI systems don't crawl the internet at large for data, potentially introducing biased or false information. In addition, regular audits of the AI model must be conducted.

> *When GenAI is used with the right guardrails, its impact becomes exponential.*
>
> **S Anjani Kumar**

Key takeaways

- **Rapid adoption of GenAI in India:** India is embracing GenAI across government departments, enhancing public service delivery, especially through AI-enabled chatbots.
- **Focus on data security:** A strong emphasis on data security prevails, with countries, including India, focusing on AI sovereignty and developing indigenous AI infrastructure to reduce reliance on foreign systems.
- **Strengthening compute infrastructure:** India is working to bolster its computing power by developing the semiconductor industry and modernising data centres in collaboration with private companies and start-ups.
- **Application in defence and public services:** GenAI is improving efficiency in the tourism, healthcare and agriculture sectors. AI-powered chatbots are providing real-time assistance, and services are increasingly being delivered in vernacular languages.
- **Practical applications in governance:** GenAI streamlines government operations in procurement, legislative drafting and data processing, thereby improving efficiency and accuracy.
- **Crisis management:** Digital twins and real-time AI analytics are being used for disaster preparedness and crisis management, enabling better response planning.
- **Education:** AI tools are breaking language barriers and offering real-time feedback for students and teachers, improving education outcomes across different regions.
- **Bias and hallucinations:** Addressing biases and hallucinations in AI systems is a significant challenge in AI adoption. Efforts are being made to develop explainable, bias-free AI. Issues such as AI hallucinations (incorrect outputs), privacy concerns and the need for synthetic data to improve model training are critical challenges that require constant human oversight and monitoring.
- **Need for guardrails:** Customisation, strict governance and regular auditing of AI systems are essential to ensure responsible AI deployment, with governments setting boundaries to control what data AI models can access and analyse.


POWER of GenAI. DRIVING SERVICE DELIVERY EFFICIENCES FOR CITIZENS AND BUSINESSES
AI CITIES
LUCKNOW
ECOSYSTEM COMPONENTS
PRIVATE
GOVT.
COMPUTE CAPACITY
LOCAL CSPs
GLOBAL CSPs
MANUFACTURING OF SEMI-CONDUCTORS must be BROAD-BASED
IF AI must be BROAD-BASED
SELF RELIANCE
R&D
EDUCATION
I MAKE IT AFFORDABLE
SKILLS
FUNDAMENTALS SHOULD be CLEAR
ENGINEERING MATHEMATICS COMPUTERS
WE NEED to RE-SKILL OUR POPULATION
ACADEMIA
GOVERNMENT
DRONE DIDI is HERE!!
REGULATION on AI!
AI SUPPORT
DATA
TAX
HEALTHCARE
BREAKING BARRIERS
AI
TRANSFORMATIVE
CITIZEN SERVICES


DIGITAL INCLUSION
भाषिणी
SEEKING SERVICES in LOCAL LANGUAGES
RELEVANT USE CASES
INDIA DATA SETS
Reducing Western Data Biases...
POWER OF GenAI
DATASETS
GETTING this is a CHALLENGE
WE NEED
COLLABORATION
ANONAMISATION of DATA as a SERVICE
COMPUTE INFRASTRUCTURE
TRANSFORMATIVE TECHNOLOGIES
DIGITAL SKILLS
DPI INFRASTRUCTURE provides HUGE OPPORTUNITY FOR PRIVATE INVESTMENTS FOR PRODUCT DEVELOPMENT

7b. Cutting-edge Bharat: A showcase of innovative prowess

Vivek Agarwal
Director – FIU and Additional Secretary, Department of Revenue, Ministry of Finance

The future of India's digital transformation is envisioned as one where every citizen is empowered through universal digital access, demonstrating that inclusivity, efficiency and opportunities will characterise the path ahead.

India's digital transformation involves a significant shift for the government, transforming its role from a regulator to an active enabler of technological innovation. This evolution underscores India's success in bridging public and private efforts to create a thriving, inclusive digital landscape. Projects that once seemed improbable are possible and are reshaping India's infrastructure, enhancing everything from public services to entrepreneurial ecosystems.

As this digital revolution evolves, India's adoption of technology continues to redefine governance, improve accessibility to essential services and create fertile ground for start-ups and citizens. Through collaborative initiatives, India is setting a new global standard, creating a model of sustainable growth powered by innovation and inclusivity.

Fireside Chat: Transformative Solutions and Projects Showcase
Speakers:
Vivek Agarwal, Director – FIU and Additional Secretary, Department of Revenue, Ministry of Finance; Dr Arvind Gupta, Head and Co-Founder, Digital India Foundation

Moderator:
Sudeepta Veerapaneni, Partner, Chief Innovation Officer, Deloitte India

India's digital evolution showcases a decade-long shift from traditional infrastructures to a dynamic digital ecosystem.

Digitisation in India has evolved over the years. Previously, progress reports focused on physical infrastructure, with minimum emphasis on digital platforms or start-ups. Today, government initiatives are instrumental in bridging the gap between technology and people. This evolution is encapsulated in the concept of DPI, a paradigm shift that signifies hope and potential on a global scale.

DPI has become a key component of India's digital ecosystem, driving innovations such as the Aadhaar infrastructure and UPI. These initiatives are critical for various applications, helping India improve digital governance and public services while moving beyond traditional systems.

Building DPI

From UPI to DigiYatra, India's DPI is creating new avenues for start-ups and fostering a secure, accessible digital economy.

Dr Arvind Gupta
Head and Co-Founder, Digital India Foundation

India's progress is marked by the rapid development of its digital infrastructure, which surpasses the pace of physical infrastructure growth. This advancement is evident in initiatives such as DigiLocker and DigiYatra, which are designed to address important societal needs while fostering greater connectivity in a progressively digital world. DigiLocker provides a secure cloud-based platform to store critical documents, facilitating easy access during urgent situations, such as airport travel. On the other hand, DigiYatra has introduced a novel method of air travel by integrating biometric verification processes, significantly reducing waiting time and ensuring paperless transactions throughout the journey.

You can probably invent alone, but you cannot really innovate alone.

[24] Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

These innovative solutions are geared towards addressing government inefficiencies and serve as valuable resources that enable start-ups and businesses to push their boundaries of ideation.

India's digitisation trajectory reflects a powerful narrative, where infrastructure advancements generate value for the government and the wider ecosystem.

Creating value through digital infrastructure

India's digital story brings together government, start-ups, telecoms and banks to build a thriving, interconnected ecosystem.

India has demonstrated that PPPs can effectively break duopolies by introducing a third player, allowing control over one's destiny. With 125,000[24] start-ups using the provided infrastructure, significant disruption is expected.

The success of DPI is visible in its ability to deliver value to stakeholders in the digital economy, including governmental entities, the private sector and society. The surge in India's start-ups, with over 4,000 Software-As-A-Service (SaaS) companies currently operating, highlights the potential for economic growth through digital innovation driven by this infrastructure.

Another example of value generation in India's local DPI ecosystem is how the establishment of services such as UPI has dispelled initial doubts surrounding digital payments. By enabling secure and efficient transactions, UPI competes effectively against global giants in the payment processing sector, illustrating that homegrown solutions can be powerful contenders in transforming the digital landscape.

Adoption and user engagement

Almost 98 percent of the money that is collected today on national highways is done on FASTag.

Dr Arvind Gupta
Head and Co-Founder, Digital India Foundation

Impressive engagement metrics evidence the escalating acceptance of digital services. About 50 million users conduct numerous transactions monthly, reflecting the growing comfort and trust in digital platforms. This significant adoption is largely driven by government initiatives employing nudge theory, i.e., strategies designed to subtly motivate users towards embracing new systems through accessible interfaces.

Programmes such as FASTag, which have already revolutionised toll collection on national highways, highlight the efficiencies that digital systems offer; nearly 98 percent of payments are now processed through electronic means. This enhances revenue for infrastructure maintenance and increases transparency while reducing opportunities for fraud.

Without adequate regulations and a procedural set-up for the detection and prevention of fraud, technological sustainability cannot be ensured.

Vivek Agarwal
Director – FIU and Additional Secretary, Department of Revenue, Ministry of Finance

Ensuring security and trust

Despite these revolutionary changes, challenges persist, particularly in cybersecurity and fraud prevention. Establishing robust regulatory frameworks is critical in maintaining public trust in these technologies. Initiatives such as the FINnet exemplify the government's commitment to safeguarding citizens against financial misconduct through meticulous transaction oversight.

Recent changes to combat financial fraud in India have focused on several key areas. Firstly, regulations have been expanded to cover non-financial businesses such as real estate agents and precious metals dealers. This ensures these sectors adopt the regulatory framework without hindering their activities.

Secondly, technological advancements have been crucial. Fintechs, payment aggregators and virtual asset service providers have adopted new technologies, necessitating regulations for banking transactions involving virtual assets. The MLCFT framework has been implemented to regulate these transactions, ensuring compliance and security.

Despite these efforts, challenges remain, particularly with peer-to-peer transactions on decentralised exchanges. These transactions often lack visibility and use obscure platforms such as Telegram for brokering deals, making oversight difficult.

Additionally, the focus is expanding to NIDHI companies and cooperative societies, which handle significant monetary transactions and pose risks of money laundering and financial crime. The mandate is being extended to these institutions to ensure comprehensive visibility and intervention capabilities.

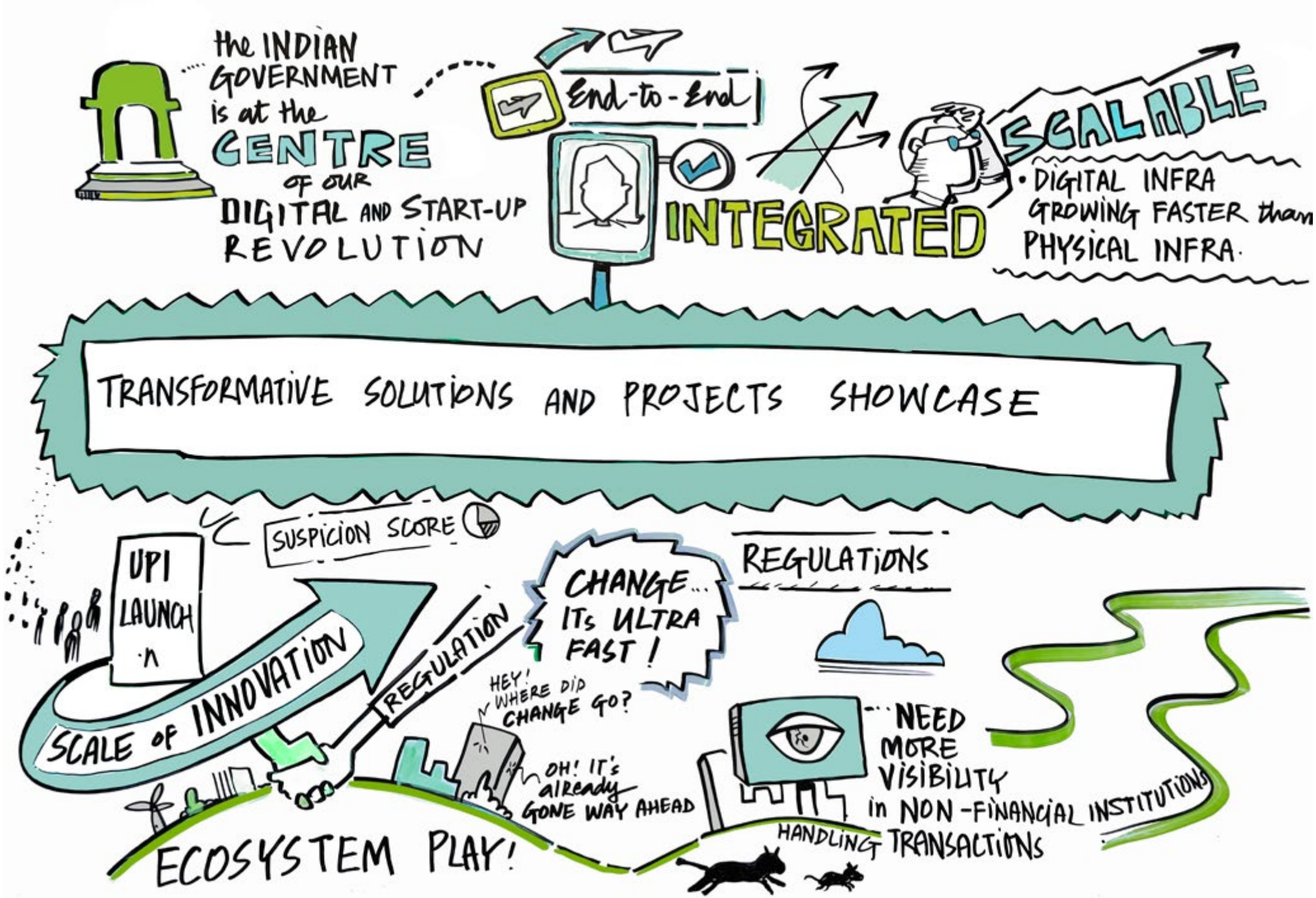
Overall, these measures aim to create a robust framework to detect and prevent financial fraud, using technology and expanding regulatory oversight to cover relevant sectors.

Trust in technology and innovation is built when three key groups, including regulators and policymakers, complementors (start-ups and businesses adopting the technology) and funders (venture capitalists and investors), are involved.

Moreover, using advanced data analytics and AI allows regulatory bodies to monitor transactions effectively and pre-emptively identify fraudulent activities. Establishing a balance between fostering innovation and ensuring security will play an essential role in maintaining the credibility of the digital financial landscape.

Key takeaways

- **DPI:** India is uniquely building a robust DPI, integrating systems such as Aadhaar and UPI to facilitate seamless governmental and societal interactions.
- **Rapid digital transformation:** Over the past decade, India has undergone significant digital transformation, positioning the government at the heart of technological advancement alongside the start-up ecosystem.
- **Value creation ecosystem:** The establishment of DPI creates value for the government, society and start-ups, benefitting stakeholders across the ecosystem.
- **Innovative applications:** Digital solutions, such as DigiLocker and DigiYatra, demonstrate practical applications of technology in addressing everyday challenges and enhancing public services.
- **Widespread adoption:** About 50 million users engage with digital payment solutions, such as UPI, showcasing a strong acceptance and trust in digital platforms.
- **Engaging with start-ups:** The government's proactive role in fostering technological innovation empowers an expansive start-up ecosystem, illustrating collaboration between the public and private sectors.
- **Regulatory frameworks:** Effective regulation is crucial for maintaining public trust and ensuring the security of digital transactions, with initiatives such as FINnet enhancing monitoring capabilities.
- **Continuous innovation:** India's ongoing commitment to evolving digital initiatives demonstrates its dedication to meeting local demands and setting benchmarks for global practices in digital governance.


the INDIAN GOVERNMENT is at the CENTRE of our DIGITAL AND START-UP REVOLUTION
End-to-End
INTEGRATED
SCALABLE
• DIGITAL INFRA GROWING FASTER than PHYSICAL INFRA.
TRANSFORMATIVE SOLUTIONS AND PROJECTS SHOWCASE
SUSPICION SCORE
UPI LAUNCH
SCALE of INNOVATION
REGULATION
CHANGE... ITs ULTRA FAST!
HEY! WHERE DID CHANGE GO?
OH! IT's already GONE WAY AHEAD
REGULATIONS
NEED MORE VISIBILITY in NON-FINANCIAL INSTITUTIONS HANDLING TRANSACTIONS
ECOSYSTEM PLAY!

7c. Bridging the rural divide through cooperatives: Technology as the difference maker

Ashish Bhutani
Secretary, Ministry of Cooperation

Technology is revolutionising rural India, especially by digitising cooperatives such as Primary Agricultural Credit Societies (PACS). Government initiatives, spearheaded by the Ministry of Cooperation, aim to modernise operations through digital platforms, improving efficiency and data sharing. This shift is empowering rural communities. Innovations such as IoT and blockchain are streamlining processes and enhancing transparency across various sectors, including agriculture, dairy and sugar production. These technological advancements also decrease reliance on traditional banks and foster financial sustainability in rural regions.

Rural development plays a pivotal role in India's journey towards becoming a developed nation. Given the scale of small farm holdings in India, collectivisation is the only way forward. PACS are legally recognised entities that operate under the cooperative laws of their respective states. The agricultural landscape is transforming with the rise of digital cooperatives, which the Government of India strongly supports. Digital innovation redefines the cooperative model by focusing on technology, education and inclusivity to build a sustainable and prosperous economy.

In a fireside chat, Ashish Bhutani, Secretary, Ministry of Cooperation, discussed the ongoing digitisation of PACS and their integration with digital ERP platforms, improving efficiency and supply chain management. Furthermore, leaders such as Munna Balaji and Srinath Sarkar shared their insights during the *Manthan* Digital Cooperatives.

Fireside Chat: Creating Impact in Rural India
Speaker:
Ashish Bhutani, Secretary, Ministry of Cooperation

Moderator:
Amit K Singh, Partner, Deloitte India

The Government of India is focused on empowering cooperatives in rural areas to drive national growth and address developmental challenges. Key ministries are working on this, with the Ministry of Cooperation, established in July 2021, playing a vital role. The Ministry aims to harness the collective efforts of different departments working in rural India by reimagining the role of agricultural credit societies and strengthening their role in rural economic development.

With more than 100,000 functional PACS serving about 130 million members, these cooperatives have so far been the cornerstone of rural finance and other agricultural support.

The government aims to create a unified approach to rural development by integrating the work of various ministries and converging existing schemes. Under the Ministry's guidance, States are issuing new by-laws to transform PACS into a one-stop solution for the rural population. Besides extending credit and supplying agricultural inputs such as seeds, fertilisers and pesticides, PACS are now providing support for storage, processing and marketing and are involved in over 25 other business activities, such as animal husbandry, dairy, poultry farming and fishing, allowing them to generate additional income and support their communities. A nationwide programme for the computerisation of all functional PACS is now underway. The digital backbone will integrate all functional PACS with NABARD onto an ERP platform, which will enhance efficiency, speedy disbursal of credits, seamless accounting and enhanced trustworthiness. Establishing digital kiosks will allow villagers to access government services and information from their villages. Similarly, the newly introduced SOPs in the dairy sector that aim to improve the quality of milk and animal welfare will enhance the functioning of nearly 150,000 village-level dairy societies, targeting to increase milk procurement by 1.5 times in five years.

India's food grain storage capacity is only 47 percent of the country's total food production. To address this situation, the Ministry plans to build the world's largest decentralised grain storage programme, which aims to create 70 million tonnes of decentralised storage capacity over the next five to six years.[25] Besides minimising post-harvest losses and addressing the shortage in foodgrain storage, these storage facilities will also serve as Fair Price Shops and provide procurement, storage and distribution services to ensure farmers can quickly access their produce and get better prices.

Over the past four years, the Ministry has been actively resolving the regulatory challenges imposed by the Reserve Bank of India (RBI) that previously limited the lending capabilities of cooperative banks. Today, rural and cooperative banks offer services such as housing and gold loans, expanding their reach and support in rural areas. This has helped liberalise the PACS.

The ministry has established the National Urban Cooperative Finance and Development Corporation, an RBI-approved entity, to provide affordable digital solutions, helping urban cooperative banks adopt modern technology more effectively and better serve their members.

The journey to rural prosperity is full of challenges, yet the ministry remains committed to making PACS the central pillar of rural cooperation.

Our ministry is only four years old, and we are working hard to rejuvenate the cooperative sector after years of stagnation. With collective efforts, we can improve competencies and create convergence at the grassroots level.[26]

Ashish Bhutani
Secretary, Ministry of Cooperation

[25] Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

[26] Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

Manthan: Digital Cooperatives

Participants:

Munna Balaji, Department for Cooperative Sector Development, Market-led Agricultural Projects and Reforms (MAPAR); Srinath Sarkar, Manager, Indian Production and Operations Management System (IPOMS); Dhruva Yadav, Director, National Mainstream Education for the Cooperative Sector; Vaibhav Sharma, Executive Director, Deloitte South Asia; and others

Guru:

Meghna Mittal, Director, Deloitte India

In this *Manthan*, the esteemed leaders shared their insights into the progress being made and the future potential of digital cooperatives in India.

Paving the way for India's agriculture revolution

Leaders from the cooperative sectors emphasized the transformative role of digital cooperatives in revolutionising India's agricultural sector, particularly in sugar production.

The sheer scale of cooperatives in India, representing almost the entire population when accounting for families, indicates the sector's vast untapped potential.

Leadership in digitisation

MAPAR's Department for Cooperative Sector Development is leading the digitisation of 500 cooperatives, with plans to expand to over 7,000. This underscores the role of technology in transforming traditional cooperative models. Srinath Sarkar also highlighted the efforts to digitise over 260 sugar cooperative units across nine states, significantly improving their operations.

The mantra is to move from being an importer to an exporter, which resonates deeply with us.

Srinath Sarkar
Manager, Indian Production and Operations Management System (IPOMS)

Government support for digital transformation under the ecosystem approach

New policies, such as the National Biotechnology Development Strategy-2015–2020, have enabled sugar cooperatives to diversify from sugar production to ethanol, increasing their profitability and sustainability. The new "ecosystem approach" in supply chain modernisation targets a more integrated and holistic development strategy by bringing factories closer to farming operations to reduce the supply chain length and make the farming-to-processing cycle more effective and efficient. This shift has shortened payment cycles and reduced reliance on bank loans, improving the financial stability of cooperatives and allowing cooperatives to focus on growth and sustainability.

The Indian sugar industry is diversifying its feedstock for ethanol production, using materials such as damaged grains and maize, offering more operational flexibility to cooperatives.

Education and training for digital integration

Dhruva Yadav emphasized the importance of education and training in facilitating the adoption of new technologies within cooperatives. Significant focus is placed on capturing financial data, integrating it into

digital systems and training people across various sectors, such as bank directors, farmers and cooperative members, to ensure that cooperative leaders and members are empowered to adapt to new technology and economic models.

Empowerment of women's cooperatives

Women's cooperatives in agriculture and allied sectors play a significant role in rural economic growth, although challenges remain in achieving inclusive participation.

Women's cooperatives are driving growth in the agricultural and allied sectors.

Dhruva Yadav
Director, National Mainstream Education for the Cooperative Sector

Sustainability and a circular economy

The introduction of technological advancements and better water regulation is transforming small farms into more productive units. The objective is to create a more circular economy, increase productivity and reduce water consumption through better management.

Digital cooperatives for economic sustainability and financial support

Key elements of digital transformation include the cooperative structure and the integration of technology into financial systems. Unifying software systems across banks and states and integrating financial institutions using platforms such as a large-scale data framework will enable 60,000 banks to streamline operations, improving access to credit, merchandise and other services in rural areas.

Plans to create a national cooperative database and implement a digital stack will help improve efficiency. Tools such as eSign and UPI, in combination with other digital technologies, will make operations smoother and interoperable.

Munna Balaji
Department for Cooperative Sector Development, MAPAR

Cooperative banks and institutions such as the National Cooperative Development Corporation (NCDC) provide competitive loans. Digital cooperatives eliminate intermediaries from the supply chain, ensuring that farmers and consumers benefit directly.

Digital technology and the future of labour cooperatives

Efforts are being made to enhance the efficiency of labour cooperatives based on recommendations from the National Advisory Council. Some states, such as Maharashtra, Haryana and Punjab, have already seen positive outcomes.

Tools such as the Health Card give farmers valuable insights into their soil and crop health, helping farmers make informed decisions, enhance yields and achieve better economic outcomes.

Challenges in technology adoption

While some cooperatives have adopted digital tools, others are falling behind, leading to decreased efficiency. Digitising legacy data and ensuring unified technology use across states is also difficult. Labour cooperatives continue to rely on paper systems, which hampers their adoption of digital solutions. Hence, digitising India's cooperative sector is crucial to its agricultural revolution. The cooperative model is being redefined through digital innovation, and the sector is well-positioned to take on the challenges of the future.

Key takeaways

- **Emphasis on rural development through cooperatives:** Given the role and footprint of cooperatives in rural India, they have a crucial role to play in its economic transformation. The setting up of a dedicated Ministry of Cooperation is proof of the Government's clear intent to strengthen this sector.
- **The role of the Ministry of Cooperation:** The Ministry of Cooperation is playing an enabling role in modernising and diversifying PACS into multi-service centres to strengthen their role in rural economic development. Additionally, support is provided to create decentralised storage facilities managed by PACS, reducing foodgrain spoilage and transforming India into a net exporter of pulses and maize.
- **Government support for digital transformation:** The Indian government is pushing for digitisation in the cooperative sector through policy and programme support. A national programme for the computerisation of PACS is being implemented. The digitisation will transform supply chains, ensure fair prices for farmers and enhance financial sustainability.
- **Empowerment of women's cooperatives:** Efforts are underway to boost women's participation in cooperatives, particularly in the dairy sector, promoting inclusive rural economies.
- **Sustainability:** Digital cooperatives are advancing sustainable farming by improving water management and fostering a circular economy that boosts productivity while conserving resources.
- **Financial sustainability:** Cooperative banks are digitising, supported by NCDC loans, to provide affordable financial services and modern technologies to cooperatives.
- **Eliminating intermediaries:** Cooperatives empower farmers by removing intermediaries, giving them more control over pricing, supply and direct access to consumers, thereby strengthening their economic influence.

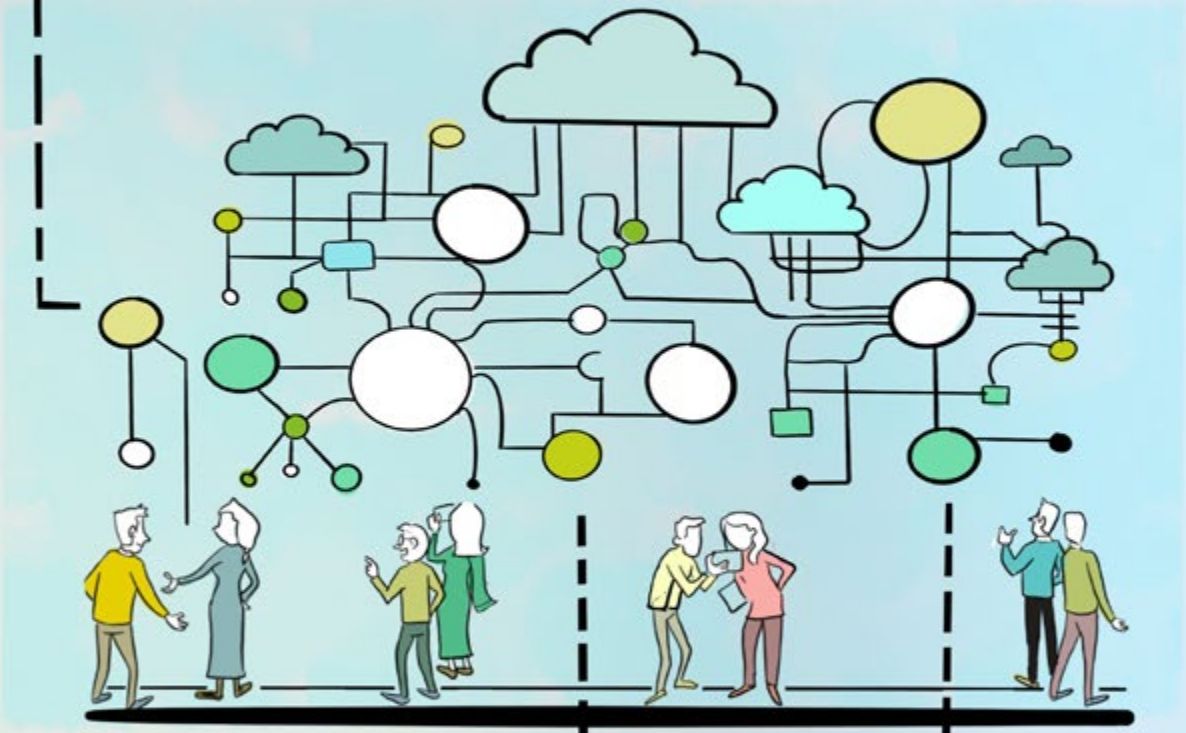
DIGITAL COOPERATIVES

DIGITAL TRANSFORMATION FOR COOPERATIVE SUCCESS

- ENCHANCED EFFICIENCY, TRANSPARENCY AND SUSTAINABILITY
- STREAMLINE INTERNAL PROCESSES,

EMERGING TECHNOLOGIES

- IOT, BLOCKCHAIN, AI AND HAPTIC DATA
- BETTER PRODUCT TRACKING AND TRACING
- BETTER RESOURCE MANAGEMENT
- QUALITY CONTROL

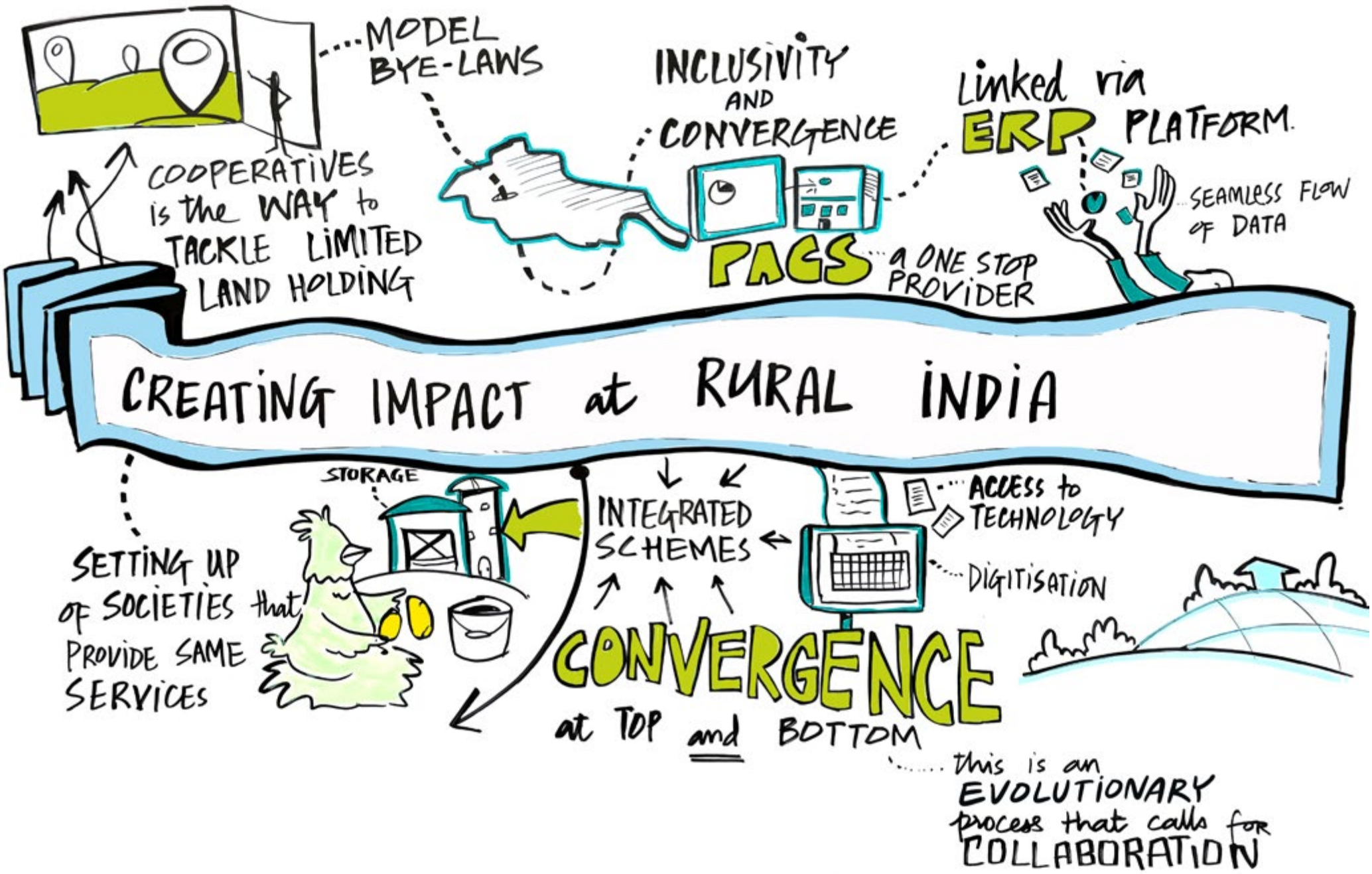


ENCHANCED SUPPLY CHAIN MANAGEMENT AND FINANCIAL INCLUSION

- IMPROVE FINANCIAL TRANSACTION
- REDUCE BARRIERS TO ENTRY

ENERGY AND SUSTAINABILITY

- PROMOTING CLEANER ENERGY ALTERNATIVES
- SMART GRIDS, ENERGY EFFICIENCY MEASURES AND RENEWABLE ENERGY


MODEL BYE-LAWS
INCLUSIVITY AND CONVERGENCE
Linked via ERP PLATFORM.
COOPERATIVES is the WAY to TACKLE LIMITED LAND HOLDING
PACS a ONE STOP PROVIDER
SEAMLESS FLOW of DATA
CREATING IMPACT at RURAL INDIA
STORAGE
SETTING UP of SOCIETIES that PROVIDE SAME SERVICES
INTEGRATED SCHEMES
ACCESS to TECHNOLOGY
DIGITISATION
CONVERGENCE at TOP and BOTTOM
this is an EVOLUTIONARY process that calls for COLLABORATION

7d. Healthcare made easier: Enabling technology-aided delivery

Ayushman Bharat Digital Mission (ABDM) is digitising healthcare in India while empowering patients and healthcare providers.

Technology-aided service delivery has emerged as a key shift in the structurally dynamic context of the Indian healthcare industry today. The Ayushman Bharat Digital Mission (ABDM) is leading this change, a path-breaking initiative that aims to transform healthcare infrastructure across the country by building a resilient, digitally enabled foundation.

The Indian healthcare sector faces challenges related to accessibility, affordability and efficiency. ABDM represents a paradigm shift in addressing these challenges by creating a coherent digital health architecture that promises to reform healthcare delivery and access comprehensively.

Manthan: ABDM for HealthTech

Participants:

Raman Upreti, Tech Lead - ABDM, NHA; Praveen Shrivastava, Sr. Director, CDAC Noida; Dr Anshul Chowdhury, Programme Manager, Digital Health, BMGF; Dr Pankaj Gupta, Director Digital Health, WISH Foundation; Dr Vijay Agarwal, President, CAHO; Kushagra Goswami, Service Now; Vishal Gupta, Country Head, Healthcare Business, Ingram Micro; Sanjay Jain, Director, Akhil Systems; Sohit Kapoor, Co-founder, Driefcase; Saurabh Kochhar, Co-founder and Tech Lead, Doxper; Sumeet Chhetri, CTO, Ohum Healthcare; Anurag Vohra, CTO and Founder, Bajaj Finserv (PHR-HEALTH LOCKER); Anurag Sharma, VP Data and Innovations, Everwell Health Solutions; Dr Pranay Jaiswal, AVP Health Products Artivatic.AI; Sumeet Dugar, Head of Operations Vitraya Technologies; Akash Shah, Technical Director, eClinicalWorks and other representatives from Deloitte Public Health team.

Gurus:

Vikram Anand, Partner, Deloitte India; Alok Saxena, Executive Director, Deloitte India; and Pradeep Gupta, Director, Deloitte India

Supported by:

Anita Gupta, Kshiti Garg, Shweta Dhingra, Ruchika Sareen and Shailza Taneja, Deloitte India

ABDM is a digital initiative that is driving a healthcare revolution. Creating a unified digital health ecosystem makes healthcare more accessible, efficient and patient-centric.

The digital transformation of Indian healthcare takes a giant leap through ABDM. This revolutionary platform aims to create a unified health ecosystem that connects patients, providers, services and innovators. By integrating technology with healthcare delivery, ABDM strengthens foundational elements and tackles critical challenges in accessibility, efficiency and patient care across India. The key elements of ABDM in building a robust digital health infrastructure include:

- **Unique health IDs:** ABDM has generated about 680 million ABHA (Ayushman Bharat Health Account) numbers for citizens.[27] These unique identifiers serve as the basis of the digital health ecosystem and ensure seamless patient data integration across healthcare organisations.
- **Healthcare registries:** Integration with the national registries of healthcare professionals and health facilities under ABDM provides authenticity and an organised mutual database. Finding and accessing healthcare services is simplified, and care quality is enhanced by maintaining a verified database of healthcare providers.
- **Federated architecture:** ABDM follows a federated architecture where the data remains at the point of creation. Key concerns, such as data privacy and security, are effectively addressed by ensuring decentralised data management and patient consent-based sharing through secure information exchange platforms.
- **Health information exchange:** ABDM integration of health applications enables seamless data exchange and ensures total compatibility between healthcare facilities. This interoperability provides comprehensive and continuous care to patients, regardless of where they seek treatment.
- **Patient-centric applications:** ABDM has fostered applications that let patients maintain personal health records from various healthcare providers. This helps patients control their health information and make informed care-related decisions.

We have almost 680 million ABHA numbers created throughout India to cover the entire population.

Raman Upreti
Tech Lead - ABDM, NHA

ABDM represents the future of healthcare delivery in India. Its robust digital infrastructure, comprehensive data integration and patient-focused approach create a foundation for accessible, efficient healthcare. With growing adoption and continuous innovation, it promises to pave the way for India's comprehensive, more connected health sector.

Impact on HealthTech

If a small administrative use case, such as "scan and share", has been used by over six crore people in less than two years of its launch, imagine ABDM's impact when we get to pure healthcare use cases. It is truly transformational.

Sohit Kapoor
Co-founder, Driefcase

ABDM implementation has created numerous opportunities for innovation in the health tech sector. Companies are using the ABDM infrastructure to develop solutions addressing various aspects of healthcare delivery.

[27] https://pib.gov.in/PressReleasePage.aspx?PRID=2081482

Moreover, the success of "scan and share" shows the possibility of large-scale digital health applications in India. This feature lets patients share their health information with providers for instant and paperless registrations. About 0.2 million people use the ABHA-based instant OPD registration service every day.[28]

The ABDM ecosystem has created opportunities for innovation in various areas, including:

- **Health information management systems:** ABDM-enabled HMIS solutions present a comprehensive system of managing patient data and a seamless information flow within a standards-based secure environment.
- **Digital health use cases:** Additional use cases that streamline patient transactions at healthcare facilities, such as 'Scan and Pay' for sharing e-prescriptions and digital payments for OPD, diagnostic or pharmacy services, can be further explored and developed.
- **UHI-enabled service:** The Unified Health Interface (UHI) enables interoperability in digital health services. Developing service provider or user applications based on this principle can give health tech innovators an edge over other players.
- **AI and ML:** The healthcare industry struggles with massive unstructured and paper-based data. The use of AI/ML for structuring the data and integrating it into ABDM-enabled solutions enhances healthcare outcomes and enables AI-driven diagnostics and personalised treatment plans.

ABDM's introduction of the Unified Health Interface (UHI) aims to provide seamless healthcare access across platforms, making services such as doctor appointments and consultations more accessible.

[28] https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2009483

Manthan: ABDM for Providers

Participants:

Raman Upreti, Tech Lead - ABDM, NHA; Dr Nirupam Madan, Medical Superintendent, AIIMS Delhi; Dr Vijay Agarwal, President, CAHO; JP Dwivedi, CIO, Rajiv Gandhi Cancer Institute and Research Centre; Dr Shuchin Bajaj, Founder, Director Cygnus Group of Hospitals; Dr Gopal Singh Meena, GM – Insurance Operations, Park Group of Hospitals; Dr Upasana Arora, MD, Yashoda Hospitals; Mohit Tandon, General Manager – IT Akash Hospitals; Dr Naveen Nishchal, Co-Founder, Meddo Health; Arun Goyal, CIO, Sir Ganga Ram Hospital and other representatives from Deloitte Public Health team.

Gurus:

Vikram Anand, Partner, Deloitte India; Alok Saxena, Executive Director, Deloitte India; and Pradeep Gupta, Director, Deloitte India

Supported by:

Anita Gupta, Kshiti Garg, Shweta Dhingra, Ruchika Sareen, Shailza Taneja, Deloitte India

The success of ABDM lies in its adoption by healthcare providers. We need to focus on creating user-friendly systems that make it easy for doctors and nurses to integrate digital solutions into their daily workflows.

Dr Nirupam Madaan
Medical Superintendent, AIIMS, Delhi

Under the ABDM, the base transactions are being digitised via ABHA-based patient identification, electronic medical records, digital prescriptions and integrated systems, fundamentally changing how providers deliver care across India. However, this transformative digital initiative needs widespread adoption by medical professionals to succeed. Healthcare providers are thus at the forefront of ABDM implementation.

Implementation in healthcare facilities presents these challenges and opportunities:

- **EMR adoption:** Healthcare professionals face challenges in adopting electronic medical records, a crucial step for digitising patient information and improving healthcare delivery.
- **E-prescriptions:** Inconsistent patient registration methods across hospitals hinder the creation of patient longitudinal health records and further complicate data standardisation efforts.
- **Awareness and education:** Healthcare providers need to be educated about ABDM's components, benefits and implementation to ensure widespread understanding and adoption.

Seamless integration of ABHA ID, digital health records and ABDM-enabled digital health services enhances patient experiences and ensures smoother, more efficient healthcare delivery for patients and service providers.

The journey to digital healthcare requires active participation from providers. The service providers can make a significant impact by actively adopting ABDM-enabled services and encouraging their patients to use them.

ABDM's success further depends on creating user-friendly systems, providing adequate training and ensuring smooth integration with existing workflows. By addressing implementation challenges, ABDM can revolutionise healthcare delivery while making providers' work more efficient.

Opportunities for innovation

Under ABDM, we're working on standardising health claims via the National Health Claims Exchange (NHCX) and making health services interoperable via the Unified Health Interface (UHI). As more and more providers join these platforms, the ecosystem benefits and the health sector progresses.

Raman Upreti
Tech Lead - ABDM

ABDM has emerged as a transformative opportunity for innovation in India. Its base architecture follows a patient-centric approach and provides an open field for innovations. The programme encourages cooperation between healthcare providers and seamless information flow within a secure environment, enabling a continuum of patient care.

National repositories, digitised health records and data anonymisation principles allow data-driven insights for public health initiatives and medical research; this further inculcates innovation and helps improve healthcare outcomes across the country. Some direct benefits include:

- **Improved efficiency:** ABDM's digitisation of health records and streamlined processes boost operational efficiency in healthcare facilities.
- **Better patient care:** Access to comprehensive health records enables providers to make informed decisions and provide personalised care.
- **Enhanced collaboration:** ABDM's interoperability features enable seamless provider information sharing.
- **Data-driven insights:** Health data aggregation through ABDM can yield valuable insights for public health initiatives and medical research.

ABDM opens unprecedented opportunities for healthcare innovation in India. Its unified approach breaks down information barriers between providers, enabling comprehensive patient care. The platform transforms

traditional healthcare delivery through digital integration, data-driven insights and seamless collaboration. Healthcare facilities can streamline operations, make informed decisions and deliver personalised treatment.

Looking ahead, ABDM's success will drive further innovations in clinical decision-making, telemedicine, AI-powered diagnostics and preventive care. The platform's robust infrastructure supports continued advancement in healthcare technology. By fostering innovation and collaboration, ABDM moves India closer to its vision of accessible, efficient and patient-centric healthcare delivery.

The path forward

The Ayushman Bharat Digital Mission represents a significant leap towards transforming healthcare delivery in India. By using technology to create a unified digital health ecosystem, ABDM is paving the way for more accessible, efficient and patient-centric healthcare services.

As we move forward, we should focus on addressing the challenges highlighted by healthcare providers and tech companies. This includes simplified EMR adoption, standardising healthcare data formats and creating more use cases that demonstrate the tangible benefits of the ABDM ecosystem.

As champions of ABDM, we need to focus on weeding out negative factors to build trust between providers and payers in healthcare.

Dr Shuchin Bajaj
Founder, Director, Cygnus Group of Hospitals

However, the journey is far from over. ABDM's success relies on its widespread adoption by healthcare providers and users, driven by initiatives that revolve around targeted awareness campaigns, capacity-building efforts, streamlined integrations and the development of standardised policies.

The potential of ABDM to revolutionise healthcare delivery in India is immense. By working collaboratively, stakeholders across the healthcare ecosystem can turn this potential into reality, bringing quality healthcare within reach of every Indian citizen. As India progresses towards its vision of a developed nation, ABDM stands as a crucial pillar in ensuring that this development is inclusive, with healthcare at its core.

Key takeaways

- **User-friendly systems:** A pressing need exists for intuitive and easy-to-use EMR systems. Healthcare providers need to focus on creating user-friendly systems that make it easy for healthcare professionals to integrate digital solutions into their daily workflows.
- **Standardisation:** Efforts should be made to standardise healthcare data formats and processes across the country. This will facilitate easier integration with ABDM and improve the overall quality of healthcare data.
- **Incentives for adoption:** As suggested during the *Manthan*, incentives could be provided to encourage adoption, especially among smaller healthcare providers. This could include IT hardware upgrades or financial incentives for digital adoption.
- **Education and awareness:** Comprehensive education and awareness programmes are needed for healthcare providers and patients. These programmes should focus on the benefits of digital health records and address concerns about data privacy and security.

AYUSHMAN BHARAT DIGITAL MISSION (ABDM) FOR HEALTH TECH

UNIFIED HEALTH ECOSYSTEM

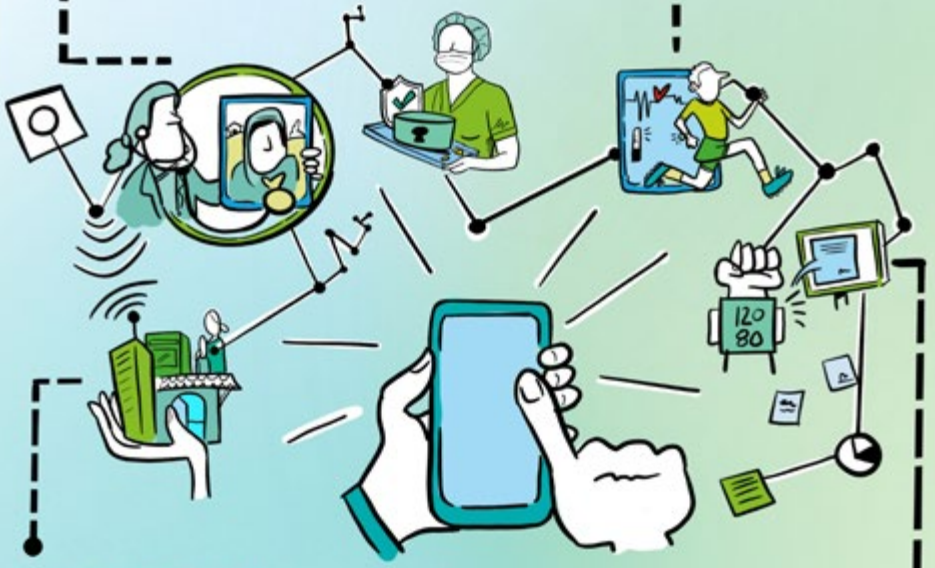
- DIGITISING HEALTHCARE DELIVERY - ABHA, HPR AND HFR

DATA PRIVACY AND CONSENT MANAGEMENT

- PATIENTS HAVING CONTROL OVER THEIR HEALTH DATA
- NEED OF EDUCATION AND AWARENESS

HEALTH TECH INTEGRATION

- DEVELOPING SOLUTIONS ALIGNING WITH ABDM's STANDARDS



INCENTIVES FOR PRIVATE SECTOR PARTICIPATION

- FINANCIAL INCENTIVES
- PUBLIC - PRIVATE PARTNERSHIPS

INTEGRATION WITH HEALTH INSURANCE

- LINKING DIGITAL HEALTH RECORDS WITH INSURANCE CLAIMS
- ATTRACTIVE SYSTEM FOR PRIVATE HEALTHCARE PROVIDERS

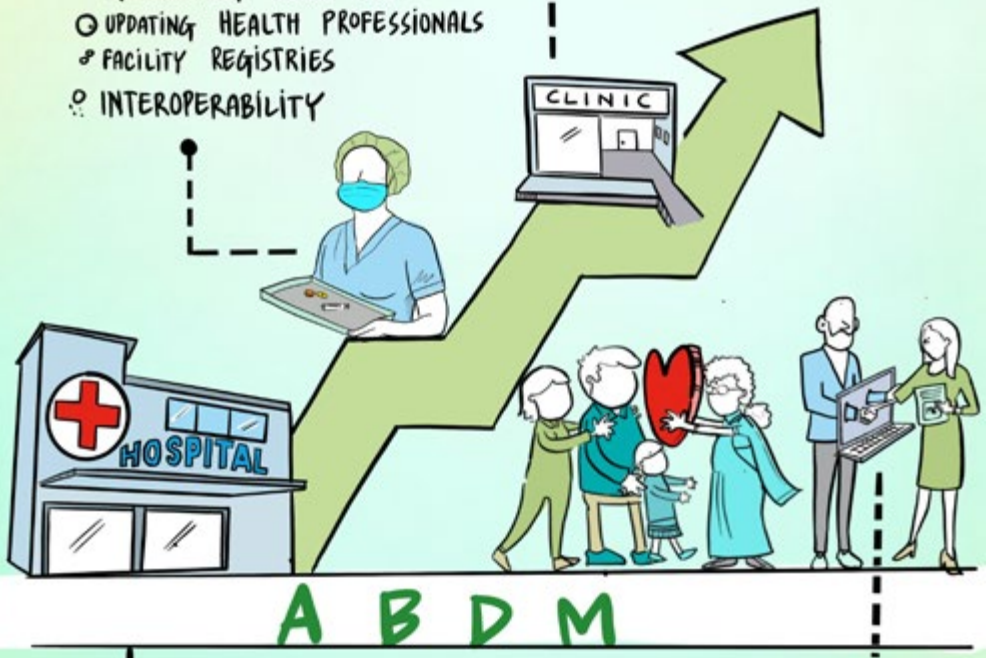
AYUSHMAN BHARAT DIGITAL MISSION FOR PROVIDERS

FINANCIAL INCENTIVES

- AFFORDABLE DIGITAL TOOLS
- PUBLIC - PRIVATE PARTNERSHIPS

HEALTHCARE PROVIDERS

- GENERATING ABHA IDs
- UPDATING HEALTH PROFESSIONALS
- FACILITY REGISTRIES
- INTEROPERABILITY



INTEGRATE PRIVATE HOSPITALS

- CLEAR GUIDELINES AND SUPPORT

PRIORITISE DATA SECURITY

- BUILDING TRUST WITH PATIENTS