



## Digital India: A difficult journey towards the last mile connectivity

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### Abstract

Digital economy is the new productivity platform that is being regarded as the third industrial revolution. This digital revolution is expected to generate new opportunities in every sphere of the economy. Digital India initiative aims at reaching the unreached through broadband highway, universal access to mobile connectivity, public internet access programme. Digitalization of business and delivery of services leads to ease of access, transparency and reduction in transaction cost such as e-Governance, e-Kranti-Electronic delivery of services. The digitalization creates IT jobs for the skilled youth, results in increased income level that contributes to economic growth. Advancement in ICT technologies leads to greater benefits to the citizen engagement with government. Notwithstanding the immense impact digitization is going to have on the Indian economy, there are many challenges that could derail the ambitious 'Digital India' bandwagon. The ambitious Digital India programme is facing multiple challenges. The biggest challenge is the slow and delayed infrastructure development. There are several other issues such as prevalence of high level of digital illiteracy, connectivity to remote areas, cybercrime, finance, net neutrality, data vulnerability and so on. Unless and until these issues and challenges are addressed 'Digital India' will be a distant dream. This paper tries to look at the issues and challenges faced by the Digital India initiative and is based on the secondary data.

**Keyword:** Digital economy, digital empowerment, public internet

### Introduction

Throughout the world, information and communication technologies (ICT) continue to proliferate at incredible speed. Digitalization is one of the most fundamental period of transformation we have ever witnessed. Digital India was a flagship programme launched by the Prime Minister of India Sri. Narendra Modi on 1 July 2015 – with an objective of connecting rural areas with high-speed internet networks and improving digital literacy. The vision of this programme is to transform India into a digitally empowered society and knowledge economy. It is one of the biggest step by government of India to motivate the citizen of the country and connect Indian economy to knowledge savvy world. Digital India is the beginning of digital revolution. It is a dream which is created by Government of India to ensure that government services are made available to citizens electronically, even in remote areas, by improving online infrastructure and by increasing internet connectivity. The main aim of the programme is to take India forward digitally and economically. Digital India is about delivering reliable and scalable services in all sectors and improving administration, governance, communication employment and so on.

Digital India is all about democratization of information at all levels with openness, accessibility, connectivity, networking and decentralization. It demands a whole new way of thinking about India and the Indian government for the young generation and is about the total transformation of government institution and infrastructure to deliver real development equitably to all citizens. Digital technologies have emerged as catalysts for rapid economic growth and empowerment of citizens all over the world. Digital India envisions transforming India and creating opportunities for

all citizens by harnessing digital technologies. This flagship programme is expected to empower every citizen with access to digital services, knowledge and information.

### Digital India Vision Areas

Digital India has three Vision Areas:

#### 1. Infrastructure as a Utility to Every Citizen

- High speed internet as a core utility
- Cradle - to - grave digital identity
- Participation in digital & financial space through mobiles & banking
- Easy to access to a common services centre
- Shareable private space on public cloud
- Safe and secure cyberspace

#### 2. Governance and Services on Demand

- Seamlessly integrated services
- Services in real-time from online and mobile platforms
- Leveraging GIS for support systems and development
- Citizen entitlements to be portable and available on cloud
- Making financial transactions electronic and cashless
- Digitally transformed services for improving ease of doing business

#### 3. Digital Empowerment of Citizens

- Universal Digital Literacy
- Universally accessible digital resources
- Document/Certificates to be available on cloud
- Availability of digital resources/services in Indian languages
- Collaborative digital platforms for participative governance

## Nine Pillars of Digital India Programme

Digital India programme is based on Nine pillars:

### 1. Broadband Highways

The aim is to cover 2,50,000 village Panchayats under National Optical Fibre Network (NOFN) by December 2016. Nationwide internet infrastructure (NII) would integrate the network and cloud infrastructure in the country to provide high speed connectivity and cloud platform to various government departments up to the panchayat level.

### 2. Universal Access to Mobile Connectivity

The aim is to increase network penetration and to provide mobile connectivity to 44,000 villages by 2018.

### 3. Public Internet Access Programme

One Common Service Centre (CSC) would be provided to each gram panchayat and 1,50,000 Post Offices are proposed to be converted into multi service centers.

### 4. e- Governance

IT would be used to make the delivery of government services more effectively. There would be integration of services and platform-UIDAI, Payment Gateway, Mobile Seva platform, Public redressal etc., through IT. All information would be available in electronic form.

### 5. e-Kranti

The aim is electronic delivery of services to people be it education, health, financial inclusion or justice.

### 6. Information for All

MyGov.in is a website launched by the government to facilitate a 2-way communication between citizens and the government. It is a medium to exchange ideas or suggestion with government. The citizen would have open access to information through open data platform.

### 7. Electronics Manufacturing

The government is focusing on zero imports of electronics by 2020 through local manufacturing of items such as smart energy meters, micro ATMs, mobile, consumer and medical electronics. Government is also taking several steps to promote manufacturing and investment in electronics sector by providing clarity on taxation, incentives skill development etc.

### 8. IT for Jobs

The aim is to train 10 million people in towns and villages for IT sector jobs in five years. It also aims to provide training to three lakh service delivery agents as part of skill development to run viable businesses delivering IT services. It also focuses on training of five lakh Rural Workforce on Telecom and Telecom related services and setting up of BPOs in each North-eastern state.

### 9. Early Harvesting Programmes

Government plans to installed Wi-Fi facilities in all universities across the country. All books will be converted into e books. Email will be made the primary mode of communication within government. Bio metric Attendance System will be installed in all central government offices where recording of attendance will be made online.

## Benefits of Digital India Programme

Digital India programme is the beginning of digital revolution. It is a big initiative to empower people of the country. Main benefits of this programme are:

- The digital India mission would make all the government services available to people of country through common service delivery outlets. This would lead to inclusive growth by enabling access to education, healthcare and government services to all the citizens of the country. People can get better advice on health services. Those who can't afford school/ colleges can get chance to online education.
- There would be more transparency as all the data would be made online and would be accessible to citizens of the country.
- E- Governance will help in reducing corruption and getting things done quickly.
- Digital locker facility will help citizen to digitally store their important documents like Pan card, passport, mark sheets etc.
- It will help in getting things done easily. For example, when we need to open an account, we will give official details of our digital locker, where they can verify our documents. By this we can save time and the pain of standing in long queues for getting our documents would be reduced.
- It will help in decreasing documentation and reducing paper work.
- Digital India mission is away for cashless transactions.
- It can help small businesses. People can use online tools to expand their business.
- It can play a key role in GDP growth. According to analyst the digital India could boost GDP up to \$1 trillion by 2025. According to World Bank report a 10% increase in mobile and broadband penetration increases per capita GDP by 0.81% and 1.31% respectively in developing countries.
- The programme would generate huge number of jobs in IT, electronics and telecommunication sector directly or indirectly.

The present status of some of the key initiatives undertaken by MeitY under Digital India programme across the country is as follows:

### ▪ Aadhaar

Aadhaar provides 12 digit biometric and demographic based identity that is unique, lifelong, online and authenticable. Further to give statutory backing to Aadhaar 'The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016' was notified on 26<sup>th</sup> March 2016. Over 135.5 crore residents have been enrolled.

### ▪ Common Services Centres

CSCs are offering government and business services in digital mode in rural areas through Village Level Entrepreneurs (VLEs). Over 400 digital services are being offered by these CSCs. So far, 5.21 Lakh CSCs are functional (including urban & rural areas) across the country, out of which, 4.14 Lakh CSCs are functional at Gram Panchayat level. There are 23,035 CSCs are functional in the State of Rajasthan, out of which 18823 CSCs are functional at the Gram Panchayat level.

- **Digi Locker**

Digital Locker provides an ecosystem with collection of repositories and gateways for issuers to upload the documents in the digital repositories. Digital Locker has more than 13.7 crore users and more than 562 crore documents are made available through DigiLocker from 2,311 issuer organisations.

- **Unified Mobile Application for New-age Governance (UMANG)**

for providing government services to citizen through mobile. More than 1668 e-Services and over 20,197 bill payment services are made available at UMANG.

- **e-Sign**

e-Sign service facilitates instant signing of forms/documents online by citizens in a legally acceptable form. The services are being leveraged by various applications using OTP based authentication services of UIDAI. More than 31.08 crore e-Sign issued by all agencies wherein, 7.01 Crore e-Sign issued by CDAC.

- **MyGov**

It is a citizen engagement platform that is developed to facilitate participatory governance. Presently, over 2.76+ crore users are registered with MyGov, participating in various activities hosted on MyGov platform.

- **Meri Pehchaan**

National Single Sign-on (NSSO) platform called Meri Pehchaan has been launched in July 2022 to facilitate / provide citizens ease of access to government portals. Total 4419 services of various Ministries/States integrated with NSSO.

- **Digital Village**

MeitY has also initiated the 'Digital Village Pilot Project' in October, 2018. 700 Gram Panchayats (GPs)/Village with at least one Gram Panchayat/Village per District per State/UT are being covered under the project. The digital services being offered are Digital Health Services, Education Service, Financial Services, Skill Development, Solar panel powered street lights including Government to Citizens Services (G2C), Business to Citizen (B2C) Services.

- **National Rollout of e District MMP**

e-District is a Mission Mode Project (MMP) that aims at electronic delivery of identified high volume citizen centric services at the district or sub-district level. Presently 4,671 e-services have been launched in 709 districts across India.

- **Open Government Data Platform**

To facilitate data sharing and promote innovation over non-personal data, Open Government Data platform has been developed. More than 5.93 lakh datasets across 12,940+ catalogues are published. The platform has facilitated 94.8 lakh downloads.

- **E Hospital/ Online Registration System (ORS)**

e-Hospital application is the Hospital Management Information System for internal workflows and processes of hospitals. Currently, 753 Hospitals have been on-boarded on e-Hospital and ORS has been adopted by 557 hospitals across the country with over 68 lakh appointments booked from ORS.

- **CO-WIN**

It is an open platform for management of registration, appointment scheduling & managing vaccination certificates for Covid-19. It has registered 110 crore persons and has facilitated administration of 220 crore doses of vaccinations.

- **Jeevan Pramaan**

Jeevan Pramaan envisages to digitize the whole process of securing the life certificate for Pensioner. With this initiative, the pensioner is no more required to physically present himself or herself in front of disbursing agency or the certification authority. Over 685.42lakh Digital Life certificates have been processed since 2014.

- **NCOG-GIS Applications**

National Centre of Geo-informatics (NCoG) project, is a GIS platform developed for sharing, collaboration, location-based analytics and decision support system for Departments. So far, 659 applications across various domains are operational.

- **National Knowledge Network**

A high-speed data communication network has been established to interconnect Institution of higher learning, and research. So far, 1752 links to Institutions have been commissioned and made operational. 522 NKN links have been connected to NIC district centres across India.

- **Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA)**

The Government has approved a new scheme titled "Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)" to usher in digital literacy in rural India by covering 6 Crore rural households (one person per household). It has 6.63 crore registered candidates and out of this, 5.69 crore candidates have been trained and 4.22 crore have been certified.

- **Unified Payment Interface (UPI)**

is the leading digital payment platform. It has onboarded 376 banks and has facilitated 730 crore transactions (by volume) worth Rs 11.9 lakh crore.

- **Future Skills Prime**

MeitY in collaboration with NASSCOM has initiated a programme titled FutureSkills PRIME. The programme is aimed at re-skilling/ up-skilling of IT professionals in 10 new/emerging technologies which include Augmented/Virtual Reality, Internet of Things, Big Data Analytics, Artificial Intelligence, Robotic Process Automation, Additive Manufacturing/ 3D Printing, Cloud Computing, Social & Mobile, Cyber Security and Blockchain.

- **Cyber Security**

The Government has taken necessary measures to tackle challenges with regard to data privacy and data security through administering the Information Technology (IT) Act, 2000 which has necessary provisions for data privacy and data security. India has made it to the top 10 in Global Cyber security Index (GCI) 2020 launched by the International Telecommunication Union (ITU) on June 29, 2021, moving up 37 places to rank as the tenth best country in the world on key cyber safety parameters.

### ▪ **Electronics Manufacturing**

Modified Special Incentive Package (M-SIPS): As on date, 315 applications with proposed investment of approximately Rs. 85,632 crores have been approved.

Electronic Manufacturing Clusters (EMC): Under EMC scheme, 19 Greenfield EMCs and 3 Common Facility Centres (CFCs) measuring an area of 3,464 acres with project cost of Rs. 3,732 crore including Government Grant-in-aid of Rs. 1,529 crore have been approved in 15 states across the country. Based on closure of receipt of applications under EMC scheme, MeitY notified Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme on 1<sup>st</sup> April, 2020 for further strengthening the infrastructure base for electronics industry in the country and deepening the electronics value chain.

### ▪ **Challenges**

A joint report by Assocham-Deloitte says, "The biggest challenge faced by Digital India Programme is the slow or delayed infrastructure development. Spectrum availability in Indian metros is about the tenth of the same in the cities of the developed countries. This has put a roadblock in providing high speed data services". For the digital India to have a large scale impact on citizens across the nation, the digital divide needs to be addressed through last mile connectivity in remote rural areas. Currently over 55,000 villages remain deprived of mobile connectivity. The report estimates that India needs over 80 lakh hotspots as against the availability of a mere 31,000 at present to reach the global level of one Wi-Fi hotspot penetration for every 150 people.

The real challenge is to redesign existing processes to reflect new realities. Digital India has to initiate administrative reforms, judiciary reforms and process reengineering.

### **1. High level of digital illiteracy**

Digital illiteracy is prevalent in most of the towns and villages in India. Cities have adopted digitalization but limited to certain extent. Full-fledged digitalization is cashless transaction on daily basis, use of internet services to get government certificates. This requires administration changes, Taxation changes and change in public mentality. So it's a team work which includes citizen's responsibility and support to the new system.

### **2. Connectivity to remote areas**

It is a mammoth task to have connectivity with each and every village, town and city. The problem of connectivity is a complex issue because every state has different laws pertaining to its execution. Also it is challenging for the central authorities to make a database where such a huge information can be stored.

### **3. Compatibility with center state databases**

Every state has different internet protocols because every state is diversified. Diversified not only in the sense of religion but also in language. Hence software compatibility with the center is a crucial issue. Information shall be saved carefully.

### **4. Cyber Crime**

There is cyber threat all over the globe and digital India will not be any exception. Hence we need a strong anti-cyber-crime team which maintains the database and protects it round the clock.

### **5. Inter Departmental Coordination**

Within the government there are various departments which should be integrated. Integration has technical as well as corporate issue. Corporate in the sense self-ego of the officers and staff of our government services are hurdle in the change. Also the middle man policy will be eliminated completely because of digital India, hence there will be imminent resistance from the working staff.

### **6. Finance**

Though there are resources with India but there is a huge capital cost which is to be invested and the fruits of the investment will be received after few years.

### **7. Net neutrality**

The issue is still on the table and we are blindly following the digital India. Net neutrality is must and we should make sure that digital India without net neutrality would be a great blow to entrepreneurs and citizens of India.

### **8. Changing the mindset**

This point will come into picture when you have allocated the required resources and material but when it comes to implementing them, most of them will be hesitant to change. People are accustomed with years of same of practice that they are not ready to change.

### **9. Exchange of information**

The information stored should also be used by other government offices. For example, police, surveillance and other security issues can be easily resolved with digital India but its coordination is a mammoth task. It is not only a technological question but also deals with the question of privacy and security.

### **What's to be done?**

- Availability of digital infrastructure at rural and remote locations has to be increased.
- Digital literacy needs to be improved.
- PPP models must be explored for sustainable development of digital infrastructure as in the case of projects like roads and metros.
- The government should try to make additional spectrum available to telecom service providers for deployment of high speed data networks.
- Startups need to be incentivised for the development of the last mile infrastructure and localised and applications.
- Existing government infrastructure assets like post offices and other buildings should be further leveraged for provision of digital services.
- In rural and remote areas, private sector players should be incentivised to provide last mile connectivity.

### **Conclusion**

Digital India is a very novel and great initiative. It is a huge step towards building a truly empowered nation. It has the potential to bring in a new way of governance that is economical, swift, effective and efficient. Digital India is the 'Next Big Thing' that India is witnessing. It aims touching the lives of everyone both in rural and urban India. Digital India will bridge the glaring differences between digital 'haves' and digital 'have-nots' ensuring that government services reach every household. It will bring in

grater thrust to promote inclusive growth that covers electronic services, products, devices and job opportunities. The Government of India has approved Digital India programme with the vision to transform India into a digitally empowered society and knowledge economy. The Centre's ambitious Digital India programme is facing multiple challenges in successful implementation due to lack of clarity in policies and infrastructural bottlenecks. The progress so far has not been very significant. There are miles to go before realizing the last mile connectivity.

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