



## EMPOWERING INDIAN CITIZEN THROUGH DIGITAL INDIA

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### ABSTRACT

*Technology is the key to the vision of a Digital India. Social Media, Mobility, Analytics and Cloud are the foundations that will enable the Digital India visions of providing “governance and services on demand” and “digitally empowering citizens” and support the social inclusion schemes being launched by the government. The digitization has a proven impact on economy and society by reducing unemployment, improving quality of life, and boosting access to knowledge and other public services. The Digital India drive is a dream project of the Indian Government to remodel India into a knowledgeable economy and digitally empowered society, with good governance for citizens. This paper provides a comprehensive review of the flagship programmes launched and monitored under the Digital India initiatives. An attempt has been made in this paper to understand Digital India – as a campaign where technologies and connectivity will come together to make an impact on all aspects of governance and improve the quality of life of citizens.*

**KEYWORDS:** Empowering citizen, Technology Digitization, Cloud, Public Services.

### OBJECTIVES:

1. To Understand the concept of Digital India
2. To identify the practical solutions and innovative ideas to accomplish the vision of a digital India-a reality.
3. To identify how the digitalisation to make an impact on all aspects of governance and improve the quality of life of citizens.

### INTRODUCTION:

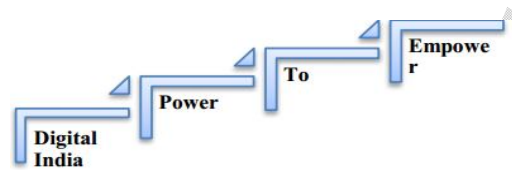
Digital India is a Dream project for making India Digitalized. Digital India is an initiative made by Government of India to interact easily and efficiently with the public. Digital India is a program, Government of India launched for the development of a country. It is the electronic system which a government of India uses for providing efficient government services to public electronically by electronic modes for improving and making good interaction with the citizens. Government started this program for providing its services to the public under one roof like a “multiplex or a super stock market” of taking all government services anytime, anywhere and it cuts of the problem of visiting the service centres, timing problem as this program provide the services to public 24\*7 means 24 hours a day, 7 days a week without any holiday of Sunday or government holiday.

### RESEARCH METHODOLOGY:

This study attempts to explain the How the empowering Indian citizen through technology in Digitalization Era. It is based on secondary data that is collected through different sources like E-governance Report, newspaper, Magazines, Periodicals, Internet, Government websites, journals E-literature and books etc.

### ORIGIN OF DIGITAL INDIA

Prime Minister Narendra Modi launched digitalization system in the country on 1<sup>st</sup> July, 2015. The plan for making India digital is to connect rural Areas with high speed internet networks. Digital India is a program to prepare India for a Knowledge future. Digital India is an initiative made by the PM Narendra Modi to transform India into digital empowered society and knowledge economy. This program is an ambitious program of Government of India with a project amount of rupees 1,13,000 crores. This program is for preparing India knowledge based. The words of PM Modi for Digital India are “The more technology we infuse in Governance the better it is for India”. “Digital India is more for poor underprivileged. It Aims to bridge the gap between digital haves and have not’s by using the technology for the citizens” words of Shri Ravi Shankar Prasad (the Hon’able Minister of Communication and IT Government of India).



### The components of Digital India are:

- Creating Digital infrastructure.
- Providing of services digitally.
- Digital literacy.

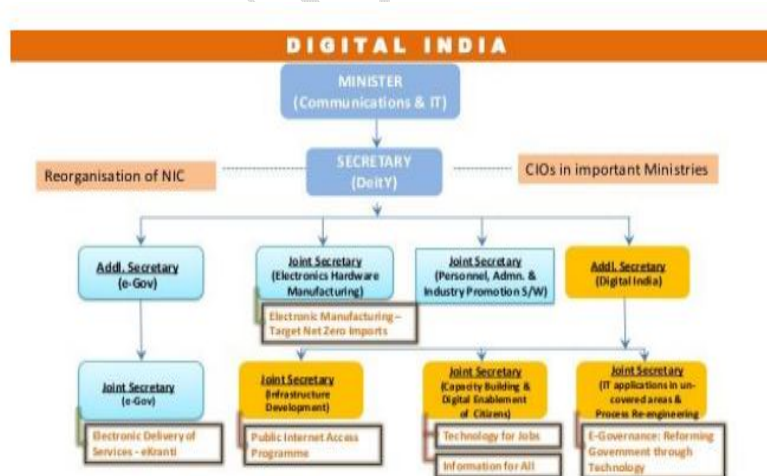


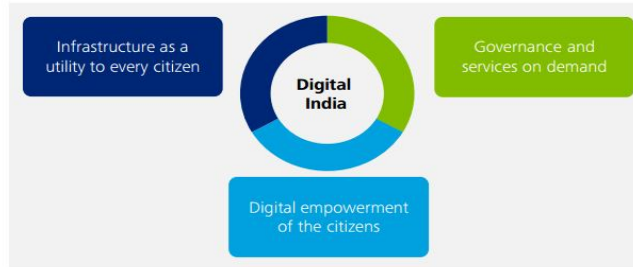
Figure 1. Digital India

There are three Vision Areas and Nine Pillars for the implementation of digital program in India. Digital India is a complex program that reduces the manual working of multiple departments. Digital India program is a use of computer technology and mobile applications for taking up of Government

services quickly. Digital India today Digitalization system in India will not only makes changes in government processes, policies, increases but also brings about huge democracy in the economy of a country. This becomes a major innovative program for the economic development of our country. vision of digital system is the development of a country through electronic technology and for creating more job opportunities.

### Three key vision areas:

Figure 2. Vision Area



### Infrastructure as a utility to every citizen

The initiative is aimed at providing connectivity through fixed-line broadband, mobile connectivity or Wi-Fi hotspots. Every citizen would be provided with a unique identity with lifelong validity that can be tied up with mobile number and bank account to enable digital banking. Access to Common Service Centre (CSC) would be improved and shareable cloud space on public cloud servers would be provided.

### Governance and services on demand

The initiative plans to create seamless integration across multiple government departments and jurisdictions, and make services available on online and mobile platforms. Financial transactions would be made cashless and electronic, and entitlements would be available on the cloud. The ease of doing business in India would be improved.

### Digital empowerment of citizens

The initiative would provide universal digital literacy to empower citizens to use digital platform/ devices. Universal access to digital resources would be provided, wherein all documents would be available in digital form on the cloud. Government services would be provided in local languages and a platform would be made available to citizens for participative governance.



**1. Broadband Highways:** The Government of India launched Digital India program with the vision of broadband networks all over the country in which government allocated 5 billion to connect high speed broadband highways for connecting all the villages, government departments, institutes and universities. For fulfilling this pillar, the National optical fiber network(NOFN) is launched. Investment in this

project is funded by Universal services obligation fund, it has set the process for connecting broadband networks to the country's 2, 50, 000 gram panchayats by year 2016.

**2. Universal Access to Phones:** In this Pillar, Government of India focuses on network connectivity and filling the gap in connecting the different areas of the country to mobile access or network with the help of internet coverage. In the past years, network technology like 2G was running in the country which was at one time becomes the most useful network connect but then there becomes a need for the further high speed connectivity to reach the maximum of areas within the country as in some of the areas, there was no coverage for 2G networks. Government felt the need for the startup of new and modified network and for this they have started with 3G and 4G which we are using today for better and efficient mobile connectivity. But still, there is a need arise for the further more improved internet connectivity and for this government is focusing on 5G network connectivity in future period.

**3. Public Internet Access Program:** The two components of this pillar are common service centres (CSC) and Post office as Multi service centres. This Pillar focuses on connecting the National Rural internet mission. It consists of those technologies that support effective cost, security, services, connectivity that delivers remote access to any information or service available across the domain. This change in technology will open new doors of e-services to every citizen i.e. E-governance. E-Governance is an easy services delivery program government started for connecting with the public. Common Service centres are the centres that covers the local area for nearby places. It provides multi end point for service delivery. Its coverage is 2, 50,000 villages.

**4. E-Governance -Reforming Government through Technology:** E- Governance is a Re-Engineering process of government business using IT to improve its processes and policies. This pillar is formed by government for transforming government to e-government and its governance to e-governance. E-Governance is the situation where the interaction with the government can be done through one counter, 24 hours a day, 7 days a week without waiting in queues at government offices. Each citizen can make a contact with government through a website where all forms, laws, news and other information will be available. This model of E-Governance could be put to three categories: G2G, G2B and G2C.

**5. E-Kranti – electronic delivery of services:** eKranti means electronic delivery of services to public. This e-Kranti focuses on providing information and knowledge to people regarding health, farming, rights, and financial services electronically with easy access. Government of India has allocates 5 billion for eKranti projects in the country. It includes the following sub projects:

Projects	Services offered
e-Education	<ul style="list-style-type: none"> <li>• literacy programs and Wi-Fi connectivity in schools.</li> <li>• Online graduate and master degree courses</li> </ul>
e-Health	<ul style="list-style-type: none"> <li>• Online medical consultation</li> <li>• Online medicine supply and records</li> </ul>
e-Farming	<ul style="list-style-type: none"> <li>• Online availability of real time price information</li> <li>• Online ordering of inputs and loan payment</li> </ul>

**6. Information for All:** The next pillar for implementation of Digital India project in India is availability of information for all. Two way communication system between government and citizens. Availability platform for open data makes easier for the citizens to take the benefit of all services under a single system of information. Government of India has launched a web based online site for public access for quicker and easier access and interaction. Government started data.gov.in website for interacting with public. MyGov.in is a website implemented by government of India as a platform for citizens to engage in governance.

**7. Electronic Manufacturing-** Target Net Zero Imports by 2020: This Pillar focuses on promoting manufacturing of electronics in the country and not to be imported from outside the country. This will promote and develops industrialization in India. This fabulous aim can be achieved only by the coordination between the following actions: By making suitable changes in taxation system by the government for motivating the industrial sector for manufacturing electronics, development of Skills and talent, by enhancing and providing fund to PhD students in universities across the country for research in manufacturing of electronic.

**8. IT for Jobs:** This pillar focuses on providing training to youth for developing their skills required for jobs opportunities in IT sector. There are three components for completing this aim.

- First component is to provide training to youngsters to build them eligible for getting jobs in IT sector. The target for achievement of this aim is to train 1 crore students from small towns, villages for IT jobs within a period of 5 years.
- The second component is to establish BPO's in every north eastern states to enable ICT growth in these sectors.
- The third component of this pillar is to train 3 lakh service delivery agents to run viable business delivering IT services.

IT parks are established by government of India in different states for the development of skills and talent of youth in the country like IT Park in Chandigarh, Bharat Electronics limited in Panchkula (Haryana).

**9. Early Harvest Programs:** This pillar focuses on the generation of short timeline projects which replaces manual services by transformation of manual services to e-services. These includes Wi-Fi in all schools, colleges and Universities, IT platform for messages, Public Wi-Fi hotspot, Biometric attendance ,Government greetings to e-greetings, SMS based weather information.

#### HOW DIGITAL INDIA CAN CHANGE OUR LIFE:

**No more submitting documents:** -As the part of the programme, the government has announced a Digital Locker service. The aim of this is that people able to store all the government issued documents in this digital locker & share these documents with government departments whenever required.

**No need for standing in queue to submit driving license application:** - This mean that no longer have to go to the RTO office to submit your driving license application. A person can submit the application online. This application will be signed with your signature digitally & the payment of fee will be through government e-pay service.

**Internet in Panchayats:** - As a part of Digital India programme, government is setting up Bharat Net, a high speed network for internet connectivity all over the country. Internet would use optical fiber cables & will enable Panchayat across the country to have high-speed web connectivity.

**Modern Post-offices:** -Post-offices will work function as cyber cafes, which help those people also who don't have the internet connection. With Digital India programme, the government wants to transform post offices into multi service kiosks. People can deliver e-mails through internet connected computers.

**Hotspots Everyone:** -Bharat Sanchar Nigam Ltd. Help in Wi-Fi hotspots in all over India, so that people with laptops and smart phones can connect with Wi-Fi & access web service. BSNL has hotspots at 53 locations. At the end of 2015 BSNL wanted to cover 250 locations with at least 2500 hotspots in the country.

**Doctor Appointment Online:** -As a part of Digital India programme, all the government hospital is connected with e-services. This programme is known as "The Online Registration System".

Having taken the right steps in the direction of introducing economic reforms, it is now vital for the government to focus on implementation and execution of its policies using technology. India lags behind the targets set up by the new government in achieving the ambitious dream of providing even the remotest villages with high-speed internet. Out of 1 million miles of fibre optic cable to be laid, for instance, less than 31,000 miles have been laid out. The target date of 2013 for completion of the National Fibre Optic Network program has been extended to 2019. Technology is the most crucial enabler in India's economic growth and

trends in the Information and Communication Technology (ICT) sector indicate demand is expected to grow fuelling growth firms in this sector. This will lead to more investment in development of capabilities and higher penetration of computer technology and mobile devices. It will be critical for India to use this growth in areas of governance and service delivery.

While some states have been quick in implementing digitization of services, a large number of states fall well short of the numbers achieved by Telangana or Andhra Pradesh. Maharashtra, considered among the most literate and prosperous states of India, falls well short of these numbers, with less than 340 e-transactions per 1,000 people over the 8-month period. Punjab, another prosperous state, is even lower, at just over 130 e-transactions per 1,000 people. The national average is 2,329 e-transactions per 1,000 people over the given period. Only 6 states, however, are above the national average.

The rapid growth in e-transactions over a three-year time period, as shown above, proves that citizens are quick to adopt these technologies as and when they're made available. The onus, then, lies on the government to provide the relevant infrastructure and policies to enable effective digitization of the economy resulting in increase in efficacy of e-governance. Partnerships with firms, public and private, having expertise in creating the relevant technology strategy and architecture are an efficient way to implement such changes. Governments abroad have often partnered with private firms, in conducting capability assessments to identify areas of concern and also implement the systems and architecture required to address these concerns. A possible approach would be to implement systemic changes at a granular level, say, in individual government departments, and integrating these to provide a unified, macro-level architecture. At this juncture, it is prudent to gauge the status of government programmes regarding digitization of the economy and e-governance under the ambitious Digital India initiatives. A list of initiatives in this direction is as below: Initiatives Taken by the Current Government and their Progress. The government has initiated several programmes that, together, will help realize its vision of a digitized nation. These programmes aim to create technology-enabled solutions and facilitate their adoption by

1. Creating a platform through growth of infrastructure, such as laying optical fibre cables;
2. Making devices available in an affordable manner by encouraging research, development and manufacturing of electronic devices;
3. Incentivising their adoption by linking basic services and facilities like subsidies to these initiatives and
4. Imparting relevant skills to ensure that citizens not only adopt these technologies, but also contribute to them, through skill development programmes.

Some of these schemes have already given encouraging results, while others are yet to see significant traction, as seen below.

#### **Pradhan Mantri Jan Dhan Yojana (PMJDY)**

This scheme has been launched with the aim of providing basic banking amenities to everyone, by Providing accounts, debit cards and accidental insurance coverage worth ₹ 1 lakh. This is envisioned as a move to empower Indian citizens and head towards inclusive growth.

**Progress:** The scheme has been very successful, so far, with over 150 million bank accounts being opened. Over 100 million RuPay debit cards have also been issued.

**Technology intervention for success:** Use of RuPay debit cards for transactions and extended reach into remote areas with handheld PoS devices will bring about rapid adoption of these cards.

#### **Direct benefit transfer (DBT)**

Under the DBT scheme, consumers will receive subsidies directly into their bank accounts, while the subsidized goods will be sold at market prices. This will reduce pilferage, adulteration and other malpractices, while ensuring that subsidies reach the people who need them.

**Progress:** Nearly 140 million beneficiaries have received over 229 billion in DBT till July 2015. The PAHAL initiative, which allows DBT in the case of LPG cylinders, has seen a lot of traction. Over 1.62 million people have voluntarily given up LPG subsidy under the "Give it Up" campaign of the government.

**Technology intervention for success:** Linking of bank accounts with Aadhar for DBT will allow efficient tracking and monitoring of benefits transfer. It will also reduce leakages and duplication of beneficiaries.

### JAM Trinity

The Jan-Dhan-Aadhar-Mobile trinity aims to integrate the three identification numbers to allow citizens to avail several government benefits. It is supposed to be a game-changing reform that will allow transfer of benefits in a targeted, leakage-proof and cashless manner.

**Progress:** The initiative was announced only in February 2015. The judiciary, however, has questioned the move since it requires the use of Aadhar, which cannot be made mandatory. This has stalled progress on this front.

**Technology intervention for success:** Use of other identification, such as voter IDs which have a higher penetration than Aadhar cards, could be used as alternate means of authentication to enable a quicker rollout of this scheme, reducing its dependence on the Aadhar card.

### Smart cities:

The government aims to create 100 smart cities by 2022 outfitted with high-tech communication capabilities and civic infrastructure across the country. For instance, Surat, one of the cities chosen for the smart city programmed, is being fitted with a network of CCTV cameras to monitor crime. In all, a total sum of ₹ 480 billion over 5 years for the development of smart cities has been laid out by the central government<sup>22</sup>.

**Progress:** A list of 98 cities has been released by the government. Foreign nations and global development agencies such as the World Bank, Asian Development Bank and KfW Development Bank (Germany), among others, have shown interest in providing financial aid. Similarly, nations have shown interest in sharing knowledge and expertise with local bodies and the government. France has evinced interest in Nagpur and Pondicherry, the United States has expressed interest in Ajmer, Vizag and Allahabad. Singapore, Germany and Spain have also shown interest in providing expertise to help with the initiative. The implementation plan is under development, with emphasis being laid on public-private partnerships (PPPs). The government has finalized outlay of capital for special purpose vehicles (SPVs) involving private firms and urban local bodies (ULBs). Finally, consulting firms in the technology, strategy and infrastructure domains have been shortlisted for planning and execution, based on regional presence and expertise. For instance, Deloitte has been shortlisted to aid with the planning and implementation strategy in West Bengal, Bihar, Odisha and Andaman and Nicobar.

**Technology intervention for success:** Extensive use of technology for authentication of citizens, monitoring of traffic, education, health, crime, energy and waste management etc. will be of vital importance. Electronic delivery of government services and e-platform for citizens will help their participation in governance, and enable micro-management of minor issues.

### Digi locker:

The service was launched as an important facility to store crucial documents like Voter ID card, Pan Card, BPL card, driving license, education certificates, etc. in the cloud. The 10 MB personal storage space is linked to the Aadhar number of the user.

**Progress:** The Digi Locker scheme has nearly 940,000 users, who have uploaded nearly 700,000 documents as of August, 2015<sup>23</sup>.

**Technology intervention for success:** It will be vital to ensure safety and privacy of data by using high-end encryption technology and data compartmentalization to reduce risk of theft or misuse. Also important will

be ensuring that departments of the government adopt this service, as it will help eliminate unnecessary paperwork and hasten processes.

#### **E-sign network:**

Once rolled out, this initiative will enable users to digitally sign a document online using Aadhaar. It is currently in pre production testing phase. E-signatures are not legally valid yet.

**Technology intervention for success:** As with the Digi Locker, privacy and security will be of prime importance. Also important will be rapid integration with government departments and procedures. Swachh Bharat Mission (SBM) Mobile app is being used by people and Government organisations for achieving the goals of Swachh Bharat Mission

#### **National Optical Fibre Network (NOFN):**

Under this initiative, a high-speed digital highway will connect all 250,000 gram panchayats of the country. This is the world's largest rural broadband project using optical fibre.

**Progress:** The Bharat Broadband Network Limited has been set up for the establishment and management of the NOFN programme. Initially planned to be completed by 2016, the NOFN programme has seen slow progress. Currently, slightly above 1% of the gram panchayats have been covered under the Bharat Broadband project. The deadline has been extended to 2019.

#### **Wifi Hotspots:**

Following on the footsteps of the NOFN, this programme aims to develop high speed BSNL Wi-Fi hotspots throughout the country to improve digital connectivity across India.

**Progress:** Free public Wi-Fi has been made available at several locations in major cities, albeit for a short span of time. Railway and metro stations in cities such as Mumbai and Delhi have similar free Wi-Fi facilities as well. However, the success of the project on the national scale depends on the success of the NOFN project.

**Technology intervention for success:** It will be important to use high-speed, high-intensity routers at these public access points to enable effective implementation of this project. The Electronics Development Fund, along with the push on making India a zero-net import country for electronics manufacturing under the Digital India campaign, will enable this to take place in a cost-effective manner.

#### **Skill India initiative:**

Launched in July 2015, the Skill India initiative aims to impart training in different areas to 400 million people in India by the year 2022. This will be essential to the success of the Digital India programme, one of the major challenges of which is a lack of skilled workforce.

**Progress:** Under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), 50,000 youth in 100 job roles across 25 sectors will be trained at special centers. SMS campaigns to reach out to 400 million youth are being rolled out. Through an initiative known as Recognition of Prior Learning, the government aims to identify and certify youth for the skills they already possess. Loans ranging from ₹ 5,000 to ₹ 150,000 will be made available to youth for skill development over the next 5 years.

**Technology intervention for success:** Equipping training centers with high speed Wi-Fi and video facilities will enable greater outreach and quicker scalability of the project. Development of mobile applications for training will also be immensely useful.

#### **E-Hospital:**

This is another initiative by the government under the Digital India program and is being managed by the Department of Electronics and Information Technology. It features an online registration system which links various hospitals across the country for registrations and appointments based on Aadhar. Under this



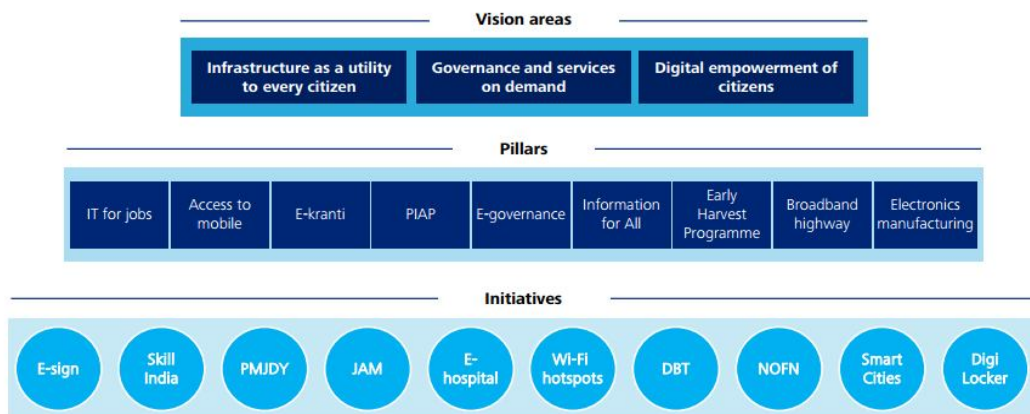
initiative, people can use services like online registration, payment of fees and appointment, online diagnostic reports, checking on the availability of blood online, etc.

**Progress:** 6 hospitals are on board. The website – ors.gov.in – is fully functional and has received over 48,000 registrations so far. The website, updated regularly, also features a dashboard which allows real-time tracking of data and registrations<sup>27</sup>.

**Technology intervention for success:** Efficient database management will be crucial to allow patients to access these facilities in other hospitals. Analytics on appointments and other queries can be used for capacity planning, which will allow hospitals to manage resources better. Policy initiatives like the Electronics Development Fund, which will become operational later this month, will allow venture capitalists to fund research and manufacturing in electronics, giving a much needed boost to entrepreneurs eyeing the electronics manufacturing sector.

### Building blocks of digital India:

The schematic diagram below represents how the initiatives tie in with the nine pillars of the Digital India programme, as discussed earlier.



These initiatives are almost revolutionary in the manner in which they will change governance, and finally bring to life the vision of inclusive growth. Most of the initiatives have met with success, at least in the initial phase. Their success in the future will depend on how the policymakers, the executive and the citizens, alike, cope with the numerous challenges that present themselves at various stages.

### CONCLUSION:

Globally, technology has been the greatest enabler in causing disruptive change. India's story is no different and the use of digital technologies to educate and empower citizens is being seen as a game-changer. The vision of digital India is grand. Digitization has the potential to boost productivity, create new jobs, and enhance the quality of life for society at large. Digitization can also play an important role in achieving this goal as it can have a greater reach to the people. Digital India campaign is a welcome step in shaping India of the 21st century powered by connectivity and the technological opportunity.

Digital India is ambitious programme of government of India. Services like E-kranti, My Gov.com many more portal services creates a knowledge economy. Millions of jobs, mobile connectivity, internet highway, online information and many others things create a new India. The outcome of Digital India is to produce Wi-Fi locations for people, creating job, universal phone connection, High speed internet, Digital Inclusion, e-Services, e-Governance, Digitally motivated people, National Scholarships Portal, Digital Lockers System, e-education and e-health making India to be pioneer in IT use solution.

However the goal is still far away since most of the nine pillars of digital India mission are facing serious challenges in implementation. It is imperative that focused persistent attention must be given to each and every pillar so that this programme does not end up in failure. In fact we all should be mentally prepared for the change and be ready to face the challenges in implementing this policy, only then it would be possible to make this vision a reality.

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