



Digital India: Our Dare to Try

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Abstract: Digital India is a large umbrella program initiated by Hon'ble Prime Minister of India Mr. Narendra Modi in July 2015 which will restructure and re-focus several existing schemes to bring in a transformative impact. The Digital India vision aims to transform our country into a digital economy with participation from citizens and businesses. This initiative will ensure that all government services and information are available anywhere, anytime, on any device that is easy-to-use, seamless, highly-available and secured. With proven technologies like Cloud, Machine-to-Machine (M2M), Analytics, Mobile (web-based interface), Social and Security at our disposal, this transformation can be made into a reality. The objective of this paper is to have a vision on the Digital India 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.

Key words: Digital, cloud computing, mobile

Introduction:

'India is the world's largest experiment in digitalisation'. The spirit of debate, sensitivity and integrity is instilled in our knowledge management initiative."

—N. Rajendhiran, Wipro

The "Digital India" initiative aims at availing digitizing of various individual projects of all central government and ministries like education, health services and other services, that can be delivered to citizens using Information and Communication Technology (ICT) by joining all the areas of India including the Gram Panchayats at high speed internet through broadband connectivity, in order to focus on the e-governance till 2019. It can also be viewed as the next step of already running National e-Governance Plan. In this program government will prefer to adopt Public Private Partnerships (PPP) wherever feasible for execution of this initiative. For the smooth execution of this program,

government will enhance National Informatics Centre which is responsible to carry IT projects in government departments. For faster design, develop and implement various e-Governance projects, in at least 10 key ministries positions of Chief Information Officers (CIO) will be created and necessary senior positions within the department will be created by Department of Electronics and IT (DeitY) for managing the initiative. It is rightly said by the hon'ble Prime Minister of India, Narendra Modi that Information Technology plays important role to make India a digital country, in his words "India Today(IT) + Information Technology(IT) = India Tomorrow(IT).

Vision areas of digital India

- *Digital Infrastructure as a Utility to Every Citizen:*

The government is planning to provide high-speed internet connectivity to 250,000 Gram Panchayats, which will be



a core utility for digital inclusion. The citizens will be provided with a digital identity which will be unique, lifelong, online, and valid. There will be easy access to Common Service Centers and ashareable private space for every citizen on a public cloud.

• *Governance and Services on Demand:*

Under this vision, all the government departments will be seamlessly integrated with high-speed optical fiber, which will improve inter operability of these organizations and will result in real-time service delivery from online or mobile platform. Apart from this ,the government is planning to make all citizen entitlements portable through cloud for easy and country-wide access and to digitally transform the services for improving ease of doing business in India. The government also plans to use the power of Geographic Information Systems (GIS) for decision support systems & development.

• *Digital Empowerment of Citizens:*

This vision is to empower citizens through digital literacy and universal access to digital resources. e.g. all documents/certificates to be available on cloud and in

Indian languages. Government also wants to provide collaborative digital platforms for participatory governance, e.g. MyGov website for crowd sourcing ideas.

Pillars of Digital India.

1. *Broadband Highways:* The first step is to provide high speed broadband highways through fiber optics that connect all the remote areas, government departments, universities, R&D

etc. Web based portals and Mobile apps will be developed to access online information while on the move.

2. *Universal Mobile Access :* In the coming years, net-work technologies like 3G, 4G and upcoming 5G will storm the speed. Government is specially preparing to connect unconnected areas and speedy use of these technologies. General public will access the online government services with the help of handheld devices. Nation is ready to be well-connected, efficient, and more productive in every aspect.

3. *Public Internet Access:* Virtuous technologies that support cost containment ,collaboration, security, services-on-the-go, social-connect, and in-built intelligence that deliver remote access to any information or service available across the domain. This change will open new doors of e-services to every citizen.

4. *e-Governance:* This governance will transform every manual work into fully automation system. It will revolutionize the system in the following ways:

- Online access to applications i.e. availability of all databases and information in electronic format.
- Effortlessly tracking of assignments.
- Interface between departments for superior production of work.



• Quickly respond, analyze and resolve persistent problems and many more.

5. *e-Kranti*: This kranti will fully focus on digital knowledge program where education, health, farming, rights, financial and many more services will be delivered on a very high bandwidth. Physical boundaries no longer are a limitation when almost everyone and everything is a digital handshake away.

6. *Information for All*: Websites and mobile apps will convey data and realistic participation and through social media. Everything is connected through virtual networks. Swift work flow and no delays due to wait in queues.

7. *Electronics Manufacturing*: This milestone will create a huge base for electronics manufacturing in in-dia with the aid of digital technologies and skills. The empowerment of manufacturing through the Internet of Things will enable intelligent workshops that demonstrate data driven operational excellence and decentralized production control systems within and beyond the physical factory walls.

8. *IT for Jobs*: The government is preparing to provide training and teaching skills to the youth for employment opportunities in the IT sector. BPO industries will be established for the fastest growing segment of the Information Technology Enabled Services industry. It offers e-services 24/7 in every field and gives more jobs potentials.

9. *Early Harvest*: This programme will generate short timeline projects where every manual service is altered by e-service. E-services like:

• Implementation of Wi-Fi in all the universities.

• Public Wi-Fi Sports to access online gen.

• Educational books to e-books.

• People will use the e-services for entertainment, weather information, latest updates etc.

• Replacement of manual attendance to Biometric procedure

Scope of digital India

The scope of overall programme is:

•To develop India for a knowledgeable future by developing central technology for allowing revolution which covers many departments under one umbrella programme?

•On being transformative, that is to realize IT (Indian Talent) + IT (Information Technology)= IT (India Tomorrow).

The programme weaves together a large number of thoughts and ideas into a single, extensive vision, and making the mission transformative in totality

•The Digital India Programme will pull together many existing schemes which would be re-focused re structured and implemented in a synchronized manner for their transformative impact.

•Digital India targets to provide the much needed sense to the following nine pillars of growth areas

High level architecture principles

High-level architecture principles for digital India are:

1. Highly secured – well coordinated to ensure privacy and confidentiality of data

2. Well-structured – data and functions to develop 'System of Engagement' from 'System of Records' need to be



categorized for access depending upon the sensitivity of data and information. Data resides within the operation architecture and the patterns that will provide access to be part of the design

3. Interoperability of systems
4. Common standards to collaborate
5. Device-agnostic services – for multi-channel enablement for single user-experience
6. Simple and ease of operations
7. Agile and flexible technology – enabling scaling up and scaling down, adopt new technology with minimal disruption and cost
8. Home-grown technology using internal expertise –
this is to be self-reliant and secure (to avoid unknown security breach during design and build)
9. Optimized process automation – to remove redundancy and computation over-kill
10. “Build once and use many times” resources, assets should be re-usable, existing assets will be reused with relevant wrapper/adapters to enable new.

Impact of digital India

The Digital India project provides a huge opportunity to use the latest technology to redefine the paradigms of service delivery. A digitally connected India can help in improving social and economic condition of people living in rural areas through development of non-agricultural economic activities apart from providing access to education, health and financial services. However, it is important to note that ICT alone cannot directly lead to overall development of the nation. The

overall growth and development can be realized through supporting and enhancing elements such as literacy, basic infrastructure, overall business environment, regulatory environment, etc

The impending challenges

The Digital India initiative is an ambitious project of the Government and is, by far, the biggest ever conceived. There are many challenges discussed below that could come in the way of successful completion of the project.

1.High cost of implementation: Approximate cost of implementing this mammoth project is `1.13 trillion (including ongoing and new schemes).

2.Time overrun: The NOFN project which is the back bone of the Digital India project has been delayed several times and is suffering two years’ time overrun. The delayed project may lead to delay in other dependent projects and meeting the budget limit will be difficult.

3.Lack of coordination among departments: It is an umbrella project involving participation of several departments and demanding commitment & effort. Hence, strong leadership and timely support of all the involved entities will play a critical role.

4. Poor private participation: To achieve timely completion of the projects extensive private participation is necessary. The private participation in the government projects in India is poor because of long and complex regulatory processes

5.Uniform and fast adoption of Internet: About 4 billion people in the world do not have Internet connection and India comprises of 25% of them.¹⁴India is the



4th largest smartphone market with almost 111 billion smartphone users

6. Infrastructure: Though the National Optic Fibre Network (NOFN) project is aiming to build a nationwide high speed broadband by the end of the year 2016,

there are other supporting infrastructure deficits, such as lack of robust and large data centers to hold the data of entire country. In addition, the last mile connectivity and the physical infrastructure at customer premises are unaffordable by most of the rural Indians. Infrastructure fulfillment is necessary with the NOFN project.

7. Cyber security: Nation Crime Records Bureau (NCRB) report shows the rapid increase in cybercrime in India by 50% from 2012 to 2013. There have been several incidences of cybercrime on corporate and individual level in the past few years. Putting the data of 1.2 billion people on the cloud could be risky and could threaten the security of individuals and the nation. Hence, the Digital India project demands very strong network security at all levels of operation.

Conclusion

The Digital India program is just the beginning of a digital revolution, once implemented properly it will open various new opportunities for the citizens. It is one of the highly ambitious programs of Indian government, and is directly monitored by Hon'ble Prime Minister of India. The program is a multi-ministry program, with the involvement of central cabinet ministers, state governments etc. Various grand companies like Microsoft, Google and Fujitsu will also agreed to partner and help the success of Digital India initiative. While there are many obstacles in the path of Digital India

program, one major of which is electricity. But this problem will soon be solved as there will be pressure on local leaders to get electricity in their village when Digital India program will be running in the nearby villages. Also, it will open gates for employment as Telecom Minister Ravi Shankar Prasad said while addressing students at Shri Ram College of Commerce: "IT gives employment to about 30 lakh people. Once Digital India becomes reality, we can give jobs to five crore plus people.

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