

Digital India-Major Initiatives and their Impact: A Critical Analysis

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Abstract--- The Digital India programme is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy. Digital India is a dream to ensure that government services are made available for all citizens electronically by improving online infrastructure and by increasing the effectiveness of Internet connectivity with one mission and one target that is to take nation forward digitally and economically. This initiative was taken to ensure that the citizens are getting engaged in the innovation process which is necessary for the economic growth and sustainable development of the country. In order to realize the full potential of this programme, it is necessary to address certain challenges in the way of its successful implementation like digital illiteracy, poor infrastructure, low internet speed, lack of coordination among various departments, issue pertaining to taxation etc. If implemented properly, it will open various new opportunities for the citizens of the country and therefore it requires a lot of efforts and dedication from all departments of government as well as private sector considering the current status of the programme.

Keywords--- Development, Digital, Infrastructure, E-governance, Government, Internet Access.

I. INTRODUCTION

Digital India was launched by the Prime Minister of India on 2nd July 2015 with well defined objective of connecting rural areas with high-speed Internet networks and improving digital literacy. The vision of Digital India is inclusive growth in many areas such as electronic services, products, manufacturing and job opportunities etc. Digital India aims to provide the much needed focus on the nine pillars of growth areas, namely Broadband Highways, Universal Access to Mobile Connectivity, Public Internet Access Programme, e-Governance: Reforming Government through Technology, e-Kranti - Electronic Delivery of Services,

Information for All, Electronics Manufacturing, IT for Jobs and Early Harvest Programmes. Each of these areas is a complex program in itself and cuts across multiple Ministries and Departments. Digital India is to be implemented by the entire Government with overall coordination being done by the Department of Electronics and Information Technology.

II. LITERATURE REVIEW

Digital India' initiative has been an area of interest of numerous researches from various disciplines because of its great significance and influence on the economy as a whole and particularly the technological sector.

Sundar Pichai, Satya Nadella, Elon Musk researched about Digital India and its preparedness to create jobs opportunities in the information sector. He concluded that

creating new jobs should be continued with shifting more workers into high productivity jobs in order to provide long term push to the technological sector in India.

Microsoft CEO, Satya Nadella intends to become India's partner in Digital India program. He said that his company will set up low cost broadband technology services to 5lakh villages across the country.

Prof. Singh began with the basic overview of what Digital India entails and led a discussion of conceptual structure of the program and examined the impact of "Digital India" initiative on the technological sector of India. He concluded that this initiative has to be supplemented with amendments in labor laws of India to make it a successful campaign.

Arvind Gupta intends to say that Digital India movement will play an important role in effective delivery of services, monitoring performance, managing projects and improving governance. An Integrated Office of Innovation & Technology to achieve the same, for problem solving, sharing applications and knowledge management will be the key to rapid results, given that most departments work on their own silos. Tracking and managing the projects assumes significance because India has been busy spending money in buying technology that we have not used effectively or in some cases not even reached implementation stage. Sharing learning's and best practices across departments needs to be driven by this Office of Technology.

Gupta and Arora (2015) studied the impact of digital India project on India's rural sector. The study found that many schemes have been launched in digital India to boost agriculture sector and entrepreneurship development in rural areas. Digital India programme has also set the stage for empowerment of rural Indian women.

Rani (2016) concluded that the digital India project provides a huge opportunity to use the latest technology to redefine India the paradigms of service industry. It also pointed out that many projects may require some transformational process, reengineering, refinements to achieve the desired service level objectives.

Midha (2016) concluded that digital India is a great plan to develop India for knowledge future but its improper implementation due to inaccessibility and inflexibility to requisite can lead to its failure. Though digital India programme is facing number of challenges yet if properly implemented it can make the best future of every citizen. So we Indians should work together to shape the knowledge economy.

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Research Objectives

1. To understand the concept of 'Digital India'
2. To examine the features of 'Digital India'
3. To evaluate the opportunities and challenges with special reference to 'Digital India'
4. To find out practical solutions and innovative ideas to achieve the objectives of 'Digital India'

III. RESEARCH METHODOLOGY

Being an explanatory research it is based on secondary data of National & International Journals, articles, government reports, books, newspapers and magazines covering wide collection of academic literature on 'Digital India'. Considering the research objectives, descriptive research design is adopted to have more accuracy and rigorous analysis of research study. Available secondary data was extensively used for the study.

IV. DIGITAL INDIA: KEY AREAS AND MAJOR INITIATIVES TAKEN BY THE GOVERNMENT

Digital India programme is focused on three key ideas

- Creation of Digital Infrastructure and Electronic Manufacturing in Native India.
- Delivery of all Government Services electronically (E-Governance).
- Digital Empowerment of Native Indian People.

The three key Digital Tools as the pillars of the project are

- A Digital Identification which will verify the end user.
- A Bank account for Immediate Benefit Transfers of subsidies and payments.
- A Mobile for worldwide access to all services.

The ambitious 'Digital India' project has always been in news for all the good reasons. The project having a total overlay of Rs 1 lakh crore aims to transform the India into a knowledge economy. It aims to ensure easy access to technology infrastructure and government services to citizens. Digital India is a dream project of the government for the citizens and Industries of India which could help in connecting the various past and present projects to bring India to a global platform.

Through this project government services are available for urban and rural citizens digitally or electronically. The idea is to achieve digital innovation and create positive impact for the people living in rural and urban areas. It will certainly attract investment in all product manufacturing industries. The Digital India project aims to transform the country into a digital economy with participation from rural, urban citizens and business organizations to ensure that all government services and information are available anywhere, anytime, on any device that is easy-to-use, highly available and secured. This program can certainly remove the digital gap between the rural and urban India. Some of the facilities provided under the initiative of Digital India are as follows:

1-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.

2- Mygov.IN

MyGov.in is a platform to share inputs and ideas on matters of policy and governance. It is a platform for citizen engagement in governance, through a "Discuss", "Do" and "Disseminate" approach.

3- Esign Framework

This initiative would enable users to digitally sign a document online using Aadhaar authentication.

4- Swach Bharat Mission Mobile App

The app will enable organizations and citizens to access information regarding the cleanliness drive and achieve the goals of the mission.

5- National Scholarship Portal

This initiative aims at making the scholarship process easy. From submitting the application, verification, sanction and disbursement to end beneficiary, everything related to government scholarships can be done on this single portal online.

6- Ehospital

Online registration System under this initiative enables people to avail services like online registration, payment of fees and appointment, online diagnostic reports, checking on the availability of blood online, etc.

7- Digitize India Platform

This initiative will involve digitization of data and records on a large scale in the country to make easy and quick access possible.

8- Bharat Net

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.

9- WI-FI Hotspots

Development of high speed BSNL wi-fi hotspots throughout the country is yet another initiative to improve digital connectivity in the country.

10-Next Generation Network

Launched by BSNL, this service will replace 30-year old telephone exchanges to manage all types of services like voice, data, multimedia and other types of communication services.

11- Electronics Development Fund

The fund will be set up to support the manufacturing of electronics products that would help create new jobs and reduce import.



The funds will promote innovation, research and product development to create a resource pool within the country.

12- Centre of Excellence on Internet of Things (IOT)

In partnership with NASSCOM, DEITY and ERNET in Bangalore, Centre of Excellence will enable rapid adoption of IOT technology and encourage a new growth strategy. IOT will help the citizens in services like transport system, parking, electricity, waste management, water management and women's safety to create smart cities, smart health services, smart manufacturing and smart agriculture, etc.

Digital India: Major Achievements and Scope

The ambitious 'Digital India' program was started with the basic idea of empowering the poor and the underprivileged. In the right direction revival of MTNL and BSNL is certainly a big step. Digital India program has exceeded all expectations and impact of the Department of Telecommunications is the perfect example in the lives of the common man. Digital India has certainly helped in increasing the awareness level about internet and employment in rural areas of the country. Majority of Indians live in rural areas and therefore the initiative will serve as a backbone for transforming India into a digitally empowered knowledge economy, by ensuring internet service to one and all.

This program will enable citizens to easily access wireless internet, promote the use of digital platforms, and make e-Services available to people in the effective manner. This innovative idea will be helpful in bringing down the use of paper and will provide Internet services to the rural areas. This will ensure the remotest communities of India are included in the digital transformation process. Information is key to development. Internet and mobile connectivity in all communities will enable them to elevate their knowledge level, awareness level and finally socio-economic status.

It will also ensure the easy access of various services offered by Government & private sectors in the paper-less environment and fair and speedy delivery mode to save time and money of the citizens of the country. Central government has decided to provide the benefits of the 'Digital India' program to the country's farmers, for which a virtual platform of a national agricultural market is in the process in addition to the idea of connecting 550 farmer markets in the country through the use of technology. The 'Digital India' initiative would also help the farmers by giving them access to information on the best price offered for farm produce on their mobile phones in an instant.

On being transformative, the idea is to realize IT (Indian Talent) + IT (Information Technology) = IT (India Tomorrow). The program weaves together a large number of thoughts and ideas into a single, extensive vision, and making the mission transformative in totality. The Digital India Program will pull together various existing schemes which would be re-focused, restructured and implemented in a synchronized manner for their major transformative impact. According to analysts, the Digital India plan could boost GDP up to \$1 trillion by 2025. It can play a key role in macro-economic factors such as GDP growth, productivity of the workers, growth in number of businesses and employment generation. As per the World Bank report, a

10% increase in mobile and broadband penetration increases the per capita GDP by 0.81% and 1.38% respectively in the developing countries. India is the 2nd largest telecom market in the world with 1.16 billion wireless subscribers and world's 3rd largest Internet market with almost 259 million broadband users. There is still a huge economic opportunity in India as the teledensity in rural India is only 45% where more than 65% of the population lives. Future growth of telecommunication industry in terms of number of subscribers is expected to come from rural areas as urban areas are saturated with a tele-density of more than 160%.

The digital India project will be helpful in providing real-time education and partly address the challenge of lack of teachers in education system through smart and virtual classrooms. Education to farmers and fishermen can be provided through mobile devices. The high speed network can provide the adequate infrastructure for online education platforms for example Massive Open Online Courses.

The GST Network, which is in charge of the technological infrastructure for the Goods and Services Tax i.e. biggest tax reform in India, is ready for translating nearly two billion invoices into digital formats from July1, 2017. Services for example Aadhaar, refers to platforms designed to move India towards a paperless environment, cashless economy and a queue-less future.

The government is leveraging technologies in mobile, analytics, Internet of Things and cloud technology to ensure effective implementation of the Digital India program, which is in turn associated with program such as Smart Cities and Make in India. India has made a few achievements in e-governance projects such as Digital Locker, ebasta, the linking of Aadhaar to bank accounts to disburse subsidies. Bharat Net (erstwhile National Optical Fiber Network), the country's digital infrastructure, has created a common service centre for each panchayat. Considering the broadband technology, India is better placed. According to a report by Akamai (a US-based content delivery and cloud service provider), India's average broadband speed is 23.5 Mbps and maximum speed is 25.5Mbps. Top executives of Tech Companies are in agreement with the vision of Digital India and are willing to invest resources for the same purpose.

V. DIGITAL INDIA MAJOR CHALLENGES

Many people in rural areas have no Internet connection, and also the content in regional languages is not sufficient to keep the readers engaged. Only 15% of the households can access the Internet, and few people can access mobile broadband. This scenario is despite the increasing affordability of ICT environment in the country. According to World Economic Forum (WEF) 2016 report, nearly 33% of Indian population is functionally illiterate, one-third of youth do not attend secondary education. There are vast differences in urban centers such as metropolitan cities and remote rural areas, where an even basic service for example electricity is unavailable to run the Digital India program.



India's growing economy and digital push have caught the attention of hackers and an increasing wave of cyber attacks could soon badly impact the country. India and other South Asian countries are now on the radar of cyber attackers. The government and corporate world need to procure state-of-the-art, New Age security solutions to thwart their plans. It is not only a technological question but also deals with the question of privacy and security. The biggest challenge faced by 'Digital India' is the slow and delayed infrastructure development. Spectrum availability in Indian metros is about a tenth of the same in cities in developed countries. Challenges are in every area right from policy making, changing the work flow up to changing the mentality of the government officers. It is technological change within the most diversified nation. Within the government there are various departments which should be integrated.

There is an active involvement of various departments such as telecommunication, justice, finance and planning, health department etc. Without a smooth teamwork between them, this mission would never be implemented to its full strength. For digital technology to be accessible to every citizen, significant efforts are needed to customise apps and services to cater to local needs. Finding vendors who can provide such applications has become a challenge. 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. Net neutrality is must and it is important to understand that digital India. without net neutrality would be a great blow to entrepreneurs and citizens of India. India is a diversified country, in terms of language, culture, laws which vary from states to states. Complete integration, that is integration of technology and language, is one of the main challenges.

The Centre's ambitious Digital India program is facing multiple challenges in successful implementation due to lack of clarity in policies and infrastructural bottlenecks, according to a joint report by Assocham Deloitte. For Digital India to have a large scale impact on citizens across the nation, the digital divide needs to be addressed, considering the importance of connectivity issue in remote rural areas, as currently over 55,000 villages remain deprived of mobile connectivity. This is largely due to the fact that providing mobile connectivity in such locations is not commercially viable for service providers.

VI. CONCLUSION

Despite a few remarkable achievements, many more initiatives need to be undertaken. The WEF Report is a reminder to the government in this regard, and underlines the need to realize the positive impact of Digital India and other related programs. Public-private partnership models must be explored for sustainable development of digital infrastructure, as has been the case for civic infrastructure projects like roads and metro. The government should try to make additional spectrum available to telecom service providers for deployment of high speed data networks. Moreover, startups need to be incentivised for the development of the last mile infrastructure and localised services and applications.

The existing government infrastructure assets like post offices and other buildings should be further leveraged for the provision of digital services. In rural and remote areas, private sector players should be incentivised to provide last mile connectivity. The overall growth and development can be realized through supporting and enhancing elements such as literacy, basic infrastructure, overall business environment, regulatory environment, etc. India is becoming digital due to faster adoption of technology, burgeoning youth population and emphasis on cashless transactions. The 'Digital India' is in infant stage, so there is enormous unfinished agenda for India and it is an area of serious concern to address it effectively and expeditiously.

Technology is changing fast. What is good today may become obsolete later. It is true that private telecom players in India are doing great but they cannot be fully depended to fulfil social commitment especially in areas where revenue potential is low. The need of the day is to build an exclusive fully firewalled India Internet Cloud that can provide secure internet network and connectivity for the various needs of the country. Government should have exclusive own communication network for disaster/crisis management, administration, and security purposes. There is urgent need to ensure that Telecom systems, Networks, Phones, Products and Services are available, accessible and affordable to common man. All citizens should be mentally prepared for the changes and challenges in implementing the policy, only then it would be possible to achieve the objectives of Digital India programme

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