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Digitalization India: Challenges and Opportunities

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Abstract: *Digital India is the beginning of digital revolution. It is a dream created by the Government of India to ensure that government services are made available to citizens electronically, even in remote areas, by improving online infrastructure and increasing internet connectivity.*

The program has one mission and one goal, which is to move the nation forward digitally and economically. The initiative will enable people to engage in the innovation process that the economy needs to progress. But implementing it is a big challenge. There are many hurdles in its successful implementation such as digital illiteracy, poor infrastructure, slow internet speed, lack of coordination between various departments, tax related issue etc. These challenges need to be addressed to realize the full potential of this scheme.

It requires a lot of effort and commitment from all government ministries and the private sector. If properly implemented, it will open various new opportunities for the citizens of the country.

Keywords: *Digital, Infrastructure, Opportunities, Revolution, Roadblocks*

I. INTRODUCTION

Information and communication technology (ICT) continues to spread worldwide at an incredible rate. Digitization is one of the most fundamental periods of transformation we have ever witnessed. Digital India was a flagship program launched by Indian Prime Minister Narendra Modi on July 1, 2015 – to connect rural areas with high-speed internet networks and improve digital literacy. The vision of this program is to transform India into a digital society and knowledge economy. It is one of the biggest steps taken by the Government of India to motivate the citizens of the country and connect the Indian economy with the knowledge savvy world.

II. LITERATURE REVIEW

A number of research papers and articles provide a detailed overview of the role of Digital India and implications of this project in India. Rani (2016) concluded that the Digital India project provides a huge opportunity to use the latest technology to redefine India's service sector paradigms.

He also pointed out that many projects may require some transformation process, reengineering, improvement to achieve the desired service level goals.

[1] Midha (2016) concluded that Digital India is a great plan to develop India for a knowledge-based future, but its wrong implementation due to unavailability and inflexibility to the needy may lead to its failure. Although the Digital India agenda faces a number of challenges, if implemented properly, it can create the best future for every citizen. So we Indians should work together to form a knowledge economy.[2]

Gupta and Arora (2015) studied the impact of the Digital India project on the Indian rural sector. The study found that many schemes have been launched in Digital India to promote agriculture and entrepreneurship development in rural areas. The Digital India program has also paved the way for the empowerment of rural Indian women.[3]

III. RESEARCH METHODOLOGY

The article is based on secondary data and information is obtained from the internet through journals, research papers and expert opinions on the same topic.

IV. OBJECTIVE

- 1) To study the concept of digital India programme
- 2) To find out the importance of this program.
- 3) To find out the challenges we face in implementing this program.
- 4) To find out practical solutions and innovative ideas to fulfill the vision of digital India-a reality.

V. DIGITAL INDIA

Digital India' is a central program to prepare India for a knowledge-based future Vision Areas of Digital India

The Digital India Program focuses on three key vision areas:

1) *Digital Infrastructure As A Tool For Every Citizen*

- The provision of high-speed Internet connectivity as an essential tool for providing services to citizens.
- To provide a digital identity that is unique, lifelong, online and verifiable for every citizen.
- Providing a mobile phone and bank account enabling citizen participation in the digital and financial space. Easy access to a common service center.
- A shareable private space on a public cloud for every citizen

2) *Management and on-demand Services*

- Seamless integration across departments or jurisdictions
- Ensuring real-time availability of services from online and mobile platforms
- Portability of all citizen claims and their availability in the cloud
- Digitally transformed services for business facilitation
- Utilization of Geospatial Information Systems (GIS) for support systems decision making and development

3) *Digital Citizen Empowerment*

- To empower citizens through universal digital literacy.
- To provide a universally accessible digital resource.
- Make available digital resources / services in Indian languages.
- Provide collaborative digital platforms for participatory governance.
- Citizens need not physically present the Govt. documents / certificates.

VI. NINE PILLARS OF THE DIGITAL INDIA AGENDA

There are 9 key initiatives under the Digital India program which are as follows

- 1) *Broadband Highways*: The aim is to cover 250,000 village Panchayats under the National Optical Fiber Network (NOFN) by December 2016. The National Internet Infrastructure (NII) would integrate the country's network and cloud infrastructure to provide high-speed connectivity and cloud platform to various government departments down to the panchayat level.
- 2) *Universal Access to Mobile Connectivity*: The aim is to increase network penetration and provide mobile connectivity to 44,000 villages by 2018 with an investment of RS 16,000.
- 3) *Public Internet Access Program*: One Common Service Center (CSC) would be provided to each gram panchayat and 150,000 post offices are proposed to be converted into multi-service centers.
- 4) *e-Governance*: IT would be used to deliver government services more efficiently. There would be integration of services and platforms – UIDAI, payment gateways, Seva mobile platform, public corrections etc. through IT. All information would be available in electronic form.
- 5) *EKranti*: The aim is to provide electronic services to people, be it education, health, financial inclusion or justice.
- 6) *Information for AllMyGov.in*: This website launched by the government to facilitate two-way communication between the citizens and the government. It is a vehicle for exchanging ideas or proposals with the government. The citizen would have open access to information through an open data platform.
- 7) *Electronics Manufacturing*: The government is targeting zero electronics imports by 2020 through local manufacturing of items such as smart energy meters, micro ATMs, mobile, consumer and medical electronics. The government is also taking several steps to promote manufacturing and investment in the electronics sector by clarifying taxation, incentives for skill development, etc.
- 8) *IT for Jobs*: The aim is to train 10 million people in towns and villages for jobs in the IT sector within five years. It also aims to provide training to three lakh service delivery agents as part of skill development to run viable IT service businesses. It also aims to train five million rural manpower in telecom and related services and set up BPOs in every north-eastern state.

- 9) *Early Harvest Programs*: The government plans to install Wi-Fi facilities in all universities across the country. All books will be converted to e-books. Email will become the primary mode of communication within government. The biometric attendance system will be installed in all offices of the central state administration, where attendance records will be online.

VII. BENEFITS OF THE DIGITAL INDIA PROGRAM

The Digital India Program is the beginning of the digital revolution. It is a big initiative to empower the people of the country. The main benefits of this program are:

- 1) The mission of Digital India will make all government services accessible to the people of the country through common service stores. This would lead to inclusive growth by giving all citizens of the country access to education, healthcare and government services. People can get better advice about health services. Those who cannot afford school/colleges can get a chance for online education.
- 2) There would be more transparency as all data would be published online and accessible to the citizens of the country.
- 3) E-Governance will help reduce corruption and get things done quickly.
- 4) Digital locker will help citizens to digitally store their important documents like Pan Card, passport, mark sheets etc.
- 5) It will help to do things easily. For example, when we need to open an account, we provide official details of our digital locker where they can verify our documents. This way we can save time and reduce the pain of queuing to get our documents.
- 6) This will help in reducing documentation and reducing paper work. 7. Mission Digital India is gone for cashless transactions.
- 7) It can help small businesses. People can use online tools to expand their business.
- 8) It can play a key role in GDP growth. According to an analyst, digital India could increase the GDP to \$1 trillion by 2025. According to a World Bank report, a 10% increase in mobile and broadband penetration per capita will increase developing countries by 0.81% and 1.31%, respectively [4].
- 9) The program would directly or indirectly create huge number of jobs in the IT, electronics and telecommunication sector.

VIII. CHALLENGES

It has been more than a year since the Digital India mission was announced, but it faces many challenges in its successful implementation. Few of the challenges are:

- 1) High level of digital illiteracy is the biggest challenge to the success of digital India programme. Low digital literacy is a key barrier to technology adaptation. According to the ASSOCHAM-Deloitte report on Digital India, November 2016, around 950 million Indians are still not online[5].
- 2) Making the Digital India scheme visible and creating awareness among the common masses about its benefits is also a big challenge.
- 3) It is a mammoth task to have connections with every village, town and city. Connecting 250,000 Gram Panchayats through National Optical Fiber is not an easy task. The biggest challenge is to ensure that every panchayat broadband point is fixed and functional. 67% of NOFN points were found to be non-functional even in the pilot phase.
- 4) A key part of this vision is the high speed of the Internet as a basic tool for facilitating the online provision of various services. India has slow internet speed. According to Akamai's Q3 2016 Internet Speed Report, India ranks 105th in the world in average internet speed. This rank is the lowest in the entire Asia Pacific region.[6]
- 5) According to the ASSOCHOM-Deloitte report, the issue regarding taxation and regulatory guidelines has emerged as a hurdle in realizing the vision of Digital India. Some of the barriers to common policy include lack of clarity on foreign direct investment policies that have affected the growth of e-commerce.
- 6) The biggest challenge of the Digital India program is the slow and delayed infrastructure development. India's digital infrastructure is woefully inadequate to handle the growing surge in digital transactions. According to an ASSOCHOM-Deloitte report, India needs more than 80,000,000 hotspots to reach the global level, while about 31,000 hotspots are currently available.
- 7) Private participation in government projects in India is poor due to long and complex regulatory processes.
- 8) Many draft applications issued by the government are not picked up by the relevant private sector organizations because they are not commercially viable. Currently, more than 55,000 villages are deprived of mobile connectivity as providing mobile connectivity in such locations is not commercially viable for service providers, an ASSOCHAM-Deloitte report pointed out.
- 9) There is a wide digital divide between urban and rural India. So far, the funds have not been effectively used to cover the costs of creating infrastructure in rural areas.

- 10) India has 1600 languages and dialects. The unavailability of digital services in local languages is a major barrier to digital literacy.
- 11) Fear of cybercrime and invasion of privacy has been a deterrent to the adoption of digital technologies. Most of the technology, including cyber security tools, is imported. We do not have the necessary skills to examine them for hidden malware. We currently have no top experts for these top jobs. According to NASSCOM, India needs 1 million trained cyber security professionals by 2025. The current estimated number is 62, 000.[7]

IX. SUGGESTIONS

A Digital India campaign cannot be successful on its own. To make Digital India a reality, policy needs to change. A few suggestions are –

- 1) Digital literacy is the first step to empowering citizens. People should know how to secure their online data.
- 2) For this program to be successful, an extensive awareness program must be carried out. There is an urgent need to educate and inform citizens, especially in rural and remote areas, about the benefits of internet services to increase the growth of internet usage.
- 3) The digital divide needs to be addressed.
- 4) Content production is not the government's forte. This mission requires content and service partnerships with telecommunications companies and other businesses.
- 5) PPP models need to be explored for the sustainable development of digital infrastructure.
- 6) The private sector should be encouraged to develop last mile infrastructure in rural and remote areas. To encourage the private sector, there must be favorable tax policies, faster approval of projects.
- 7) The success of the Digital India project depends on maximum connectivity with minimum cyber security risks. For this, we need a strong cyber-crime team to maintain and protect the database 24/7.
- 8) To improve cyber security skills, we need to introduce a graduate level cyber security course and encourage international certification bodies to introduce various skill based cyber security courses.
- 9) Effective participation of various departments and demanding commitment and effort are needed. This goal should be supported by different policies in different areas.
- 10) For successful implementation, there must be amendments in various legislations which have hindered the development of technology in India for a long time.

X. CONCLUSION

The vision of Digital India is grand. It is a huge step towards building a truly strong nation. If successful, it will change citizens' access to multimedia information, content and services. However, the goal is still far away as most of the nine pillars of the Digital India mission face serious challenges in implementation. It is essential that each pillar receives focused, sustained attention so that this program does not end in failure. In fact, we should all be mentally prepared for the change and be ready to face the challenges of implementing this policy, only then could this vision be realised.

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