Digital India: Infrastructural Challenges

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Abstract

Digital economy refers to an economy that is based on digital computing technologies. It is proven that digitally enabled economies grow faster than the others. To compete with the world, "Digital India" concept was initiated in India by the effort of Prime Minister Narendra Modi on 1st July 2015. The aim of the project is to transform India into a digitally empowered society and knowledge economy. To implement this project, the Indian government needs to put major efforts in terms of cost, infrastructure, online services etc. Amongst these, the fulfillment of infrastructural challenge poses a baseline. Through this paper an effort is made to study various problems in the pathway of infrastructural league. It is concluded that there is need to move step by step by promoting investment, increasing mobile spectrum, increasing private participation and advancing smart cities.

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Introduction

Digital Economy also known as New Economy, Internet Economy or Web Economy refers to an economy that is based on digital computing technologies. Digital Economy is defined by the Australian Government as "The global network of economic and social activities that are enabled by information and communication technologies, such as internet, mobile and sensor networks". It is a known fact that digitally enabled economies will rise faster. To cope up with the advancing era similar the concept was also initiated in India through a program named as "Digital India". It was launched by Prime Minister Narendra Modi on 1st July 2015 at the Indra Gandhi Stadium in the National Capital. The aim of the project is to transform India into a digitally empowered society and knowledge economy. This initiative make an effort to ensure that all the government services should be equitably available anywhere, anytime and on any device to every citizen of the country by allocating them a digitalized unique id. The major focus of the government is to make the people of rural areas as the beneficiaries of the project. For achieving this goal, number of projects was implemented such as National e-governance, National Knowledge Network, National Optical Fiber Network (NOFN), Information and Communication Technologies (ICT) etc. that will help in digital inclusion. These projects become the pillars of the "Digital India" project.

As per the World Bank report, a 10% increase in mobile and broadband penetration increases the per capita Goss Domestic Product (GDP) by 0.81% and 1.38% respectively in the developing countries. If through Digital India project mobile penetration and broadband penetration is increased by 30% and 50% respectively in coming next two years it will be increase GDP by 9%. For achieving this target, the government is making efforts to restructure and re-focus existing schemes to bring a transformative impact.

The project of Digital India is centered by 3 areas:

1. Digital Infrastructure as a utility to every citizen:

The prime focus is to bring small cities and villages under the digital inclusion by providing high-speed internet connectivity to 2,50,000 Gram panchayats. Through this, the people will be able to have access to common service centers using unique digital id's allocated to them.

2. Governance & Services on Demand:

It includes seamless integration between various departments so that real-time services are provided online and on mobile platforms using optical fibers. Further it also ensures digital transformation of services through cashless and electronic transfer of funds.

3. Digital Empowerment of citizens:

This vision involves empowerment of citizens through digital literacy so that they could have access of all information which is available on cloud and in different Indian languages. This information may include documents, applications and certificates.

These three vision areas are further encompassed by 9 themes called 'pillars' of Digital India project:

 1. Broadband Highways:

To provide broadband networks for all rural and urban areas and to have national information infrastructure integrated with SWAN, NKM and NOFN.

2. Universal access to Mobile Connectivity:

The aim is to increase the network penetration and ensuring mobile connectivity in all uncovered villages.

3. Public internet access program:

The aim is to provide internet services in all villages by creating post offices at every panchayat and facilitate multifunctional end-points for service delivery at these post offices.

4. E-Governance:

The government aims to improve process and delivery of services through e-governance using UIDAI that will be allotted to every citizen of the country.

5. E-Kranti:

Through this, government aims in enhancing the technology in various fields like e-education, e-health, e-courts, e-police etc.

6. Information for all:

MyGov.in is a website launched by the government to provide 2-way communication facility between citizens and government. The aim is to host the data online and engage social media platforms for government.

7. Electronic Manufacturing:

The focus of government is on NET ZERO IMPORT by 2020 in electronics by advancing manufacturing sectors.

8. IT for jobs:

The aim of the government is to train the students of the small towns and villages for IT sector jobs.

9. Early harvest programs:

The aim is to set up Wi-Fi facilities in all universities across the country. Further, Aadhar Enabled Biometric Attendance System will be deployed in all central government offices.

Need of the study:

"Digital India" initiative is an ambitious and biggest project of the government ever conceived. For the deployment of this project, there are number of challenges to be faced by the government. The backbone of the Digital India program is NOFN project, which can only be implemented with strong infrastructure. Thus in this paper an effort is being made to study the various general and specific (to India) challenges for the advancement of infrastructure.

Impending Challenges

Following are few challenges which may come in the way of successful completion of the Digital India project:

1. High cost of implementation: The approximate cost of implementation is expected to be Rs. 1.13 trillion.

2. Time Overrun: The NOFN project is being delayed from last two years and affecting the related projects as it is the backbone of the project.

3. Coordination among the departments: Proper coordination among the different departments is required as it is an umbrella project and all the departments are dependent on each other.

4. More private participation: To complete the project on time an extensive participation of private sector is required.

5. Fast adoption of internet: The adoption of internet in India is low because of illiteracy, lack of local languages content, affordability and adaptability is also low.

6. Infrastructure: Through NOFN project, the government has aimed to build a nationwide high speed broadband by the end of 2016. Infrastructure fulfillment is required for the NOFN project.

7. Cyber security: Nation Crime Records Bureau (NCRB) report shows the rapid increase in cyber crime during last few years. Hence, there is need to build a network security at all levels of operation.

Emerging Challenges for Infrastructural Development:

To ensure successful deployment of future of "Digital India" project, the infrastructure is a substantial point. As infrastructure is the backbone on which the whole project is based. Enabling online infrastructure will make possible to have communication between the government and the billion of citizens. There are multiple challenges to be addressed in a developing economy related to infrastructure for making it Digital Economy.

General Challenges:

General challenges related to infrastructural development are:

1. Expanding Network Capacity:

Expanding network coverage means to upward billion people lack of access to the fundamental services with the use of internet. This depends on various factors like population density, topography, distance from fiber connection points and consumer purchasing power etc. It becomes more challenging in case of remote areas.

2. Building Network Capacity:

It refers to the development of highly efficient network capacity as per the rising demand. This involves issue of sufficient spectrum allocated to mobile use because mobile device is expected to be the prominent technology for having access to internet by the billion of users in emerging markets. There is need to have focus on maximizing long term use of this precious asset by providing security and affordability related to mobile usage.

3. Encouraging broader internet usage:

In emerging markets, there is huge difference (> 75%) between the number of people who have access to digital networks and those that are actually using. Bacille Calmette Guerin

(BCGs) research showed three main reasons for the lack of adoption by the users i.e. the absence of need, unskilled people and low affordability. So the focus should be on broadening internet usage by creating awareness among people to access internet for availing services.

4. Developing ICT infrastructure for smart cities:

It has been anticipated that in coming time people move to cities, which may result in development of new cities. The cities have access to basic needs such as energy, transport, services etc. But there is need to build ICT infrastructure for constructively using maximum data that is generated every day.

5. Facilitating digital data usage:

This involves easy accessibility and usage of data by the citizens. The data is related to government records, health care files, financial information etc.

Specific Challenges:

Some of the challenges related to India for its infrastructural development are:

1. High population:

As on 5 April, 2016, India has 1.32 billion population which is a huge number. So it is very challenging for the government to bring them into the coverage of digitalization project.

2. Low literacy rate:

The literacy rate in India is 75% in 2016, thus there is need to provide them basic literacy of language and awareness about digital literacy through proper training.

3. Rural area:

In India there are some rural areas where even basic infrastructure facilities are not available like electricity, water, transport etc. Thus facilitating network for digitalization is a big challenge in these areas compared to urban cities.

4. Perceived lack of need:

Many people have perception that they do not need to have access to internet for availing services. They take internet as a source for entertainment like social sites. There is a huge need to aware them for making use of internet for availing services also.

5. Different languages:

India is diversified country having different cultures and languages. Thus, to include them in the digitalization project there is need to provide the services content in their local languages.

6. Poverty:

In India people below the poverty line can't even cater there basic needs of living, so it is quite challenging to make them a part of beneficiaries of digitalization project.

Conclusion:

"Digital India" is challenge accepted by the Prime Minsiter of India, Narendra Modi. It is a project to bring all the citizens on a single cloud and provide each and every citizen efficient and effective services. The government is making efforts by advancing infrastructure, developing e-governance and by empowering every citizen. In this paper number of challenges have been studied which are pebbles in the pathway of successful completion of

the project. Achieving these challenges step by step will lead towards the dream of transforming traditional Indian economy to digital economy. It can be concluded that in order to accomplish these objectives, there is need to have clear and ambitious long-term goals that will be achieved step by step by promoting investment, increasing mobile spectrum, increasing private participation and advancing smart cities.

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