Can digital India Programme Transform India into a Digitally empowered society and economy

*Dr. Ramesh Sardar

1. INTRODUCTION

Quiet Digital Revolution For more than a decade, Mobiles for Social Impact, Wireless for Communities, Empowering Women through Mobile, D Content (Enabling Development through Digital Content), a random glance through the publications of Digital Empowerment Foundation (DEF) and its various projects and grassroots efforts for 'sustainable information & communication technology (ICT) solutions', provides sufficient proof that the narrative on digital empowerment is not a recent phenomenon in India. For more than a decade, there has been a quiet revolution taking place in the interiors of the country with ICT playing a major role as the enabler and also as a disruptive force, how a common can be empowered through a digital right, and to answer this question, Digital India Programme (DIP) was unveiled in August this year, the sheer vastness of its vision set the world talking. Vision Digital India is sweeping in its breadth, inclusive in depth and visionary in its height.. A flagship programme of Prime Minister Narendra Modi, DIP's mandate is to lead India into becoming a digitally empowered society and knowledge economy. The government wanted a programme which could touch every person of the 1.25 billion people in the country and enable them to use technology to improve the quality of their life and participate in governance. Earlier, the focus was on developing e-governance for services, but now Digital India Programme is far more comprehensive, it is about citizens, government, IT businesses, e-commerce, people and about using technology to empower people and give them a digital identity and Digital Locker. This focus has brought a paradigmatic shift in the perception of the industry and the global community regarding India it is being hailed as a land of immense opportunities in the digital space. The Department of Electronics and IT (DeitY), Ministry of Communications and IT, Government of India, as the architect of DIP, has a central role to play in the overall structuring and implementation of the programme.

2. CURRENT SCENARIO OF TELECOM AND INTERNET SUBCIBERS IN INDIA

Before we discuss about the Digital India Programme it is necessary to have a look at the Telecom and internet subscriber's data because the success of the Digital India Programme depends upon the Tele-density, Broadband penetration and Telephone subscribers in India.

Table No.1 Telecom Subscribers (Wireless +Wire line)

Total subscribers	Wireless Subscribers - 914.92 Million	942.95 Million
	Wire line Subscribers- 28.03 Million	
% change over the previous quarter		1.07%
Urban Subscribers		559.77 Million
Rural Subscribers		383.18 Million
Market share of Private Operators		87.87%
Market share of PSU Operators		12.13%
Teledensity		75.80
Urban Teledensity		146.24
Rural Teledensity		44.50

Source: **"Indian Telecom Services Performance Indicator Report" 2014**

As per the Table No .1 the telecom sector in India has witnessed impeccable growth in the last decade after the private participation. The number of telephone subscribers in India increased from 933.01 million at the end of Mar-14 to 942.95 million at the end of Jun-14, registering a growth of 1.07% over the previous quarter. This reflects year-on-year (Y-O-Y) growth of 4.41% over the same quarter -

* Associate Professor School of Management Studies, North Maharashtra University, Jalgaon.

of last year. The overall Tele-density in India increased from 75.23 as on 31st March, 2014 to 75.80 as on 30th June, 2014.

Table No. 2: Internet / Broadband Subscribers	
Total Internet Subscribers	259.14 Million
Narrowband subscribers	190.31 Million
Broadband subscribers	68.83 Million
Wired Internet Subscribers	18.55 Million
Wireless Internet Subscribers	240.60 Million
Total Internet Subscribers per 100 population	20.83

Source: **"Indian Telecom Services Performance Indicator Report" 2014**
As per the Table No.2, Total number of Internet subscribers has increased from 251.59 million at the end of Mar-14 to 259.14 million at the end of Jun-14; there has been a quarterly growth of 3.00%. Out of which Wired Internet subscribers are 18.55 million and Wireless Internet subscribers are 240.60 million.

3. PILLARS OF GROWTH AREAS UNDER DIGITAL INDIA PROGRAMME

There are Nine pillars of Digital India Programme—Broadband highways, Universal access to mobile connectivity, Public internet access programme, E-Governance – reforming governance through technology, E-Kranti – electronic delivery of services, Information for all, IT for jobs and early harvest programmes.

Table No. 3: Nine Pillars of Growth Areas under Digital India Programme	
Pillars	**Executions**
Broadband Highways	Rural:250,000 gram panchayats to be covered by December2016 Urban: Virtual network operations for service delivery; communication infrastructure in new urban development and buildings Nationwide national information Infrastructure of March 2017
Universal Access to Mobile Connectivity	Remaining uncovered villages (42,300) to be covered by 2014-18
Public Internet Access Programme	CSCs to be made viable multi-functional end-points for service delivery Post offices to become multiservice centres.
E-Governance – Reforming government through Technology	Reforming Government through technology Government Business Process Re-engineering to be done to Improve transactions Electronic databases Workflow automation inside government
eKranti –Electronic delivery of Services	e-Education e-Healthcare Technology for Planning Technology for farmers Technology for Security Technology for

	Financial Inclusion Technology for Justice Technology for Security Ongoing programme National e-Governance Plan will be revamped to cover these
Information for All	Online hosting of Information and Documents Government to proactively engage through social media online messaging to citizens
Electronics Manufacturing – Target NET ZERO Imports	Target net zero imports by 2020 Tazation Incetives Economies of scale Incubatiors Clusters Skill development Governments procurement
IT for Jobs	Train people in smaller towns & villages for IT sector jobs IT/ITeS inNE Train service Delivery agents to run viable businesses delivering IT services Telecom service providers to train rural workforce to alter to their own needs
Early Harvest Programmes	E-Government greetings Biometric attendance Wifi in all universities Secure e-mail within government Standardized government e-mail design public wifi hotspots e-Books in School SMS alerts Portal for lost and found children

Source: **The Department of Electronics and IT (DeitY) 2014**

From the above nine pillars of Digital India Programme, three of them are more important. One is infrastructure, another is services and the third is empowerment. Thus, we have digital infrastructure, digital services and digital empowerment. Under digital infrastructure, there are large numbers of areas where industry can participate in a big way, like investment and technical expertise because there are a lot of areas which require these. It requires goods and services, for example, National Optical Fiber Network (NOFN) plan requires huge investment and people to implement the project in a time-bound manner. The whole idea is how you connect people in a big way. Each of these features will have a role for stakeholders. Digital India talks of post offices as access centers at field level. Here again, there is a role for respective stakeholders. Most importantly, we require high bandwidth connectivity for everyone to enable common service centers. Only after this has been done can we look at other big things. There are three fundamental requirements as part of Digital India for every citizen—a unique lifelong identity, a mobile phone and a bank account. This is an opportunity for business, people in the supply chain (who are supplying various services), mobile phone industry and app and content developers. All those providing services in mobile will be involved because you need to link people with language services. Third is financial inclusion. The whole financial sector gets involved too. Another very important part of the programme is financial transactions. This is a huge opportunity for the industry because, going forward, we will increasingly adopt cashless transactions. This touches everyone—financial institutions, bankers, other players and people at large and changes the way we function today. Digitization of records becomes important to be able to provide such a vast array of services and Digital Locker also envisages digitized records. Digitization offers huge opportunity for the industry and for other players to participate in that activity. These will be some of

the opportunities in terms of infrastructure. Investment in technology is a big prerequisite to enable such an infrastructure. Technologies like cloud and providing citizens private space in public cloud are again infrastructure requirements and these in turn throw up opportunities in security, academics, IoT, data analytics, etc. All these are consequence of Digital India and may not be specifically listed out but they are a natural corollary of Digital India projects.

The Department (DeitY) recently released the country's first Internet of Things (IoT) policy document. The IoT draft policy will act as a framework for the government and people are participating and contributing to that. Digital Locker framework has been shared in the public domain and is under discussion. When the framework is prepared, it will be given out for implementation.

4. IMPACT OF DIGITAL INDIA BY 2019

The programme on which the government will be spending an estimated `1.13 lakh crore will impact every area of life in the country.

4.1. *Broadband in 2.5 lakh villages, universal phone connectivity:*

Broadband as a Fundamental Right would effectively democratize and decentralize information and accessibility down to the grassroots and the bottom of the pyramid (BoP) levels. The National Telecom Policy 2012 envisages broadband connections to 175 million people by 2017 and 600 million people by 2020 at minimum 2 Mbps download speed.

4.2 *Net zero imports by 2020*

Today we import the electronic goods from different countries but under the Make in India campaign, and under the thrust area of electronics manufacturing, the ESDM sector has vast opportunities. It is being estimated that the thrust on electronics manufacturing with a vision to end imports by 2020 will lead to the birth of a number of related industries and opportunities in the sector which will further multiply the job opportunities in the country.

4.3 *400,000 public internet access Points*

Through the Digital India programme 400,000 public internet access Points would be created so that larger section of the society can avail the facilities.

4.4 *Wifi in 2.5 lakh schools, all universities, public wifi hotspots*

Under this DIP programme the target of the government is to connect Wifi in 2.5 lakh schools, all universities, public wifi hotspots and this can be achieved through "Public-private partnership(PPP model) Digitization offers huge opportunity for the industry and for other players to participate in that activity.

4.5 *Digital Inclusion: 1.7 crore trained for IT, telecom and electronics jobs*

Under the thrust area of electronics manufacturing, the ESDM sector has vast opportunities. "The sector is all pervasive. With smart cities and Internet of Things occupying centre stage, the programme is expected to attract an investment to the tune of `100,000 crore. Global companies are already coming up with various plans to assist the government in its endeavour and to tap the emerging opportunities. The total market for electronics goods by 2020 is likely to be approximately US$ 400 billion,. Covering the entire range of inputs in the electronics space

4.6 *Job Creation: Direct 1.7 crore and indirect at least 8.5 crore*

Employment generation for about 1.7 crore youth. The trickle-down effect of this mass scale employment opportunity will be felt by around 8.5 million people. Relating the DIP opportunities to another recently launched flagship programme, *Make in India*, "The opportunity for employment under *Make in India* in the sector is close to 28 million and the contribution it can make to the total GDP is close to 12 per cent.

4.7 *E-Governance & E-Services: Across government India to be leader in IT use in services.*

The E-governance is already proved to be revolution in ICT, as it costs less, reduces waste, promotes transparency, eliminates corruption, generates possibilities to resolve rural poverty and inequality, and guarantees a better future for citizens, but we have move ahead through E-services, In terms of services, the existing National e-Governance Plan (NeGP) is a wonderfully thought out initiative across sectors. However, the ministries are compartmentalized and silos of applications. We need to

look at integration of these so that the applications can talk to each other and data can be transferred from one place to another. One of the very powerful thoughts in Digital India is that a document once issued by a public authority will not be sought by any other such authority from citizens. In the Digital Locker concept, all that a citizen will require to tell authorities is that this is my original certificate, go and get it. This is just an example of retrieving information from applications across domains.

4.8 *Digitally empowered citizens*

Digital empowerment means providing IT at the grassroots level to make the rural people IT enabled. It also means providing them training for IT based jobs and for high-end IT development. In a knowledge society, you have to be a knowledge producer also. National Digital Literacy Mission (NDLM) launched with the aim to make at least one person digitally literate in every household, is the initiative through which we can achieve this target. Largely funded by the government, the programme has also found huge support from industry and IT industry body Nasscom.

5. GOVERNMENT INITIATIVES TO INTEGRATE EXISTING E-SERVICES UNDER THE DIGITAL INDIA PROGRAMME

All the existing programmes are an integral part of Digital India. It's only that they have to go to the next level. They have to become inter-operative, cloud enabled, mobile enabled and offer open API, etc. This is the kind of enablement that has to be done. Secondly, these applications don't reach everyone. So we have to reduce cost, eliminate intermediaries, etc. The focus now is to improve qualitatively the ongoing programmes.

5.1 In terms of services, the existing **National e-Governance Plan (NeGP)** is a wonderfully thought out initiative across sectors. We need to look at integration of these so that the applications can talk to each other and data can be transferred from one place to another. One of the very powerful thoughts in Digital India is that a document once issued by a public authority will not be sought by any other such authority from citizens.

The second important aspect of services is business process engineering (BPE), which you can't implement in one go or easily because it requires changing habits. You are used to doing a particular work in a certain way and continue to do that in the same way and it's difficult to imagine that you can achieve better results by doing things differently.

The recent example is the launch of Jeevan Pramaan (digitized life certificate). Every pensioner is required to submit a life certificate annually in November to the concerned officer and the concerned bank, which then approve the next year's pension. With digitization, it becomes a simple task as one can give biometric note of presence remotely. This is what we have leveraged in Jeevan Pramaan portal. The Controller General Accounts of India has changed the rules to recognize Jeevan Pramaan authentication and now it is a valid digital life certificate.

5.2 **National Digital Literacy Mission (NDLM)** launched with the aim to make at least one person digitally literate in every household is the initiative through which we can achieve this target. Largely funded by the government, the programme has also found huge support from industry and IT industry body Nasscom. NDLM is about training more youth. We have about 3 million people in IT, but we could actually take this to 20 million—driven by domestic demand for Digital India and from outside India. . Thus, there is a huge role for the industry in the human resources field. The government is working closely with the IT sector, electronics and the telecom sector and the concerned skill councils.

5.3 **MyGov,** the first of its kind citizen engagement platform, has been the launch pad for several other programmes. Many ideas came and deliberated from MyGov. Today there are 6.5 lakh people on the portal, a small number still, but what is an important aspect of MyGov is that there is no casual contribution to the portal. About 99 per cent of users have spent some hours of work on their contribution. The portal is encouraging citizens to work for public good. It's something which is very

constructive and positive. The database of 1.5 crore employees, mostly government, has been collected. The Prime Minister launched this initiative on August 15, when he sent out greetings. Sending a crore greetings over an SMS gateway is not a difficult task. However, we didn't have that capability earlier but have developed it now. There are two important aspects to e-greetings—ethnological and cultural. The culture of not sending greetings is changing. Since we did not have an e-gateway platform, we are using MyGov platform for this service.

5.4 **The National Optical Fiber Network (NOFN),** on which the success of DIP will depend to a large extent, has been conceived as a programme to provide last mile connectivity by unlinking over two lakh gram panchayats (a cluster of villages under each) to fast internet connections. According to a McKinsey & Co report, the estimated cost of the digital infrastructure project will be around US$ 5.9 billion. Looking at the huge effort involved, Communications and Information Technology Minister Ravi Shankar Prasad had, in a media interaction, commented that this means a huge business opportunity for the industry.

6. CHALLENGES BEFORE DIGITAL INDIA PROGRAMME

6.1. Innovation of Applications and solutions

While the government has identified broadband and mobile networks as the backbone of the project, the industry needs to "improve the processes, remove capacity constraints and adopt efficient operational models by leveraging emerging technologies such as cloud, social media, analytics and mobility." 75 per cent of new internet users and 50 per cent of netizens active on mobile phones, it is imperative for the ICT industry to innovate applications and solutions specific to the new generation of mobile users for viewing on small screens. To complement the government's programme of digital inclusion, the industry will have to innovate and come up with most advanced solutions that integrate software with hardware and enhance electronics manufacturing, hence creating more job opportunities.

6.2 Lack of desired infrastructure:

The broadband subscriber base in India is only 60.87 million out of 251.59 million of internet base. Lack of nationwide optic fiber backhaul is the primary barrier in adoption of high speed broadband in the country. The estimates in early 2010 showed the need of approximately 1.8 to 2 million route km of optical fiber cable (OFC) to reach broadband in all the panchayats in the country. The total length of optic fiber networks in India is close to 1.15 million route km and most of it belongs to the urban part connecting cities. Digital Subscriber Line (DSL) can work on BSNL's existing copper network. But the country has 40 million copper loops (16 million in rural areas, 24 million in urban areas) and of these, 50% are deemed fit for broadband connectivity. With increasing copper prices, ubiquitous broadband coverage is not possible through copper. Moreover, copper offers limited bandwidth as compared to optic fiber.

6.3 Limited digital literacy and awareness:

Despite India being an IT hub of the world, the computer literacy rate is only 6.5%.27 Most of the government offices still do most of the work manually. Education level, age and income level also impact digital literacy to a great extent. Most of the available content is in English but the English literacy rate is just 7% in India. Making 70–80 per cent people IT literate is no mean task. Creating the value for Digital India, desire for it and willingness to participate in the journey is required. There is much tempo built up right now, but the distance to Digital India goal has not yet been reduced. We can travel faster, but still the distance has to be covered.

6.4 Tariffs:

Data services contribute about 34% of the total revenue for CDMA and 13% for GSM players in India. The low tariff leads to a lower ARPU which is the primary reason for weak private participation in building the broadband backbone of the country. The ever increasing spectrum price

and other regulatory charges like AGR, license fee, spectrum charges, and service tax have raised the price of wireless broadband. The average cost per MB in India is $0.03 which is higher than the global average of $0.02 per MB. 3G prices are `250 to 300 for 1GB while fixed broadband provides the same for `125 per month. However, the end user equipment costs for fixed broadband go up. Results of Deloitte Mobile Consumer Survey 2013 showed that quality of network for voice and data has become the key differentiator while choosing mobile operator and not price. Significant number of consumers would prefer an 'all-you-can-app' tariff allowing them unlimited use of over-the-top (OTT) services. Higher adoption could also minimize the average cost per MB.

6.5 Bridging the Digital Divide

The digital divide had different characteristics both nationally and globally. Nationally the digital divide in different because each country has a unique history, language, and population characteristics. The National Optical Fiber Network (NOFN) project would be the backbone for Bridging the Digital Divide between rural and urban India.

7. Conclusions

Digital India Programme is set to bring about a paradigmatic shift in the way India functions. The powerful vision of India as a digitally empowered knowledge society has drummed up global enthusiasm and interest in the country. Keeping the principle of "maximum governance and minimum government", as the central principle of DIP, the programme raises the bar in governance, taking it to a platform where it becomes collaborative governance.

Implementing Digital India programme at pan India is herculean task more than half the population in the world lives in rural areas with hardly any access to broadband. It is expensive to lay fiber / cable in rural and remote areas with low population density. Traditional technologies have been unable to provide large area wireless coverage under non-line-of-sight (NLoS) conditions present in rural area to build successful and viable business models. This has resulted in a digital divide, further digital illiteracy is also one of the serious problem which act as a hindrance, but still a lot of aspirations are there because E-governance has been so successful in India, The focus of the Government to build Digital India through broadband highways connecting every household, village, panchayats, universities, and government departments will go a long way in providing solution to the never ending problems of rural India and to create smarter villages.

RFERENCES

1. DeitY (2014). Digital India presentation prepared by *Department of Electronics and information technology, Govt of India.*

2. Kumar, Ajay (Joint secretary, Govt of India, Ministry of communication& IT, Interview with Sangita Thakur Verma on "*Implication of Digital India programme".*

3. TRAI (2014). Performance indicator Report quarter ending June 2014

4. Verma, S.T (2014). "Digital India, a vision for empowernment", *India now and business economy,* Volume 01, issue 04, pp. 19-30. retrieved from http/ibef.org

5. Verma, S.T (2015). "Driving a digital future", *India now and business economy,* Volume 01, issue 05, pp. 18-22. retrieved from http/ibef.org

Sarwade W.K (2012), "Conceptual Development Of Green Marketing In India". Journal. Of Engineering Technology And Management Science. Vol.1, No.2.

Girdhari D. G., Nikam G. A. , Sarwade W. K. , Globalization and Indian Economy, Apratim Publication, Aurangabad (MS), India, 2002.

Sarwade. W.K and Balasheb Ambedkar,(2000), "Retail Trade Structure in Rural Area", Indian Journal of Marketing, Vol.30(8-10), August-October 2000, pp.26-36