Digital India: An Opportunity to Leapfrog in terms of Business and Technology*

Dr. Harpreet Kaur
Department of Political Science
Sri Guru Gobind Singh College of Commerce,
University of Delhi
New Delhi, India

Mr. Prateek Bajaj
Department of Computer Science
Sri Guru Gobind Singh College of Commerce,
University of Delhi
New Delhi, India

Ms. Harshleen Kaur
Barclays Shared Services Pvt. Ltd.
New Delhi, India

Abstract - **The Government of India (GOI) has initiated flagship Digital India Project to bring India on the global platform through harnessing the digital technologies. The high potentiality of the DI programme to transform the economic and social scenario and create a knowledge economy is unquestionable. DI can generate tremendous opportunities for the citizens and also, create a society that is digitally empowered. The GOI has taken diverse initiatives pertaining to digital services, information and knowledge through engagement the Central Government and State Governments and the Union Territories and also, integrated and restructured various existing schemes under it. The GOI has partnered with the private sector under appropriate management and strategic control to implement the initiatives taken by it under the aegis of DI Project already has been visible. DI can be taken as a stepping stone to good governance an impertaive for all the programmes and governmental activities.**

Key Words: Digital India, Policies and Initiatives, Public Private Partnerships, Government Initiatives

I. INTRODUCTION

Digital India is the dream project of the Government of India (GOI) envisaged by the Department of Electronics and Information Technology (DeitY) with an objective to make every individual and every single household digitally empowered that can be a blessing for the citizens. Digital India programme is projected at the cost of Rs 1,13,000 crores. It could help in connecting the dots of various projects, past and present and can bring India to a global platform. It will help in moving with the universal trends of digital innovation and create positive effect in the lives of people, the rural and urban as well as the young and old. The GOI intends to implement the programme in phases starting from the year 2014 till 2018.

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. Adding to this growth and prosperity would be the impact of other pillars that would empower the citizens with a gamut of services at their fingertips. The Digital India initiative has tremendous potentailities to innovate in the digital world for all stakeholders. Within a short span of one year, 115 million bank accounts were opened under the

Jan Dhan project, which was the first step towards inclusion of the base of the pyramid in the financial systems. The problem of urbanization could be tackled by enabling equivalent infrastructure in the rural areas or building satellite towns through three types of connectivity as proposed by the Former President of India, APJ Abdul Kalam i.e., physical, electronic and knowledge. The digital business models help in reaching to the wider audience and also make the services more affordable, attractive and feasible for the end users. For example, entrepreneurial ventures such as BigBasket (grocery at home), Portea Medical (home healthcare), SuperProfs (online education), etc. are enabling inclusive growth by delivering to the masses high quality services at low-cost.

As per GSM Association (GSMA), the global business impact of connected life could be $4.3 trillion by 2020. India will be a big beneficiary of this. Such Global Initiatives would definitely create a wider change that would bring transformation and prosperity at the levels of individuals, governments, enterprises and societies.

II. OBJECTIVES OF THE PAPER

The objectives of the Paper is to discuss:
- The Policies and Initiatives under Digital India Initiative by the GOI at a macro level.
- Measures taken by the government under the DI Initiative to empower the citizens, at large in both, the rural and urban areas.
- Public Private Partnerships and Government Initiatives in the Corporate Sector pertaining to Information Technology.

III. RESEARCH METHODOLOGY

The paper is based on primary as well as secondary data. The secondary data is taken from Ministry of Commerce, Department of Electronics and Information Technology, Reports from Delloite, CISCO and other statistical books. Primary research was conducted by devising structured questionnaires and adminsitering in people to confirm their understanding and usage of the Policies and Initiatives under DI.

IV. OVERVIEW OF DIGITAL INDIA

The Digital India initiative has been envisioned to pertain to the entire nation with the main emphasis on the citizens. The following are the measures undertaken by the government under this initiative:

A. Digital Infrastructure as a Utility to Every Citizen

The government aims to provide high-speed internet connectivity as a core utility that would facilitate the delivery of the essential services to the citizens. Almost 250,000 Gram Panchayats would be included, which will be a core utility for digital inclusion.

The citizens will be provided with a digital identity which will be unique, lifelong, authenticable and online.

There will be easy access to the Common Service Centres and a shareable private space would be available for every citizen on a public cloud. The government would ensure a secure and safe cyber-space.

The citizen participation would be ensured through enabling mobile phones, bank accounts etc. in digital and financial space.

In a survey conducted in the National Capital Region of the country, 88% people confirmed that they had high-speed internet connectivity at their disposal.

B. Governance and Services on Demand

Under this vision, all the government departments or jurisdictions will be seamlessly integrated with high-speed optical fibre facilitating single window access to the citizens.

The services would be made available on mobile and online platforms. Apart from this, the government is planning to make all entitlements of the citizen portable through cloud for easy and country-wide access for simplifying and improving ease of doing business in India. As of 2017, India ranks at 130 in a worldwide matrix of countries, in the ease of doing business. *(Source: www.doingbusiness.org).*

The government also plans to use the power of Geographic Information Systems (GIS) for decision support systems and development.

The financial transactions would be encouraged to be cashless and via electronic mode.

C. Digital Empowerment of the Citizens

This vision is to empower citizens through universal digital literacy and universal access to digital resources. Government also wants to provide collaborative digital platforms for participatory governance. *(Kaur, Harpreet, 2016)*

The digital resources and government services would be universally accessible and available to citizens electronically in the Indian languages as well. The delivery of government services electronically would also safeguard the much required issue of public accountability. This would create a much needed collaborative digital platforms facilitating participative governance.

Moreover, the citizens not required to physically submit certificates or government documents by making them available on the Cloud, thereby, easing the procedures.

V. PILLARS OF DIGITAL INDIA

The pillars of DI are:

Public Internet Access Program
Universal Access to Phones
Broadband Highways
Information for All
IT for Jobs
Electronics Manufacturing
Early Harvest Programs
E-Kranti Initiative
E-Governance through Technology

Table No. 1

There are a variety of other sub-level projects taken up by the government, under the e-kranti initiative, to change the face of how the societies work.

Table 2: e-Kranti Sub-level Projects

Sub-projects	Initiatives
e-Health	• Online medical consultation and medicine supply • Online availability of medical records and patient information on a pan-India basis
e-Education	• Broadband Connected Schools • Free Wi-Fi in all schools • Digital Literacy program • Massive Online Open Courses
Technology for Farmers	• Real time price information • Online ordering of inputs • Online cash, loan, relief payment with mobile banking
Technology for Planning	• GIS based decision making • National GIS Mission Mode Project
Technology for Security	• Mobile Emergency Services • National Cyber Security Co-ordination Center
Technology for Financial Inclusion	• Mobile Banking • Micro-ATM program • CSCs/ Post Offices
Technology for Justice	e-Courts, e-Police, e-Jails, e-Prosecution

Table No.2: Source: Report, Deloitte, 2015, Technology, Media & Communications

VI. SOCIO-ECONOMIC IMPACT OF DIGITAL INDIA

The policies and initiatives taken under the Digital India programme has the capability to transform the economic and social scenario as mentioned below:

A. *Economic Impact:* According to analysts, the Digital India plan could boost GDP of the country by up to $1 trillion by 2025. It can play a significant role in the macro-economic factors such as, GDP growth, employment generation, labour productivity, growth in number of businesses and revenue leakages for the Government. As mentioned, in 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. The digital platform can enable more creative and service-oriented business models that create employment opportunities. The Digital India project itself will create employment opportunities for 17 million people directly or indirectly which will help in fighting against unemployment problems in India. Government has planned to give IT training to 100 million students in the smaller towns and villages, as employment opportunity in the IT sector is very high in India.

This growth in the IT sector would be instrumental in having a direct impact on the overall economic growth of the country. More and more consumers today are moving towards the online methods of shopping, education, and for various goods and services, which is causing a boom in the e-commerce and e-services domain. A sample survey suggests that 74% people living in the metropolitan cities of the country use e-commerce websites for their regular purchases.
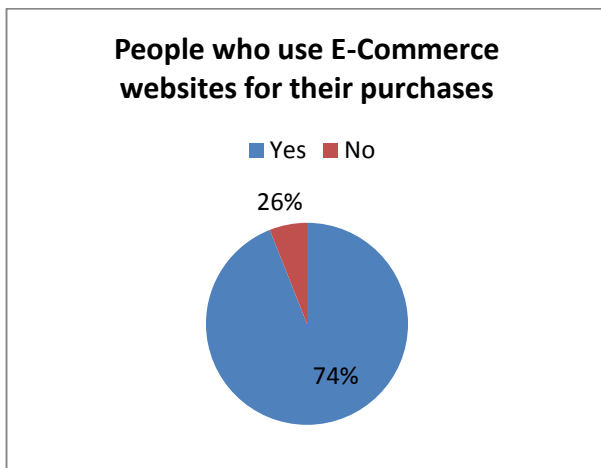

People who use E-Commerce websites for their purchases

■ Yes ■ No

26%

74%

Table No. 3

B. *Social Impact:* Modern ICT can make it easier for people in the urban areas to obtain access to services and resources. The penetration of mobile devices may be highly useful as a complementary channel to public service delivery apart from creation of entirely new services which may have an enormous impact on the quality of life of the users and lead to social modernisation. Out of a few hundred people surveyed,

75% believed that the Digital India initiative has either affected or will impact their lives.
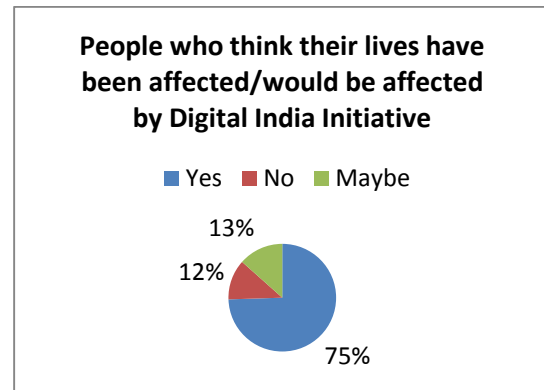

People who think their lives have been affected/would be affected by Digital India Initiative

■ Yes ■ No ■ Maybe

13%

12%

75%

Table No. 4

VII. EMPOWERING CITIZENS

The implementation of DI can be instrumental in empowering the citizens in the following ways:

A. Digitising Governance: Efficient governance is a necessary step for empowering the citizens in a country. Digitising the government services will help in reaching more number of people in a vast country like India. The e-Governance project depends upon the success of broadband highway and mobile penetration. Government will further use data analytics for processing ideas generated by various e-governance portals and meaningfully use it for better governance. Since the government requires manpower and this large-scale digitisation would help first, streamline and then, speed up the process.

B. Digitally Green Agriculture: India has been known as a land of agriculture for the ages. The agriculture sector has been the mainstay of the Indian economy contributing about 15% to the GDP in 2013-14. As per the Census 2011, the agriculture and allied services sector provides employment to 57% of the working population. There will be 9 billion people that will need to be fed on earth by 2050. To feed this rapidly-expanding population in the coming years, it is imminent that agriculture must produce more. The ICT tools should be utilised for accelerating the growth of agricultural sector which will in turn boost the economic growth of the country. The productivity of farmers is low because of lack of knowledge about new technologies and government initiatives. Social media can be helpful for connecting farmers all over the country and connecting buyers with sellers directly removing the middleman. Technologies like, Geographic Information Systems (GIS) and Global Positioning System (GPS) along with a wide range of sensors, monitors and controllers for agricultural equipment enable farmers to use electronic guidance aids to direct equipment movements more accurately, provide precise positioning for all equipment actions and chemical applications and analyse this data in

association with other sources of data (agronomic, climatic, etc.). Under the e-Governance program, Soil Health Card software has been standardized and in collaboration with Indian Institute of Soil Science, Bhopal, web-based software has been developed to provide integrated nutrient management recommendations using 'Soil Test Crop Response' method for 8 states.

C. Commerce to e-Commerce: Constituting about 10% of its GDP, India's retail sector is emerging as one of the most dynamic and profitable sectors.

How much of a person's purchase is through online retailers

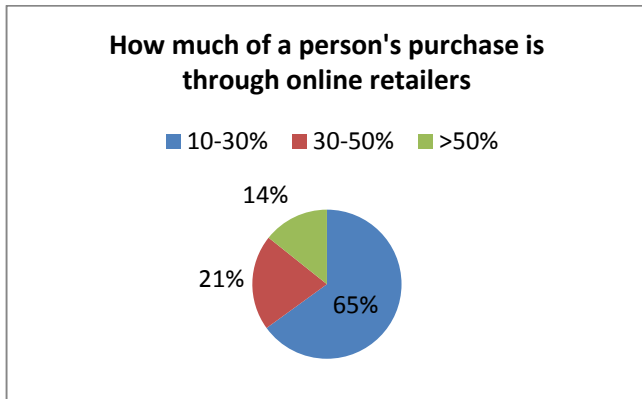■ 10-30%　■ 30-50%　■ >50%

14%

21%

65%

Table No.5

The e-Commerce market is slowly replacing the traditional brick and mortar sellers in India. The increase in mobile and smart device penetration, the access to internet and entry of numerous online retailers with exciting discounts and payment options are the key drivers for e-retail growth in India. With the emergence of non-banking players in the payments industry, the e-commerce market is also growing at a rapid pace.

The mentality of "can't touch, won't buy" is changing. Customers can now purchase travel tickets, book movie shows or buy any product via mobile platform without standing in queues. The entry of many online retailers in the market has taken the competition to a different level. The recent partnership between Snapdeal and Croma or Amazon and Future Group is no more a partnership between two retailers. It has extended to a vendor and technology partners offering technology and logistics services. This will help in the growth of new brands and private labels.

D. Rise of Digital Banking: Digital Banking seems like the need of the hour. The alternate financial solutions like m-pesa and mobile money are very successful in countries like Kenya and some parts of Africa. The physical availability of banking in India can be replaced by digital platform of mobile banking and cashless transactions. *The Pradhan Mantri Jan-Dhan Yojana (PMJDY)*, launched by Prime Minister Narendra Modi in the month of August, 2014 opened 1835 million bank accounts within a week which reached 115 million accounts by January 2015.

People who use Mobile wallets/Internet Banking
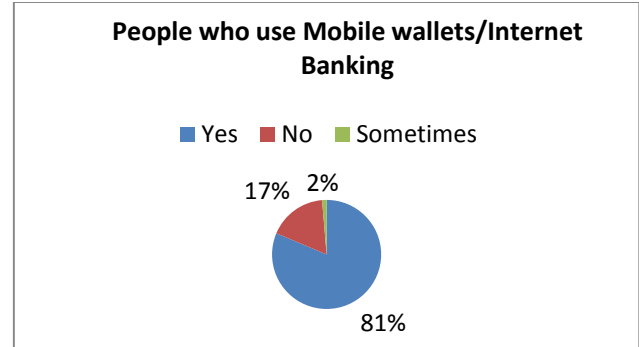
■ Yes　■ No　■ Sometimes

17%　2%

81%

Table No. 6

With the growing use of mobile phones in India, these services can be availed by the rural communities in the regional languages, which could in turn empower them financially.

The demonetisation of the $500 INR$ and $1000 INR$ notes in 2016 led to an increased use of mobile banking by the citizens of the country. It transformed how people make transactions. One of the leading mobile banking service providers, PayTM crossed a $5 billion target in a short span, with about INR120 crore transactions happening each day, during the demonetisation hype.
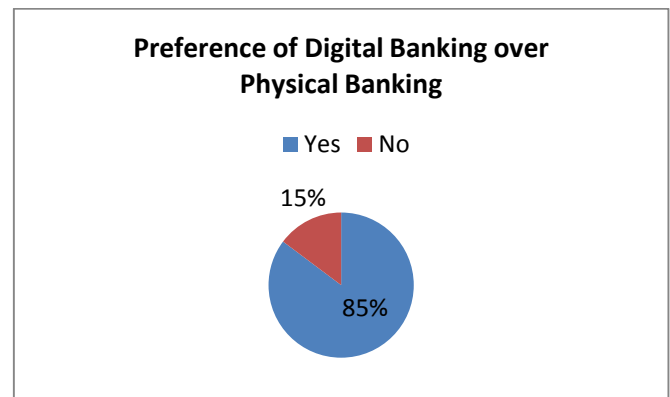
Preference of Digital Banking over Physical Banking

■ Yes　■ No

15%

85%

Table No. 7

E. The Smart Way of Education: Education can be a catalyst for the socio-economic transformation of the country with important attributes like, knowledge and skill development. India, being such a vast diversity and huge population, certainly needs an expansion in the Education Sector. The digital way of education can help in overcoming some of these barriers. The growing use of mobile phones is in every age-group and class and penetration of the mobile phones provide an efficient platform to provide education to masses in an economical way. The content could be made available in local language and user friendly interface. The Value Added Services (VAS) industry is coming up with innovative ideas every day to provide education as VAS the examples of it are *English Seekho, Pragati, iPerform, Fisher Friend and BehtarZindagi.* The m-education is going to be a $70 billion market globally by 2020. *42 Khan Academy and Tutor-on-Mobile* are some successful initiatives

providing education on the mobile platform. The GOI has allotted 1 billion for building virtual class rooms and online courses for further proliferation of the education.

Virtual classroom is backed by an Internet connection. Take for instance, *SmartClass and SmartSchool Solutions* from *Educomp* provide technology enabled education tools for interactive, collaborative, multi-sensory learning and assessment system. The *Massive Online Open Courses (MOOCs)* is slowly picking up with 8.8% adoption rate in India.

The students, today, are preferring the digital way of education. The difference in the preference of students choosing e-learning v/s the contemporary form of learning in the sample survey was found not too wide, showing the bend towards the DI initiaitve in the coming future.
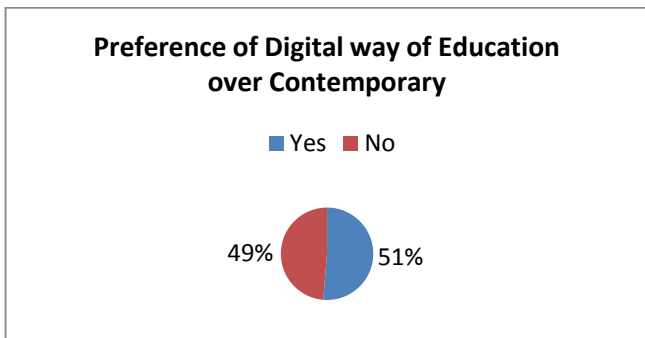

Preference of Digital way of Education over Contemporary
■ Yes ■ No
49% 51%

Table No. 8

F. Transforming Healthcare: As per a report by Equentis Capital, the healthcare sector of India is growing at a 15% CAGR and jumped from $45 billion in 2008 to $78.6 billion in 2012 and is expected to touch $158.2 billion by 2017. The digital transformation of the healthcare sector could be a solution to some of the barriers can come ushering towards it. The introduction of a Hospital Information System (HIS), Picture Archival And Communications System (PACS), and Electronic Health Record (EHR) have led to rapidly increasing volumes of data. Telemedicine can decrease the costs of expensive doctor visits by enabling remote communication between physicians and patients.

As e-Visits are proven and adopted in the developed world and as the necessary infrastructure is deployed in the developing world, they are likely to offer affordable primary medical and diagnostic care to the very large population that does not have access today. By using cloud technology, doctor can store and access data from anywhere, anytime to provide a real-time solution to patients' problem. Even the patient can get the required check-up data directly from the medical database through internet connectivity. According to analysts, Indian M2M healthcare device market is expected to reach $98.38 million by 2016, with a CAGR of 33.81% from 2011-2016.47 Real time location and Global Positioning System

(GPS) helps the ambulance to reach the patient quickly and to take the shortest route to hospital.

People who use online pharmacy services
■ Yes ■ No
19%
81%

Table No. 9 Source: Report, Deloitte, 2015

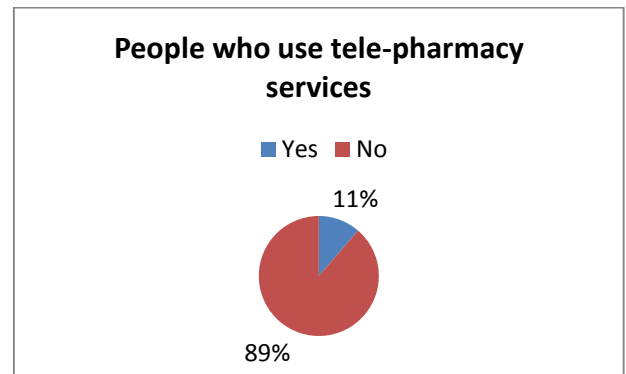**People who use tele-pharmacy services**
■ Yes ■ No
11%
89%

Table No. 10

The Global Positioning Services and Global Tracking Services are leading to better traffic management. A survey conducted in the Delhi-NCR region suggested that 84% people have seen an effect in the change in the traffic management and control due to GPS. This might also help in changing how ambulance services can be improved, by avoiding traffic prone areas.
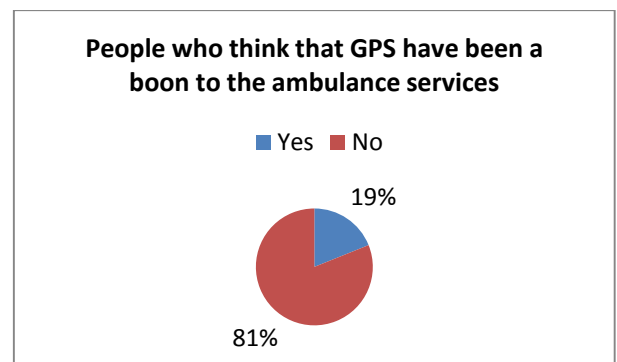

People who think that GPS have been a boon to the ambulance services
■ Yes ■ No
19%
81%

Table No. 11

VIII. IT AND ITES INDUSTRY

India is the world's largest sourcing destination for the Information Technology (IT) industry, accounting for approximately 67 per cent of the US$ 124-130 billion market. The industry employs about 10 million workforce. More importantly, the industry has led the economic transformation of the country and altered the perception of India in the global economy. The IT industry has also

created significant demand in the Indian education sector, especially for engineering and computer science. It is expected to grow 11 per cent per annum and triple its current annual revenue to reach US$ 350 billion by FY 2025, as per National Association of Software and Services Companies (NASSCOM). India, the fourth largest base for new businesses in the world and home to over 3,100 tech start-ups, is set to increase its base to 11,500 tech start-ups by 2020, as per a report by NASSCOM and Zinnov Management Consulting Pvt. Ltd. (*Source*: http://www.cxotoday.com/story/how-digital-investment-can-drive-indias-growth-story/)

The CII-KPMG study, quoting the Department of Electronics and Information Technology says that the Internet of Things (IoT) Industry in India is expected to be a $15 billion market by 2020 and it is expected that India would have a share of 5-6% of the global IoT industry. According to the study, as billions of devices are to be connected to one another, the future poses a lot of opportunities and challenges in the digital space. Experts also believe that there is a need to spread digital literacy along with focusing on the digital infrastructure building, since the key to this development is people having the knowledge of how to use it. In a span of a few years, the Global Positioning Services have widely reached even the remotest parts of the country, with more than 75% people living in urban areas known to use these services often for their commutes.
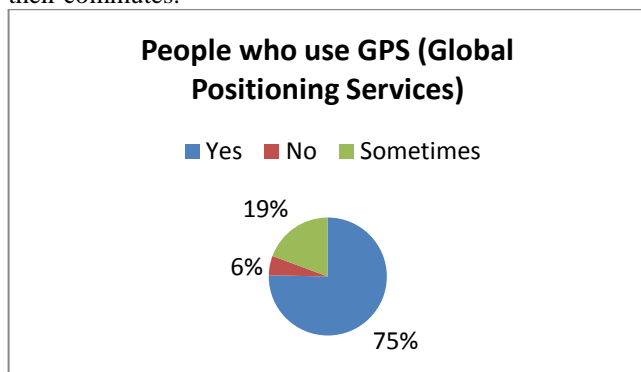

Table No. 12

IX. MAJOR DEVELOPMENTS IN THE INDIAN IT AND ITES SECTOR

Some of the major developments in the Indian IT and ITes sector that have joined hands with the government and enabling the exapnsion of Digital India are as follows:

Global Private Equity (PE) Firm Blackstone Group has acquired a minority stake in an Indian travel, transportation and logistics software Firm, IBS Software, for US$ 170 million, by buying the stake from General Atlantic and few other shareholders.

India's top-tier information technology (IT) company, *Infosys Ltd.*, has bought a minority stake worth US$ 3 million in Whoop, which is a US-based start-up that makes activity trackers worn by athletes. *Infosys, India's second largest Information Technology Services Company* has

acquired US-based Noah Consulting, a provider of advanced information management consulting services for the oil and gas industry.

Microsoft Ventures is planning to incubate 500 start-ups in India in the next five years with a vision to create a viable and profitable business out of the booming start-up sector in India.

National Association of Software and Services Companies (NASSCOM) plans to open four more tech start-up incubation centres in different parts of India, in addition to existing three, in support of Government of India's *'Start-up India'* initiative.

Nasscom Foundation, a non-profit organisation which is a part of Nasscom, has partnered with SAP India to establish 25 National Digital Literacy Mission (NDLM) centres in 12 cities across India, as a part of Government of India's Digital India initiative.

US-based Callidus Software Inc., a cloud-based sales, marketing, learning and customer experience solutions provider, has opened its centre in Hyderabad and also launched its 'The Lead to Money' suite in Indian markets.

Wipro Ventures, Wipro's US$ 100 million corporate venture arm, plans to invest in early-stage venture capital (VC) funds based in the US to pursue a strategy of investing/partnering country-focussed VCs.

Reliance is building a 650,000 square feet (sq ft) data centre in India—its 10th data centre in the country—with a combined capacity of about 1 million sq. ft. and an overall investment of US$ 200 million.

Indian e-commerce industry is expected to grow at a CAGR of 35 per cent to reach US$ 100 billion size in the next five years, as per a study by Assocham-PricewaterhouseCoopers.

X. GOVERNMENT INITIATIVES

The adoption of key technologies across sectors spurred by the 'Digital India Initiative' could help boost India's gross domestic product (GDP) by US$ 550 billion to US$ 1 trillion by 2025, as per research firm McKinsey.

Some of the major initiatives taken by the government to promote IT and ITeS sector in India are as follows:

The Human Resource Development (HRD) Ministry has entered into a partnership with private companies, including Tata Motors Ltd., Tata Consultancy Services Ltd. and real-estate firm Hubtown Ltd., to open three Indian Institutes of Information Technology (IIITs), through public-private partnerships (PPPs) at Nagpur, Ranchi and Pune.

Government of India is planning to develop *five incubation centres for 'Internet of Things' (IoT) start-ups*, as a part of Prime Minister Mr Narendra Modi's Digital India and Startup India campaign.

India and the United States (US) have agreed to jointly explore opportunities for collaboration on implementing India's ambitious Rs 1.13 trillion (US$ 18.22 billion) 'Digital India Initiative'. The two sides also agreed to hold the *US-India Information and Communication Technology (ICT) Working Group in India* this year.

The *Government of Telangana* has begun construction of a technology incubator in Hyderabad—dubbed T-Hub—to reposition the city as a technology destination. The state government is initially investing Rs 35 crore (US$ 5.3 million) to set up a 60,000 sq ft space, labelled the largest start-up incubator in the county, at the campus of International Institute of Information Technology-Hyderabad (IIIT-H).

The government is also working on the concept of *digital village* and plans to have the rural areas that will have telemedicine facilities, virtual classes and solar power-based WiFi hot spots.

The *Reserve Bank of India* in August, 2016 gave initial approval to 11 entities, including India Post, to set up payments banks within a period of 18 months.

The other *22 initiatives launched under the Digital India programme include,* projects in the areas of digital infrastructure, digital empowerment, on-demand government services and promotion of industry. Under the programme, Prime Minister Narendra Modi plans to provide government services online, expand Internet connectivity to the rural areas and boost manufacturing of electronic goods in the country, the setting up of an online laboratory for students to perform virtual experiments for all Central Board of Secondary Education (CBSE) schools, the incubation of 10 projects in the area of chip-to-system design and the development of a native operating system that will support text-to-speech technology for nine regional languages. *(Source*: *http://www.livemint.com/Home-Page/QgFspv8UzykQP99AukcSjI/Govt-launches-22-new-schemes-under-Digital-India-programme.html*)

XI. PUBLIC PRIVATE PARTNERSHIPS
Along with the Initiatives taken up by the government, the involvement of the private sector is equally mandatory. Over the years, governments have realised the value public-private-partnerships (PPPs) bring. Proof of that are the 46 infrastructure development projects in 33 cities across the country with a combined outlay of INR 25,902.84 crore. Private players, for example Cisco, can bring in next generation technologies and expertise leveraging their experience of implementing these solutions around the world. The private players also facilitate project management, best practices, domain knowledge and financing options. The private sector could support the government setup the robust technology infrastructure required to implement various Digital India initiatives, which is very challenging through the vast expanse of our country. It could also improve the internal functioning.

Public Private Partnership (PPP) model can be beneficial and has the capability to dilute the weaknesses of government and vice versa. Although, the PPP model is good solution, there are many obstacles and roadblocks in its practice. Issues like, lack of physical infrastructure and its technical feasibility and standardisation, archaic laws and policies need to be addressed.

Clearly India is at an inflection point, and the Digital India opportunity can help us leapfrog into the 21st century in terms of business and technology. One factor that will determine the success of this initiative will be private participation. Going by the intent and initial signs that have been demonstrated, that is not far from realisation.

XII. THE IMPENDING CHALLENGES
The Digital India initiative is an ambitious and big project of the Government and is, by far. The Government, Private Sector and Public Private Initiatives had proliferd the growth of DI in one way or another. However, many challenges that could come in the way of successful completion of the project are discussed below:

High cost of implementation: Approximate cost of implementing this mammoth project is 1.13 trillion including the ongoing as well as new schemes.

Time overrun: The National Optic Fibre Network (NOFN) project which is the backbone of the Digital India project has been delayed with two years' time overrun. The delayed project also may result in delay in other dependent projects.

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

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. India is the 4th largest smartphone market with almost 111 million smartphone users. Adoption of internet in India is not encouraging due to issues like, affordability, illiteracy and availability of mobile devices and data tariffs, lack of local language content, lack of regionally relevant Apps etc.

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 centres 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.

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.

Lack of knowledge and interest of people: Internet and mobile penetration in the country isn't still 100%, especially in the rural areas. This causes a serious problem of lack of knowledge amongst people.

XIII. THE OPPORTUNITIES AHEAD

Despite all the challenges, India represents a window of opportunity for the DI Projects, whether taken by Government, Private Sector or under Public Private partnerships. This would facilitate inclusive growth pertaining to a various fields like, products, manufacturing, electronic services and devices and will generate tremendous job opportunities for the citizens.

India is the topmost offshoring destination for IT companies across the world. Indai has proven its capabilities in delivering both on-shore and off-shore services to the global clients. The emerging technologies offer an new opportunities for the top IT firms in India. Social, mobility, analytics and cloud (SMAC) are collectively expected to offer a US$ 1 trillion opportunity. Cloud represents the largest opportunity under SMAC, increasing at a CAGR of approximately 30 per cent to around US$ 650-700 billion by 2020. The social media is the second most lucrative segment for IT firms, offering a US$ 250 billion market opportunity by 2020. The Indian e-commerce segment is US$ 12 billion in size and is witnessing strong growth and thereby, offers another attractive avenue for IT companies to develop products and services to cater to the high growth consumer segment. Hence, the expansion of DI is imperative for the growth of the country and the challenges have to be overcome to have an even spread of DI initiatives both across the urban and rural areas.

References: Media Reports, Press Information Bureau (PIB), Department of Industrial Policy and Promotion (DIPP) statistics, Department of Information and Technology

[1] Kaur, Harpreet, 2016, Governance: Issues and Challenges, Kitab Mahal, New Delhi
[2] Report, Deloitte, 2015, India
[3] Report, 2015. Productivity Conclave, KPMG.
[4] Public Private Parternships, The Key to Digital India,
Source:
http://www.moneycontrol.com/news/advertising/public-private-partnerships-the-key-to-digital-india_1256840.html?utm_source=ref_article
[5] Deloitte, Empowering Indian Citizens through technologu and meditelecommunications
Source:
http://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-empowering-indian-citizens-through-technology-noexp.pdf
[6] KPMG, Infrastrcture enabling Digital Busiesses,
Source:
http://www.productivityconclave.com/pdf/infrastructure-enabling-digital-business-kpmg.pdf
[7] CXO Today, How digital investment can drive India's growth
Source: http://www.cxotoday.com/story/how-digital-investment-can-drive-indias-growth-story/
[8] CISCO, Digital India & Public Private Partnerships
Source:
http://www.cisco.com/web/IN/about/leadership/ppp_digital_india.html