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DIGITAL INDIA: AN ASSESSMENT AND OVERVIEW

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ABSTRACT:

The technological advancement substantially changes the way we are being administered. When the welfare agenda of the government fails to reach the marginalized population, when the plans and the policies of the government fails to touch the grounds of reality and when the government's exchequer is diverted from the intended beneficiaries, we have to consider adequate administrative reforms for better governance. The 'Digital India Campaign' is major breakthrough in the administrative reforms recently taken-up by the government. Despite of a all genuine reasons in support of this campaign, the mission has also some controversies over its implementation. This article definitely supports the digitalization but intends to draw the valuable attention of the policymakers to some issues which can improve the implementation of the programme of 'Digital India' and can help achieving the real objectives of the campaign. The article observes the rapid growth in teledensity and internet penetration in India during recent past. The low digital literacy rate is a big challenge to overcome. The digitalization is highly needed in our country because this can bring administrative effectiveness and efficient implementation of government's welfare schemes. The dream of 'Digital India' will touch the grounds of reality only when the wave reaches to the rural and remote areas and covers the deprived class of population.

Key Words: *Internet Accessibility, Digital Infrastructure, Digital Literacy, NIXI (National Internet Exchange of India), NeGP (National e-Governance Policy), Demographic Challenges, MDG-8*

INTRODUCTION

Now-a-days the technology is becoming inevitable part in our day to day life. The nation is celebrating digital revolution. May it be the field of education, administration, government's welfare schemes or tax administration, the digitalization has started everywhere. Digitalization plays a vital role in e-services like e-commerce, e-governance e-panchayat, e-learning, etc. No doubt, the digitalization is a positive move to take our country in the age of effective governance and efficient administration. Still we should have a thorough assessment of the digitalization campaign so that its effective implementation could be ensured. Our country has high diversities. On one hand, we have ample intellectual capital but on the other hand we have significant variations between states in the literacy rate. On one hand we have mega companies securing their name in 'Fortune 500' but on the other hand the agriculture and allied sector is contributing around one fifth of total GDP which is higher than world's average. On one hand we have number of mega and metro cities while on the other hand two third population of our country still belong to rural areas[1]. Because of these diversities, the digitalization campaign at mass poses some challenges in implementation.

There are some questions which generally raise the controversy such as: Do we have adequate infrastructure? Do we have adequate level of 'digital literacy'? Do we understand that digitalization is different from social networking? Does the demographic profile of our country is in position to adapt a giant leap in technological advancement? Whether the digitalization will deprive the marginalized section of population from the benefits of government's welfare schemes? Whether the Digitalization will respect our privacy? Do we have adequate legal and regulatory framework to monitor or control the cyber crimes? Whether the digital networking will not pose a threat against our national security? Whether the digitalization will succeed in curbing corruption? The article tries to flesh light over these questions which should be kept in mind before igniting the dream of 'paperless economy' or 'Digital India'.

1. <u>Literature Review:</u>

Recently, The Boston Consulting Group (BCG) and Facebook jointly conducted a research and the report was published with a title **"ENCASHING ON DIGITAL: Financial Services in 2020"** (BCG and Facebook, 2017). The report concludes that India is passing through a digital revolution and the nation is rapidly transitioning from a data poor country to a data rich country because of lower mobile data cost and rising smart phone penetration.

In the research article of Moinak Maiti and Parthajit Kayal (kayal, 2017), it was established that digitalization played a vital role in the growth and high performance of service sector and MSMEs in India. The digitalization removes the obstructions in easy finances to MSMEs and

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[1] Praharaj mayarani, "Rural Urban Divide in India: Its Impact on Immigration", The Pioneer, 18 December 2015

also helped in improving performance of service sector and overall inclusive economic growth.

An edited book 'Private initiatives in Infrastructure: Priorities, Incentives and Performance' (Sanford V. Berg, 2002) evaluate the global initiatives on infrastructure development for making the world digitally connected. The telecommunication network and high speed optical fiber internet networking was technically covered in the book. The book throws light on private sector initiatives and vital role in infrastructure development for digitalization.

The research Paper of Sumedha Chauhan (Chauhan, 2015) is based upon primary data collected from a survey of 225 mobile money users. The research paper finds that the attitude of poor people is of hitch and suspicion towards acceptance of payment through electronic mode. This is because of lack of awareness and digital literacy. Though the survey was conducted in 2015 and the perceptions have largely changed in the recent years particularly after demonetization in India.

In the comprehensive review study by H. Patel and D. Jacobson (jackobson, 2008) goes through the literature presenting inadequate understanding of relationship that exist between 'adopter characteristics' and 'behavioral intentions' to use e-government services. The study observes the G2C (Government to Citizen), G2B (Government to Business), G2E (Government to Employees) and G2G (Government to Government) adoption of E-Governance.

2. Digital Infrastructure in India:

In 2016, World Economic Forum Compiled an Index in which on the basis of macroeconomic stability, India ranked 91 out of 139 countries covered by WEF. On the basis of technology readiness, our country was found least digitally connected country in the world (rank 120th). The studies depicted that use of internet service is limited up to the privileged class in India and there is fewer than one in five Indians access the internet on regular basis.[2] The report was really an eye-opener for the policymakers. Though the low internet access rate is not only because of insufficient infrastructure but there are many latent complexities such as lack of educational level, awareness and poverty.

At the outset, we may have been lacking with infrastructure facilities in the field of internet and telecommunication services but in last decade, we are growing with the fastest speed in the world. In the recent past, we have witnessed a leap in the number of mobile phone users and internet users. As per the reports of department of telecommunication; in 2017, there were more than 110 crores mobile phone connections were there out of which over 40 crores

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[2] The Global Competitiveness Repot-2015-16 by World Economic Forum, page 31, available at :
http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf

were smart phone users.[3] The number of mobile phone and smart phone users are increasing rapidly which is a good sign in the process of digitalization. The following data depicts the speedy growth in the mobile phone subscriptions and internet usage during the period from 2014 to 2018:

Table 1: The Statistics of Telephone Service and Internet Accessibility in India

S. No.	Title	At the end of March				
		2014	**2015**	**2016**	**2017**	**2018**
1.	**Number of Telephone Subscribers (In Millions):** Mobile Phone: Landline:	904.52 28.50	969.54 26.59	1034.11 25.22	1170.59 24.40	1188.99 22.81
2.	**Teledensity in India (Per 100 Inhabitants):** Total: Urban: Rural:	75.23 145.46 44.01	79.36 149.04 48.04	83.40 154.18 51.26	93.01 171.52 56.98	93.27 166.64 59.25
3.	**Internet Subscribers in India (In Millions)** Total: Urban: Rural:	251.59 - -	302.36 194.80 107.56	342.65 230.71 111.94	422.20 285.68 136.52	493.96 348.13 145.83
	Internet Density in India (Per 100 Inhabitants):					

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[3] Report presented by Mr. Rajesh Sharma at National Symposium of TRAI on "Collaborative Regulation for Digital Societies" dated 25.08.2017

Total:	20.29	24.09	26.98	32.86	38.02
Urban:	-	49.07	58.28	70.83	84.74
Rural:	-	12.89	12.80	15.49	16.41

Source: Telecom Statistics India-2018, Published by: Economics Research Unit – Statistics, Department of Telecommunications, Ministry of Communications, Government of India, New Delhi.[4]

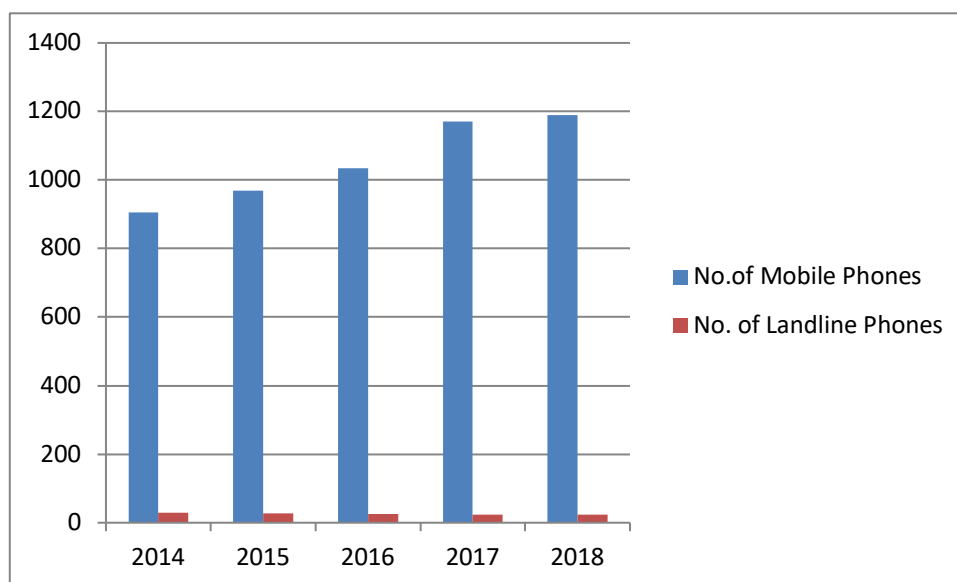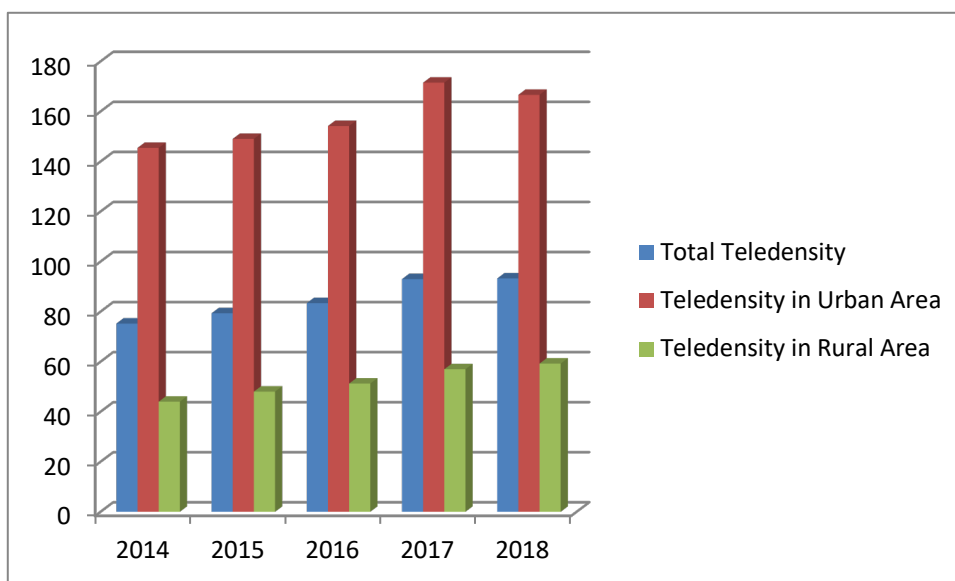**Figure 1: Graphical Presentation of growth in Phone subscribers in India (Period 2014-2018)**

Figure 2: Graphical Presentation of growth in teledensity in India (Period 2014-2018)

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[4] Available at http://dot.gov.in/sites/default/files/statistical%20Bulletin-2018.pdf

With a view to cater the rising demand and with an idea to penetrate the network access to the remote and rural population; a National Optical Fiber Network (NOFN) has been developed. There is need of densification in the areas of low income but high growth potentials. India is on its way to develop a 'broadband highway' and spreading the spectrum to 'gram panchayat' level. The mission of NOFN has made it possible to cover over 1 lac 'gram panchayats' so far with spreading its network from just 300 kilometers to over 2 lacs kilometers in just 3 years.

India is the second highest internet user country in the world, first being China (Table-1). The analysis of table shows that growth rate of India (between years 2000 to 2017) is around three times of China. The table also shows a low internet penetration but it is noteworthy that the country is having highest *facebook* users, which indicates that more and more internet data is being consumed in social networking sites rather than the intelligent and prudent use like digital facilities.

Table 2: TOP 20 COUNTRIES WITH HIGHEST NUMBER OF INTERNET USERS – March 31st, 2019

S. N o.	Country or Region	Population, 2019 Est.	Population 2000 Est.	Internet Users 31 Mar 2019	Internet Users 31 Dec 2000
1	China	1,420,062,022	1,283,198,970	829,000,000	22,500,000
2	India	1,368,737,513	1,053,050,912	560,000,000	5,000,000
3	United States	329,093,110	281,982,778	292,892,868	95,354,000
4	Brazil	212,392,717	175,287,587	149,057,635	5,000,000
5	Indonesia	269,536,482	211,540,429	143,260,000	2,000,000
6	Japan	126,854,745	127,533,934	118,626,672	47,080,000
7	Nigeria	200,962,417	122,352,009	111,632,516	200,000
8	Russia	143,964,709	146,396,514	109,552,842	3,100,000
9	Bangladesh	168,065,920	131,581,243	92,061,000	100,000
10	Mexico	132,328,035	101,719,673	85,000,000	2,712,400

11	Germany	82,438,639	81,487,757	79,127,551	24,000,000
12	Turkey	82,961,805	63,240,121	69,107,183	2,000,000
13	Philippines	108,106,310	77,991,569	67,000,000	2,000,000
14	Vietnam	97,429,061	80,285,562	64,000,000	200,000
15	United Kingdom	66,959,016	58,950,848	63,061,419	15,400,000
16	Iran	82,503,583	66,131,854	62,702,731	250,000
17	France	65,480,710	59,608,201	60,421,689	8,500,000
18	Thailand	69,306,160	62,958,021	57,000,000	2,300,000
19	Italy	59,216,525	57,293,721	54,798,299	13,200,000
20	Egypt	101,168,745	69,905,988	49,231,493	450,000
TOP 20 Countries		5,187,499,066	4,312,497,691	3,117,533,898	251,346,400
Rest of the World		2,565,984,143	1,832,509,298	1,229,027,955	109,639,092
Total World		7,753,483,209	6,145,006,989	4,346,561,853	360,985,492

NOTES: (1) Top 20 Internet Countries Statistics were updated in March 31, 2019. (2) Growth percentage represents the increase in the number of Internet users between the years 2000 and 2019. (3) The most recent user information comes from data published by Facebook, International Telecommunications Union, official country telecom reports, and other trustworthy research sources. (4) Data from this site may be cited, giving the due credit and establishing a link back to www.internetworldstats.com.

Source: *www.internetworldstats.com*[5]

The internet services in India are monitored and distributed by National Internet Exchange of India (NIXI). The national exchange is the netra meetng pont authorises and allots the bandwidth racks to its member Internet Service Providers (IPSs) in India. Since 2012, NIXI is providing IPv6 alongwith IPv4 IP addresses to its members which not only made internet cheaper but also faster. The NIXI facilitates domestic internet traffic and helps in efficient use of international bandwidth so that the westage of foreign exchange could be avoided. Hee NIXI's Multi Router Traffic Grapher monitor the total bandwidth use on per second basis (Figure-3).

Figure-3: MRTG Measurement of Data Uses in 24 Hours Cycle
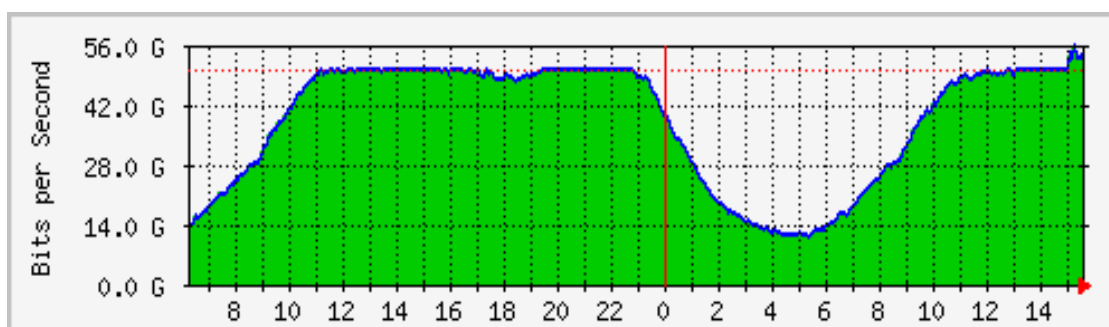
[5] Available at: www.internetworldstats.com/top20.htm

Source: *NIXI's Official Website*

Indian Association of Mobile and Internet Users (IAMAI) conducted a joint research with KANTAR-IMRB and a report[6] ICUBE[TM] 2018 was released recently. The report revealed some interesting facts regarding fast growth in internet accessibility in India. As per the report, the number of internet users in India has registered an annual growth at 18% and the overall internet penetration is estimated around 40% till December 2018. The report projects double digit growth in next year and number of internet user are estimated to teach at 627 million by the end of the year 2019. The report says that the growth rate in rural population is remarkable because the internet penetration in rural population was only 9% in 2015 as compared to 25% in 2018. Another fact revealed in the report is that 97% internet users are using internet through their mobile phones. This statistics is crucial while justifying 'Digitalization Campaign' because most of the marginalized population is living in rural and remote areas where internet accessibility (i.e. 25%) is quite low.

According to the Telecom Regulatory Authority of India (TRAI), India has an Internet subscriber base of nearly 560 million, including 482 million broadband subscribers - which means 43 % overall Internet penetration. But the methodology of estimation of internet users should also be kept in mind. According to Kantar IMRB, their latest "ICUBETM 2018" report covered over 70,000 individuals, selected through a sampling process across over 400 urban areas and more than 1,500 rural locations. The average number of users derived from the sample survey is extrapolated to the total number of households in India to find out total number of users. For example, consider that the survey findings point to the average number of Internet users per household being 2.5. And, in India, there is 250 million households. Replicating the average figure of 2.5 with the total number of households, we have 625 million Internet users in India.[7]

The Pew Research Centre also published its report[8] in 2018 which reveals some different picture and some interesting facts. The research surveyed advanced economies (17 countries) and developing economies (19 countries) and some notable findings were as below:

- India has 25% internet penetration which stands at last place with Tanzania among the table of 37 countries.

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[6] **Available at:** http:// www.exchange4media.com/digital-news/566-million-internet-users-in-india-18-annual-growth-kantar-icube-2018-report-95137.html

[7] https://www.livemint.com/

[8] Pew Research Center, June, 2018, "Social Media Use Continues To Rise in Developing Countries, but Plateaus Across Developed Ones" available at https://www.pewglobal.org/2018/06/19/social-media-use-continues-to-rise-in-developing-countries-but-plateaus-across-developed-ones/

- The advance economies have stable internet penetration at around 85% to 90% while developing economies are registering high growth rate.
- Around 70% of internet users are also using social networking sites while this percentage is around 80% in developing economies.
- Globally young people use internet more in comparison to old generation.
- In India, 35% of the population of the age group 18 to 36 years are using internet while only 13% of the population of 36+ age group are using internet (the gap is as high as 22%)
- Similarly, in India, 53% of more educated population are using internet while only 11% of less educated population are using internet (the gap is as high as 42%)

Though, Indian Railways has taken some positive initiatives in this direction by providing free Wi-Fi services to the Passengers. The remote and rural areas, where most of the marginalized population is habituating, should also be covered with such type of free of cost facility.

So far as internet speed is concerned, recently Ookla which is the global leader in speed tests and as per its recent report of April, 2019[9] prepared an index of 133 countries in which India ranked 121 in mobile internet speed and ranked 68 in broadband speed. This is a disheartening picture and poses a challenge before digitalization campaign. We should Learn a lesson from Norway who just took some policy decisions with the same internet infrastructure and secured a momentous jump (41% hike) in average internet speed just by removing bandwidth capping on speed and became world number one in mobile downloading speed in just 13 months[10]. We should be happy to observe the internet cost comparison with some other countries:

Table-3: Data Showing Average Monthly Cost of Using

Internet Utilities in Salient Countries

S. No.	Country	Av. Monthly Cost
1	United States	62.52 $
2	Norway	53.51 $
3	Iraq	40.11 $
4	Dominican Republic	54.77 $

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[9] https://www.speedtest.net/global-index/india
[10] http://www.speedtest.net

5	Japan	42.89 $
6	Netherlands	42.73 $
7	United Kingdom	38.85 $
8	Brazil	30.80 $
9	France	30.68 $
10	Italy	30.97 $
11	Pakistan	20.04 $
12	**India**	**12.20 $**
13	China	14.46 $

Source: *NUMBEO'S Price Rankings by Country of Internet (60 Mbps or More, Unlimited Data,*

Cable/ADSL) (Utilities (Monthly))

It is noteworthy that United Arab Emirates tops the global list of average monthly cost of using internet utilities with the figure of 100.01 $ and it is remarkably low in Russia (7.45$) and Ukrain (4.69$)

3. Digital Literacy in India:

Though the government statistics over literacy is seems to be window dressing. Before reaching at some conclusion on the basis of state statistics we must take care of some hidden facts. For example, if a person who can write his/her name is treated as literate in literacy statistics. Still, as per government data[11] the literacy rates varies between 93.91% (Kerala) to 63.82% (Bihar) bearing average of 70% approximately. Here, we should take a serious note that computer/ digital literacy rate is very low in India.

In India, across over 6, 50, 000 villages and 2, 50, 000 panchayats, approx 40% population is living below poverty line. The illiteracy rate is more than 25-30% and digital literacy is only about 10% in India[12].

The Council for Social Development published a report[13] on 'Digital Literacy Training to Non-IT Literate Citizens- Impact Assessment of National Digital Literacy Mission'. The report was

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[11] Census-2011

[12] The background material of Digital Empowerment Foundation (DEF) available at :
http://defindia.org/national-digital-literacy-mission/

[13] Available at: http://www.csdindia.org/pdfs/Project-reports/Digital-Literacy-Report-2017.pdf

based upon a sample of around 27557 persons covering the population where the NDLM launched the training programmes. The Survey was conducted during July, 2016. The the impact assessment revealed a grim picture (Table-4) of digital literacy.

Table 4: Population (Aged 14 Years and above) Able to Operate a Computer (%)

Gender	Age Groups (in years)							
	Rural				Urban			
	14-29 Years	30-45 Years	46-60 Years	Above 60 Years	14-29 Years	30-45 Years	46-60 Years	Above 60 Years
Male	22.70	6.40	2.20	0.60	53.60	30.90	20.90	10.60
Female	13.50	1.90	0.50	0.10	43.80	17.30	8.70	2.80
Persons	18.30	4.10	1.40	0.30	48.90	24.30	14.80	6.80

Source: *NSS KI (Report No. 575(71/25.2) (2015), Key Indicators of Social Consumption in India: Education, Ministry of Statistics and Programme Implementation, Government of India.*

Many times the number of mobile phone connections and internet connections are mis-construed as digital literacy. The User-reported WhatsApp statistics indicate that 82% of Indian internet users use the app, putting it behind only Facebook and YouTube.[14] It indicates that the real interest of the people and we should keep watch that whether the accelerating growth of internet users is positive and whether digitalization mission is going to be confined with social networking and messaging only?

 We should have a glimpse over the table (table-5) given below:

Table-5: Internet using patterns in India

Number of Facebook users in India	Number of Watsapp users in India	Number of Paytm users in India	Number of Online banking users in India
281 millions[15]	300 millions[16]	230 millions downloads but only 54 millions are active users	45 millions

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[14] By Birgit Boucher, in News Posted on April 4, 2019.Available at: https://www.messengerpeople.com/author/birgit/

[15] https://www.statista.com/statistics/304827/number-of-facebook-users-in-india/
[16] https://www.messengerpeople.com/global-messenger-usage-statistics/#India

Source: *Relevant websites*

Our nation is on the mission of 'digitalization'. No doubt the Digital India Mission is expected to bring revolutionary changes and improvements in implementation of government's welfare schemes. Digitalization is the need of the hour and can bring a massive change in quality of life of common man. This will bring transparency in public expenditure. It is also worth consideration that what are the real obstacles in attaining the goals of digitalization? Have we ever considered what percentage of our population is presently being benefited from this mission? We have already discussed (shown in table-1 above) that only 38 % population has accessibility of internet in our country. Not only the accessibility but the digital literacy is also a big problem to overcome. If we really want to achieve desired results of digitalization, we shall have to focus on infrastructure and public awareness and digital literacy.

So far as the global overview is concerned, it is an amazing transformation that today 57% percent of the world's population is connected by the internet. With nearly 20 percent of the world's population unable to read and write, the spread of digital technologies alone is unlikely to spell the end of the global knowledge divide[17]. Another key factor that hinders the growth of a digital India is the shortage of skilled workforce. Only an estimated 2.3% of India workforce has undergone formal skill training, which is significantly lower than the world average of 50% among developed nations[18]. The Global picture is depicted from the figure given below which has been taken from the Global Digital 2019 reports.

Figure 4: Digital Scenario of the world[19]

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[17] Kaushik Basu, World Bank Chief Economist, in World Development Report-2016
[18] Report of recent joint study conducted by the Associated Chambers of Commerce and Industry of India (ASSOCHAM) and Deloitte Research available at www.guidingtech.com
[19] Global Digital 2019 reports, Available at : https://wearesocial.com/blog/2019/01/digital-2019-global-internet-use-accelerates

The MDG-8 (Millennium Development Goal-8) focuses on making available the benefits of new technologies specially the information and communication technology. Its indicator-47 measures phone subscribers per 100 populations. In India, we have achieved the target with 93.98% teledensity. The indicator 48A measures the internet subscribers per 100 populations and in India that is 33.47%. These indicators shows the picture up to 2017 as shown in 'India in Figurs-2018' published by Central Statistics Office of Ministry of Statistics and Programme Implementation. [20] Another indicator 48B of MDG-8 measures the number of personal computers per 100 populations. This really indicates the digital literacy and digital penetration. The government statistical diary does not depicts data of indicator 48B but data available at the website of 'Trading Economics'[21] shows (Table-7) the rough global picture from which we can have an idea that where do we stand?

Table-7: Personal Computers Per 100 People in Some Countries

S. No.	Country	No. of PC per 100 persons
1.	Switzerland	96.17
2.	Sweden	88.01
3.	United States of America	79.92
4.	Germany	64.49
5.	China	5.59
6.	India	3.19
7.	Pakistan	.4543

Source: Website of Trading Economics

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[20] Available at: www.mospi.gov.in

[21] Available at: https://tradingeconomics.com/country-list/personal computers-per-100-people-wb-data.html

The efforts are being made to uplift digital literacy rate in our country and government has taken-up the issue at priority. The Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA), one of the largest digital literacy programmes in the world, aims to make six crore households in rural India 'digitally literate' by March 2019 with an expected budget of Rs 2,351 crores. To achieve the target, the 2.5 lakh *gram panchayats* under the scheme are expected to register 200-300 candidates from their areas.

4. Demographic Challenges:

More than two third population lives in rural India. The population below poverty line is more in rural areas (Table-8). The report says that there is a large gap between urban (85%) and rural (17%) internet penetration in India.[22]

Table-8: Population Below Poverty Line

State / UnionTerritory	Rural			Urban			Combined	
	No. of persons (in Thousand)	% of persons	Poverty line (Rs)	No. of persons (in Thousand)	% of persons	Poverty line (Rs)	No. of persons (in Thousand)	% of persons
Andhra Pradesh	6180	10.96	860	1698	5.81	1009	7878	9.20
Arunachal Pradesh	425	38.93	930	66	20.33	1060	491	34.67
Assam	9206	33.89	828	921	20.49	1008	10127	31.98
Bihar	32040	34.06	778.	3775	31.23	923	35815	33.74
Chhattisgarh	8890	44.61	738	1522	24.75	849	10411	39.93
Goa	37	6.81	1090	38	4.09	1134	75	5.09
Gujarat	7535	21.54	932	2688	10.14	1152	10223	16.63
Haryana	1942	11.64	1015	941	10.28	1169	2883	11.16
Himachal Pradesh	529	8.48	913	30	4.33	1064	559	8.06
Jammu & Kashmir	1073	11.54	891	253	7.20	988	1327	10.35
Jharkhand	10409	40.84	748	2024	24.83	974	12433	36.96
Karnataka	9280	24.53	902	3696	15.25	1089	12976	20.91
Kerala	1548	9.14	1018	846	4.97	987	2395	7.05
Madhya Pradesh	19095	35.74	771	4310	21.00	897	23406	31.65
Maharashtra	15056	24.22	967	4736	9.12	1126	19792	17.35
Manipur	745	38.80	1118	278	32.59	1170	1022	36.89
Meghalaya	304	12.53	888.	57	9.26	115.	361	11.87
Mizoram	191	35.43	1066	37	6.36	1155	227	20.40
Nagaland	276	19.93	1270	100	16.48	1302	376	18.88
Orissa	12614	35.69	695	1239	17.29	861	13853	32.59
Punjab	1335	7.66	1054	982	9.24	1155	2318	8.26
Rajasthan	8419	16.05	905	1873	10.69	1002	10292	14.71
Sikkim	45	9.85	930	6	3.66	1226	51	8.19
Tamil Nadu	5923	15.83	880	2340	6.54	937	8263	11.28
Tripura	449	16.53	798	75	7.42	920	524	14.05
Uttar Pradesh	47935	30.40	768	11884	26.06	941	59819	29.43
Uttarakhand	825	11.62	880	335	10.48	1082	1160	11.26
West Bengal	14114	22.52	783	4383	14.66	981	18498	19.98
Chandigarh	0	1.64	.	234	22.31	.	235	21.81
Delhi	50	12.92	1145	1646	9.84	1134	1696	9.91
Puducherry	69	17.06	1301	55	6.30	1309	124	9.69

All India	216658	25.70	816	53125	13.70	1000	269783	21.92
Lakshwadeep	0	0.00	.	2	3.44	.	2	2.77
Daman and Diu	0	0.00	.	26	12.62	.	26	9.86
Dadra & Nagar Haveli	115	62.59	.	28	15.38	.	143	39.31
Andaman & Nicobar	4	1.57	.	0	0.00	.	4	1.00

Source: *RBI Website*

An estimated 1.16 billion people (17% of the world's population) did not have access to electricity in 2015; an estimated 615 million of them in Asia and the majority of those in India (306 million), according to this 2015 working paper by the International Renewable Energy Agency (IRENA), an inter-governmental organization that supports transitions to sustainable energy. Around 90 million households in India still use kerosene for cooking and lighting requirements, according to estimates by the ministry of new and renewable energy (MNRE). Companies like Mera Gao Power that build small energy grids that power a few households or a village, have the potential to reach 73 million un-electrified households in India that still use kerosene as their primary source of electricity–a polluting source of energy that produces earth-warming carbon dioxide, in addition to emitting gases such as carbon monoxide, nitrogen oxides, and particulate matter, with severe health consequences, as *IndiaSpend* reported on January 7, 2017.[23]

As per the definition of 'electrified village' used under Deen Dayal Upadhyay Gram Jyoti Yojna (DDUGJY), a scheme of Government of India for rural electrification, a village is declared electrified, if:

- Basic infrastructure such as Distribution Transformer and Distribution lines are provided in the inhabited locality as well as the Dalit Basti hamlet where it exists.

- Electricity is provided to public places like Schools, Panchayat, Office, Health Centers, Dispensaries, Community centers etc.

- The number of households electrified should be at least 10% of the total number of households in the village.[24]

So the statistics of achieving targets of rural electrification programme, which seems to attractive at a glance may be jugglery of figures because as per the definition of electrified village, 90% rural households may remain deprived of electricity connection.

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[23] Mukta Patil, May 18, 2017, Basic Energy Access Does Not Unlock Broader Socio-Economic Benefit, Report available at official website of Indiaspend.

[24] MOP, vide their letter No. 42/1/2001-D(RE) dated 5th February 2004 and its corrigendum vide letter no. 42/1/2001-D(RE) dated 17th February 2004.)

Around 38.9% population is not having basic facility like toilet and going in open for toilet.[25]It is also noteworthy that 71.5% rural population is not having 'improved' Sanitation Facility Access.[26]

We have high degree of language diversity. The digitalization mission should keep in mind the language problem of marginalized population so that mainly English based digitalized services may deprive population having familiarity with regional language only. Some facts regarding language diversity are given below:

Hindi 41%, Bengali 8.1%, Telugu 7.2%, Marathi 7%, Tamil 5.9%, Urdu 5%, Gujarati 4.5%, Kannada 3.7%, Malayalam 3.2%, Oriya 3.2%, Punjabi 2.8%, Assamese 1.3%, Maithili 1.2%, other 5.9%. There are 14 other official languages: Bengali, Telugu, Marathi, Tamil, Urdu, Gujarati, Malayalam, Kannada, Oriya, Punjabi, Assamese, Kashmiri, Sindhi, and Sanskrit; Hindustani is a popular variant of Hindi/Urdu spoken widely throughout northern India but is not an official language.

Some salient demographic facts are as below (Table-9)[27]:

Table 9: Special Demographic Features of India

Population	1,296,834,042 (2018 Estimated)
Age structure **(2018)**	**0-14 years: 26.98% (male 185,736,879 /female 164,194,080)** **15-24 years: 17.79% (male 122,573,662 /female 108,109,968)** **25-54 years: 41.24% (male 276,283,581 /female 258,563,835)** **55-64 years: 7.6% (male 49,334,703 /female 49,197,817)** **65 years and over: 6.39% (male 39,184,523 /female 43,654,994)**
Dependency ratio	**Total dependency ratio:** 52.2
Urbanization	**Urban population:** 33.5% of total population (2017) **Rate of urbanization:** 2.28% annual rate of change (2015-20 est.)
Sex ratio	**Total population:** 1.08 male(s)/female (2016 est.
Health expenditures	4.7% of GDP (2014)

[25] National Public Health Survey 2015-16
[26] 'World data book' of Central Intelligence Agency (CIA),USA
[27] 'World data book' of Central Intelligence Agency (CIA),USA

Education expenditures	3.8% of GDP (2013)

5. Government's Welfare Schemes and Digitalization:

The government is on the move to make Aadhaar card mandatory for availing various services and benefits of welfare schemes. Though some interlocutory applications seeking interim relief against the Centre's decision on linking of Aadhaar with various schemes are pending with the Supreme Court of India but the intentions of the government are very clear. Before going in detail, we should have a look on the population covered by Aadhaar. As per the data available with the UIDAI, the Aadhaar issuing authority, the summarized position is as below:

Table 10: Digital Identity ADHAAR Coverage

Particulars	Total Population	Number of Aadhaar Assigned	Saturation %
Overall Aadhaar Saturation	1335140907	1206311682	90.4
0 < 5 Years Age band	124764360	33809941	27.1
5 < 18 Years Age band	366371736	281301995	76.8

Source: *www. uidai.gov.in*

So we can have an idea of Aadhaar coverage in India. The 89.1% population which is not yet covered by Aadhaar mission may belong to the remote rural areas and of extreme marginalized category. By making the social welfare schemes essentially linked with Aadhaar may keep that most needy people for which such scheme has been drafted or launched. More than half below five year children are yet to be covered by Aadhaar. This may pose problem on effective implementation of government's schemes for child health, food and vaccination etc. Now-a-days the secondary education boards are making the Aadhaar essential for students' registration however Aadhaar coverage in the age-group of 5 to 18 years is 77.5% only.

Conclusion and Suggestions:

From the above study, we can draw the conclusion that there is the need of developing networking infrastructure and enhancing the internet penetration among the population so that the digitalization mission can achieve its purpose in better way. The low digital literacy in our country is presently a big hurdle in the mission of digitalization. The policy makers should rely upon the departmental statistics of achieving targets only after due care and checking otherwise disoriented policies and loose implementation can make our growth slow. India is nation of demographic diversity so the digitalization should always keep in mind that

without strengthening the educational, technological, social and legal structure, the desired goals may not be achieved. However, no doubt the digitalization will bring transparency in government spending and will curb the corruption.

In view of the review and assessment of digitalization mission of India, the paper has followings to suggest the policy makers and governing bodies:

- The digitalization move is praiseworthy. Every revolutionary changes brings some odds and obstacles with it but keeping in view the global trend and administrative challenges associated specially with our country, the government should go ahead with all its strength to make the nation-'Digital India'.

- The language diversity is the demographic feature of India. The internet and digital services can not reach up to the last beneficiary until they are Indianized with local and regional languages. The government should take initiatives to make the digital services available in the regional languages so that the rural and less educated population may also feel the digital services as user friendly.

- The focus of infrastructure development should be on rural areas. When the large segment of population is living in Indian villages, the Digital India Mission can never accomplish its goals until it covers the rural population.

- The digital literacy is a big hindrance in the way of e-governance. There was a time when the subsidy on farmers' equipment and fertilizer used to consume large government's exchequer. India has very low rate of personal computers available with every 100 persons. The government should take sincere efforts to increase this rate. The smartphone penetration may divert to social networking and recreational activities but when large number of the young students will have PCs in their hands, the perspectives towards digital services, e-money, e-business, e-governance of government's welfare schemes, e-library and e-knowledge will start changing day by day.

- Now Indian economy has transformed from primary sector to quarternary and quinary sector, where digitalization is the need of the hour for inclusive economic growth. Vide and strong infrastructure of digital network and availability of internet and telecommunication services at low cost will spread the growth of quarternary sector and quinary sector from selected metro cities and urban population to the remote and rural areas. The digitalization plays a key role in knowledge management so education system and curriculum development should be so designed and developed so that human capital could be enriched.

- Government should appoint 'e-mitra' on the pattern of 'Shiksha mitra' in the rural areas who may be helpful in uplifting digital literacy in rural areas. The less educated persons and upper age population still has less familiarity with digital services. The programme should be launched at panchayat level to educate people about digitalization.

- The efficient enforcement of cyber laws is also necessary. A single case of misuse of ATM card or frauds in digital payments creates an environment of suspicion and distrust. People should be educated about password secrecy and safety so that people may start using e-payments and mobile banking without fear.

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