

DIGITAL INDIA: A ROADMAP FOR THE TRANSFORMATION OF INDIA

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Abstract: Digital indicates to electronic technology which generates stores and processes the data. The data can be further used to get information and to take decision. The Digital India programme is a flagship programme of the government of India with a vision to transform India into a digitally empowered society and knowledge economy. In order to fulfill the dream World's largest software company Microsoft Corp has joined hands with the Indian government to "transform" the country through technological innovations. India in the 21st century must strive to meet the aspirations of its citizens where government and its services reach the doorsteps of citizens and contribute towards a long-lasting positive impact. So it is considered as a growth engine of new India economy is going to create millions of jobs in India in information technology and electronics and communication sector and this digital India programme rests on nine pillars: broadband highways, public internet access programme, access to mobile connectivity, e-governance reforming government through technology, E-Kranti electronic delivery of services, information for all, electronics manufacturing, IT for jobs and early harvest programmes. Hence, an attempt has been made in this paper to understand digital India-as a campaign where technologies and connectivity will come together to transform India into a digitally empowered society.

Introduction

The Digital revolution may have begun in the 20th century but it is in this day and age that its full potential is being realized in the business world. All across the globe, Digital economy plays a significant role in accelerating economic development, enhancing productivity of new and existing industries, cultivating new markets; improve the quality of life and sustainable growth. The spread of digital technologies globally over the last two decades has been rapid and has generated much excitement about the possibilities of the digital age for global development. But the anticipated digital dividends of higher growth, more jobs and better public services have so far fallen short of expectations. The changing world gives birth to Fourth Industrial Revolution, which bring together digital, biological and physical technologies in new and powerful combinations. The World Economic Forum's Networked Readiness Index is a key indicator of how countries are doing in the digital world. It measures how well an economy is using information and communications technologies to boost competitiveness and well-being. The two countries are found in 2016 Index which best placed to make the most of the new world. Singapore is at one number ranking as the result of strong government commitment to the digital agenda. The gains from information technology are widely shared in Singapore and it makes excellent use of digital technologies to provide access to basic and government services, and ensures that schools are connected. Finland ranks at number two as it has extremely good access to the latest technologies as well as venture capital and its businesses are highly connected.

Digital India a program envisaged by Department of Electronics and information technology has been launched by Shri Narendra Modi on July 1, 2015. Digital India is a dream project of the government for the citizens and industries of India which could help in connecting the various past and present projects to bring India to a global platform. The digital India project aims to transform the country into a digital economy with participation from rural, urban citizens and business organizations to ensure that all government services and information are available anywhere, anytime, on any device that is easy-to use, highly available and secured. The Digital India projects itself will create employment opportunities for 17 million people directly or indirectly which will help in fighting against unemployment problems in India. Although, digitization is a time consuming and very expensive venture, but it is a powerful way to cope up with the problems of persistent shortage of periodicals and other technical literature in institutions, universities and technological schools in the developing world. Digital technologies are certainly transformation help in leading countries of development generating economic and social benefits for people, business and governments. The digitization has a proven impact on economy and society by reducing unemployment, improving quality of life, and boosting access to knowledge and other public services. The country has achieved impressive progress in the field of science and technology and is emerging as one of the strongest economies in the developing world. India's economy has witnessed a significant economic growth in the recent past by growing 7.3 per cent in 2015 as against 6.9 per cent in 2014. The India's GDP is showing positive results due to the digital India program launched by Government. India remains a large opportunity for electronic / card based transaction (including debit and credit cards at both ATM and point of sale per capita in India is very low at 6.7 even compared among BRICS.

Table 1: Digital Users: Comparison of India with Global

Parameter	Global	India
Percentage of households with computer	43.63	12.96
Percentage of households with internet access	43.94	15.33
Percentage of individuals using the internet	40.57	18.00
Active mobile broadband	37.20	5.52

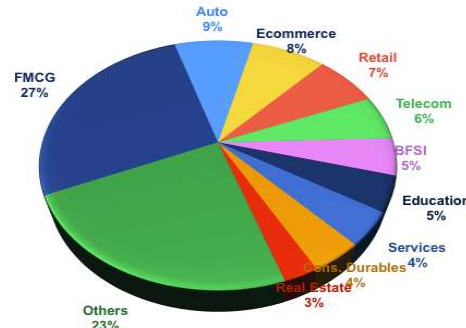
subscriptions		
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Source: Digital Transformation of India- Government Advisory Committee (PPT)

In this table it is clear that India is a digital users in comparison with global is quite noticeable. It is expected to increase in coming years.

Recent developments in the information and communication technologies, especially the internet and the web based technologies have brought significant changes in the ways the information generate, distribute, access and use. These technologies play an important role to minimize the problems in using information as it earliest.

SECTOR WISE CONTRIBUTION



Source: GroupM internal estimates, all media ADEX spends dispersion, others includes Elections, Corporate, IT/Ites, Industrials, Media, DTH etc.

Success of this programme will make India digitally empowered and the leader in usage of information technology in delivery of services related to various domains such as Education, FMC E-commerce etc. FMCG remains the most dominant sector with 27 percentage share of the ADEX and real estate alone contributes 3 percent to the country’s Gross Domestic Product (GDP).

Brief History of Digital India

Digital India was launched by the Prime Minister of India Narendra Modi on 2 July 2015 at the Indira Gandhi indoor stadium in the national capital with an objective of connecting rural areas with high- speed internet networks and improving digital literacy. ‘Digital India is a campaign launched by the government of India to ensure that government services are made available to citizens electronically by improved online infrastructure and by increasing internet connectivity or by making the country digitally empowered in the field of technology. After plans like ‘Make in India’ and ‘Swachh Bharat Abhiyan; the digital India’ initiative is another prioritized project administered by the Modi government and has also been recognized, globally. The ‘Pradhan Mantri Jan- Dhan Yojana’ is a great initiative taken under digital India programme to ensure financial inclusion easily accessible for every citizen at affordable price. A national mission, it shall create possibilities for each household to have at least one bank account and special benefits such as zero balance, accidental insurance cover up to Rs 1 Lac and much more is being given along with it to incentivize Indians. Aadhaar card has proven to be an answer to the long awaited secured and lifelong digital identity that captures all facets of identity in an easy and affordable manner for every Indian citizen. It is a 12- digit individual identification number issued by the Unique Identification Authority of India (UIDAI) on behalf of the government of India that is Unique, robust enough to disallow duplicate and fake records.

Table 2: Digital transaction on rising trend in 2016

Transaction/Year	2015	2016
Cheque	78.61	80.6
National Electronics Funds Transfer System (NEFT)	108.65	119.2
Immediate Payment Service (IMPS)	19.67	30.05
Point of Sale (POS)	170.8	198.9
Pixels- Per-Inch (PPI)	64.38	81.79
Mobile Banking	17.78	29.2
National Automated Clearing House (NACH)	117.48	161.61

Source: Reserve Bank of India, Bulletins 2015-2016

As it is shown in table 2 that the transactions related of Cheque, NEFT, IMPS, POS, PPI, Mobile Banking and NACH are increasing in positive direction from year 2015 to year 2016. This shows a clear image of India’s transformation toward digital economy.

Review of Literature

M. Neelamalan and P. Chitra (2009). – A study on impact of social networking sites on Indian youth. The sample size is 100 and divided in to two categories each of 50 are teenager and youth in the age of 20-22. This study showed that 98% of member in social networking site are member of orkut. Indian youth is aware of danger and risk involved in the sites. It is positive indicator that Indian youth possess social consciousness.

Edward I. (2012). – Studies showed the social interaction and entertainment are among the principal applications of internet for home user and especially for children. Internet has become the part of everyday life. Telecommunication is only one piece in more complex puzzle of rural development. It is part of complicated process that goes beyond the rural and urban.

Ulka Toro and Millind Joshi. (2012). – Studied that importance of digital technology in education. It has stated that in future ICT has a very important role to play and it is important to integrate it with higher education. According to them, teachers have to be very professional and adapt digital technology in their teaching methodology. This should be especially used for collaborative projects and enhancing their research capabilities.

Arvind Gupta (2015). – Investigated that digital India movement will play an important role in effective delivery of services, monitoring performances managing projects and improving governance. Tracking and managing the projects assume significance because India has been easy spending money in buying technology that we have not used effectively.

Himakshi Goswami (2016). The study highlighted the different opportunities and challenges of digital India programme in India. Digital India programme introduced by government of India will help in transforming country into a digitally empowered economy. This will help government of India to integrate the Government Departments with the people of India. The main purpose of this programme is to reduce the paper work and help in providing different Government services electronically to citizens. It describes the different opportunities of the programme for the people of the country. India is having different languages, culture, and customs, food habits, laws and traditions. The purpose of digital India programme is to integrate whole country digitally but languages would be the main challenges in the implementation of such programme.

Jayesh M. Patel (2017). There are many web based tools which can be used in the classroom for digital education like twitter, Dropbox, and Moodle. Teachers and students are interested in web based digital learning but because of lack of knowledge they are not initiating the same. Web based tools will make the learning interesting and students will get motivated which normal classroom cannot do. Currently the teacher centric approaches are making learning boring even for interesting chapters, use of digital technology makes even boring content interesting and joyful. The concept of child centred approach will be fulfilled only with the help of digital technology. Yet it has a great impact on India to make the best future for every citizen

Objectives of the Study

The following are the concise objectives of this study:

- 1) To understand the meaning of Digital India.
- 2) To analysis the impact of digitization on Indian economy.
- 3) To study the opportunities and challenges of digitization.

Research Methodology

The secondary data analysis is used to know the depth understanding of the “Digital India” for the various research papers. The study focuses is an attempt of extensive study, based on the secondary data collected from various other research paper, newspaper, journal, magazines articles and websites.

Impact of Digitization on Indian Economy

The estimated impact of digital India by 2019 would be cross cutting, ranging from broadband connectivity in all panchayats, Wi-Fi in schools and universities and public Wi-Fi hotspots. The programme will generate huge number of IT, telecom and electronics jobs, both directly and indirectly. Successes of this programme will Make India digitally empowered and the leader in usage of IT in delivery of services related to various domains.

Table 3: Impact of Digitization on Indian Economy

Digital in India	2014	Penetration	2015	penetration	2016	Penetration
Total population	1256 million	31%	1265 million	31%	1319 million	33%
Active internet users	243 million	19%	243 million	19%	375 million	28%
Active social media account	106 million	8%	118 million	9%	136 million	10%
Mobile connection	886 million	70%	946 million	75%	1012 million	77%

Source: www.internetlive stats.com/ India

As shown in the table there is significant increase in the percentage of population who are having mobile connection and actively uses internet and social media.

Challenges of Digital India

Almost everyone on Facebook changing their profile pictures to support digital India but to make it reality here are list of challenges in the implementation of digital India. Challenges are in every sector right from policy making, changing the work flow up to changing the mentality of the government officers. It is technological change within the most diversified nation. Few of them have been listed below:

1. **High level of digital illiteracy:** Digital illiteracy is prevalent in most of the towns and villages in India. Cities have adopted digitalization but limited to certain extent. Fully fledged digitalization is cashless transaction on daily basis, use of internet services to get government certificates. This requires administration changes, Taxation changes and change in public mentality. So it a team work

which includes citizen's responsibility and support to the new system. Govt. of India has planning to focus to prepare India for future knowledge.

2. **Connectivity to Remote Areas:** It is a giant task to have connectivity with each and every village, town and city. The problem of connectivity is a complex issue because every state has different laws pertaining to its execution. Also it is challenging for the central authorities to make a database where such huge information can be stored.
3. **Compatibility with Center State Databases:** Every state has different internet protocols because every state is diversified. Diversified not only in the sense of religion but also in language. Hence software compatibility with the center is a crucial issue. Information shall be saved carefully.
4. **Cyber Crime:** There is cyber threat all over the globe and digital India will not be any exception. Hence we need a strong anti cyber crime team which maintains the database and protects it round the clock
5. **Inter Departmental Co-ordination:** Within the government there are various departments which should be integrated. Integration has technical as well as corporate issue. Corporate in the sense self ego of the officers and staff of our government services are hurdle in the change. Also the middle man policy will be eliminated completely because of digital India; hence there will be imminent resistance from the working staff.
6. **Change Mindset:** This point will come into picture when you have allocated the required resources and material but when it comes to implementing them, most of them will be hesitant to change. People are accustomed with years of same of practice that they are not ready to change.
7. **Data Vulnerability:** Each and every citizen of India would have all the personal details online including bank details, Income tax details, PAN details which might be vulnerable if not secured properly. In case this is breached, then any individual would lose the privacy of the data and would be compromised.
8. **Excessive Server Hits:** If majority of the population start using online, then definitely the Government portal sever will start getting more number of hits day by day. This is limitless and the IT team needs to be prepared enough to tackle the situation where the possibility of crash would minimize.
9. **Deploy Wi-Fi Centers & Hotspot:** BSNL's (Bharat Sanchar Nigam Ltd) mass deployment of Wi-Fi hotspots across the country. If the government pushes BSNL to ensure at least one hotspot per village, it can do wonders and experience the positive outcome. However, if the selection of the hotspot locations were those populated by mostly tribal, backward castes, minorities and geographically difficult areas, then the impact can bring a new era in our country.
10. **Improve IT Literacy:** Improving IT literacy is very important because the entire mass who is using internet should know how to secure his/her online data. Providing proper usability guidance of Anti-Virus software and its role in securing the records should happen simultaneously.
11. **High costs** – The electronic devices and internet services are still by and large very costly for an average Indian citizen. When a lot of people don't have enough money for the basic life's necessities, spending on electronic devices get out of the picture.
12. **Cloud and Storage Solutions** (Database & Server overloads) Considering an average of 1 GB of data to (corresponding to the personal profile of the user, and all the documents that can be stored) be stored over cloud per person, and with a total population of 1.252 billion, the total server space needed amounts to approximately 1.252 billion GB or 1,252,000,000 TB of total data space requirement. An object storage service might cost up to ~\$0.20/user per month. Thus, In Indian Rupee, it sums up to 16,776,800,000,000 or 16, 1776 billion INR of total cost, per month. With 1.4 lakh crore INR allotted to Food Subsidy in Union Budget of 2016, with food being a necessary need, allotment of that much server space poses a grave threat to the accomplishment of the vision of Digital India.
13. The biggest challenge faced by Digital India programme is slow and delayed infrastructure development. India's digital infrastructure is comprehensively inadequate to tackle growing increase in digital transactions. India needs over 80 lakh hotspots as against the availability of about 31000 hotspot at present to reach global level, according to ASSOCHOM-Deloitte report.

.Opportunity of Digital India-

As opportunities are considered to be the favorable circumstances, so following are the elaborations in favor of Digital India:-

1. **Broadband Highways:** Modi has said that India is suffering from digital divide - meaning there are millions of people who do not have access to broadband and the opportunities it presents - and that needs to be bridged. Broadband highways will be routes through which internet connectivity will reach 2, 50,000 gram panchayats by December 2016. Reliance Jio's 4G plans will also figure in this ambitious programme, which will make for a National Fibre Optic Network by 2016.
2. **Digital Locker:** This online locker will be able to store all documents issued to you by the government, and will require an Aadhar card as identification for the first time. After that you will be able to set your own password and even link it with a Google or Facebook account. Services such as passport applications might become fully online when the relevant authorities are able to access your verified documents online. You won't be required to go to a government office with a folder full of documents.
3. **Mobile Connectivity:** Over 42,000 villages will have seamless mobile connectivity by 2018. This will require Rs. 20,000 crore worth of investment, and companies such as Airtel, Idea and Reliance will all play a role along with state-owned BSNL and MTNL.
4. **E-Kranti:** This is perhaps the biggest program within digital India, and focuses on a mobile-first approach. That means integrating public programmes on single portals, and using technology for their implementation and for public grievance system when they don't work well. The governments will also fast track approvals using IT, and mandate standards and protocols for software and hardware. A National Cyber Security Co-ordination Centre will be set up to combat cyber attacks, which have the potential to disrupt large parts of Digital India. Major IT companies such as TCS, Wipro and Infosys are expected to work on projects to make this possible.

5. **Jobs:** Business Process Outsourcing (BPO) centers will be set up in states that have lagged in development, such as the North-Eastern states and rural areas. One crore students will be trained in smaller towns and cities in five years, to develop a skilled workforce for such BPOs and the IT sector. Telecom service providers have agreed to train 5 lakh people in smaller towns to work in their projects.
6. **Manufacturing:** Digital India seeks to spur electronics manufacturing to the extent that there would be net zero imports — that is exports will equal imports — by 2020.
7. **My Government :** This website crowd sources ideas from the public for design of programmes such as better traffic management, using big data for making cities smarter, and even for the PMO's mobile app among many others. The idea is to start new programmes in consultation with informed citizens for better implementation.

Suggestions –

The following are the suggestions based on the study.

1. People must be aware about their rights and how to secure their online data through Digital literacy, as it helps in empowering citizens.
2. Here, its need to conduct a massive awareness programme which can educate and inform the citizens, especially in rural and remote areas, about the benefits of internet services to increase the growth of internet usage.
3. The private sector should be encouraged for the development of last mile infrastructure in rural and remote areas. To encourage private sector, there must be favorable taxation policies, quicker clearance of projects.
4. The successful implementation of digital India project depends upon maximum connectivity with minimum cyber security risks. For this we need a strong anti cyber crime team which maintains the database and protects it round the clock.
5. To improve skill in cyber security, we need to introduce cyber security course at graduate level and encourage international certification bodies to introduce various skill based cyber security courses.
6. There is need for effective contribution of various departments and demanding commitments and efforts. Various policies in different areas should work to support this goal.

Conclusion

Digital India is an ambitious programme of Government of India. It was started to transform India into digital world, empowered society and knowledge economy .Government services will be provided to Indian citizens with the E-services (For policies implementation) and E-governance (For Government Department) as it will take speed in implementation and economy will emerge with more transparency, speedy implementation of government policies, reducing corruption, more productivity, less paper work, more employment in more informative way. Services like E-Kranti, my Gov.com many more portal services creates a knowledge economy. Information is a backbone of speedy decision which helps in growth of economy. Millions of jobs, mobile connectivity, internet highway, on line information and many other things create a new India.

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