Available online @ www.iaraindia.com
RESEARCH EXPLORER-A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655 (CIF), 2.78 (IRJIF), 2.62 (NAAS)
Volume V, Issue 22
January - March 2019
Formally UGC Approved Journal (63185), © Author

DIGITAL INDIA IMPLICATIONS IN EDUCATION SECTOR

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Abstract

India is already home to the 2nd largest number of Internet users globally with nearly 462 million users as of December 2017. There are more than a billion people who will need to be brought online for India to realise the vision of a digitally connected, knowledge economy. Government's Digital India programme will play a transformational role in achieving this. Digital India is an umbrella programme which covers many departments. It aims at ensuring the government services are made available to citizens electronically by reducing paperwork.

Keywords: Digital India, Education, Digital Programmes.

Introduction

Throughout the world, Information and Communication Technologies (ICT) continue to proliferate at incredible speed. Digitalization is one of the most fundamental period of transformation we have ever witnessed. Digital India was a flagship programme launched by the Prime Minister of India NarendraModi on 1 July 2015 - with an objective of connecting rural areas with high-speed internet networks and improving digital literacy. The vision of this programme is to transform India into a digitally empowered society and knowledge economy. It is one of the biggest step by our Government of India to motivate the citizen of the country and connect Indian economy to knowledge savvy world.

Vision of Digital India: Initiative of Dream Project

Digital Infrastructure as a Utility to Every Citizen:This initiative brings together to deliver high speed communication technologies and digital services that will reach to the remotest villages, round the clock. Public services like land records, certificates and many more will be made available online or public cloud.

Governance and Services on Demand:This vision will provide single window access to every individual. Every government services or information is available online and on mobile platforms with a single touch.

Digital Empowerment of Citizens:Under this vision, every citizen will empower through digital literacy and universal

access to digital resources. All documents and certificates to be available on cloud and in Indian languages.

From smart phones to lightning-fast laptops to GPS devices, it's hard to imagine life without technology. This facility will aim to lessen the usage of physical documents and enable sharing of e-documents across organizations. Today, the world has transformed from knowledge savvy to tech savvy. Think of something and it's available in one click. So digital India is a step by the government to inspire and connect Indian economy to such a knowledge savvy world. It brings out various schemes like E-health digital locker, E-Sign, E-Education etc.

Review of Literature

Digital India" initiative has been an intriguing subject matter of numerous researches from various disciplines because of its great significance and influence on the economy as a whole and particularly the technological sector. Being a recent move, there have been various researches on different aspects of the initiative ranging from the economical to social and ethical dimensions. Some of these researches retrieved through internet searches have been reviewed here.

Prof.Singh began with the basic overview of what Digital India entails and led a discussion of conceptual structure of the program and examined the impact of "Digital India" initiative on the technological sector of India. He concluded that this initiative has to be supplemented with amendments in labor laws of India to make it a successful campaign.

SundarPichai, SatyaNadella, Elon Musk researched about Digital India and its preparedness to create jobs opportunities in the information sector. He concluded that creating new jobs should be continued with shifting more workers into high productivity jobs in order to provide long term push to the technological sector in India. Microsoft CEO, SatyaNadella intends to become India's partner in Digital India program. He said that his company will set up low cost broadband technology services to 5lakhs villages across the country.

Arvind Gupta intends to say that Digital India movement will play an important role in effective delivery of services, monitoring performance managing projects, and improving governance. An Integrated Office of Innovation & Technology to achieve the sameand for problem solving, sharing applications and knowledge management will be the key to rapid results, given that most departments work on their own silos.

Tracking and managing the projects assume significance because India has been busy spending money in buying technology that we have not used effectively or in some cases not even reached its implementation stage. Sharing, learning's need to be best practices across departments Tracking and managing the projects assumes significance because India has been busy spending money in buying technology that we have not used effectively or in some cases not even reached implementation stage. Sharing learning's and best practices across departments needs to be driven by this Office of Technology.

A study by Zinnov mentioned that increased access to enabling infrastructure such as increased use of smartphones and easy access to Internet will result in greater adoption of technology by small businesses. Accordingly, the Digital India project will be an exponential driver for massive growth in IT adoption. The estimated budget of Digital India is going to be $19 billion between 2014-2018.

Objectives of the Study

The main objective of the study is to know about the application of Digital India plan and its impact on educational sector.

Transformation of Educational Sector with the Intrusion of Digital India

Digital technology in India has been evolving over the last few years,

changing the way students learn concepts in school. The traditional chalk and talk method has paved the way for more interactive teaching methods as schools are increasingly adopting digital solutions to keep themselves abreast with the technological changes. As the current generation of students is well-versed with laptops, i-pads, and smartphones, these innovative methods of teaching guarantee more participation from students.

To cater to the school students' needs, education providers such as Educomp, Tata Class Edge, Pearson, and Teach Next have been coming up with interactive software to aid teachers in classroom teaching. However, usage of digital technologies in institutes of higher education is still in its nascent stages and efforts are being made to fine-tune these technologies to adapt to the needs of University students. In short, content development is yet to mature in colleges and universities across India.

Right from K-12 schooling to higher education programs, every level of our education system is affected by technology. With increased connectivity, speed and cloud-based storage capabilities, schools and colleges have an enhanced communication network that makes way for improved knowledge sharing. Digital portfolios are becoming quite a rage among high school students who use it to demonstrate their knowledge and achievements and are now being widely used a strong tool for their admission procedure to college.

Coming to higher education institutions, most of them provide students with digitalized learning materials managed through online learning/knowledge management systems. Some universities are also experimenting with virtual learning spaces and have been providing free courses and learning material online.

India's vibrant economy with a burgeoning middle class and more than 200 million Internet users has made the country the third largest online market after China and the United States. With this kind of far-reaching impact, there is hope for an increase in the use of digital technologies in the education field. However, lack of infrastructure, poor electricity access and low Internet penetration in the semi-urban and rural areas have held back development of digital services in schools. Needless to say, this calls for government participation to address these challenges and develop a sound ecosystem that can boost the usage of digital technologies.

Despite the aforementioned challenges, India's booming urban areas provide an excellent opportunity for digitalization of educational services. To increase the quality of education with the latest digital technological know-how, majority of the schools and universities are trying to keep pace with the digital changes by implementing them. Thus, by empowering educators, digital technology holds the key to India's educational challenges.

Digital Education in Indian Universities

The quality of higher education is top-notch in the tier-one universities such as the Indian Institute of Technologies (IIT), Birla Institute of Technological Sciences, and the National Institute of Technologies. The same quality of education is not maintained in tier-3 schools and universities in both rural and urban areas. For this reason, IIT has introduced the National Programme on Technology Enhanced Learning (NPTEL), a government funded initiative, to help students across the world learn concepts providing free access to videos on YouTube.com "Professors record lectures and upload them online for the benefit of students in the rural and urban areas. In this way, students have access to quality educational videos at free of cost," says an Assistant Professor at the Indian Institute of Technology (IIT), Madras. The main aim of the Government is to make sure that people have access to the latest

curriculum being offered at the IIT and this is where NPTEL is used effectively and about 60% of our viewers are from the North-Eastern states and other states.

In India, among colleges digital Technologies are being used in a few colleges, whereas in many others it has still not been implemented. Moreover, there are many reasons for the irregular use of digital mode of education. The main problem is lack of funds. Hence, certain colleges are able to digitalize their teaching and a few others are not able to however, most of the regular colleges follow the traditional learning methods. In India most of the University's distance education modules have access to all the learning material through the digital medium. Most of the universities are in the process of recording lectures and uploading them online for students to view the videos at their convenience as well as engage in a discussion during the class."

Digital Tools Used and Impact of Learning Outcomes in the Indian Schools

Primary and Secondary schools across the country appear to be more advanced in the adoption of technology. Teachers in primary schools use smart boards and LCD screens to teach concepts in Mathematics, Science, and English Grammar. Schools across the country are using technology seamlessly to engage with students and achieve desired results through well-planned learning methods. Most schools utilize digital tools such as smart boards, LCD screens, audio-visual videos, digital recordings of older lectures and so on to teach children difficult as well as easy concepts. Moreover, the role of a teacher has always been to impart knowledge to students and become facilitators using digital tools. However, many school heads concur that these technologies will never replace the physical presence of a teacher, instead complement the entire teaching process.

In India, most of the schools teachers are conducting 'Smart Classes' for 6-12th standard and teachers have been trained with the software to use it for main subjects (Maths, Science, History and Geography). The teachers are using it extensively in all the classes; and they plan ahead. They go by what they have to relate to using the software and add it to their power point presentation (if needed). If it is a biology/math class, everything would be shown in the software while the teacher explains.

The schools will soon be a place where the students will learn to study on their own with the help of computers while the teacher being a mere facilitator. This concept of blended learning where teachers oversee students' participation while watching online lectures is proving to be effective. The teachers always try innovative things in our pedagogy and do not rely on textbook knowledge.

For a Digital India to succeed in impacting education, it needs a vision and mission to integrate technology as an important part of our large and complex school system. It must have a targeted approach to improve education through digitalization and by providing better teachers and with a comprehensive vision to provide benefit to a large extent of children.

Some of the techniques that can be incorporated in schools-Introduce benefits of technology in education–The very basic thing is to teach children how to incorporate technology with their education, to gain benefit and to use it as a tool to compete with the ever-growing world. This is mainly required in rural areas where children are very far away from this piece of knowledge.

E learning apps– After this some innovative tools can be introduced for providing notes, books, resolving queries of student, practicing question etc. There are 100's of app and software available for students to learn.

Smart schools Government should try to incorporate technology from the ground level that is school, more smart

school should be open, public schools must be digitalized, classes must be provided to teach student and teachers about the benefits of digital world and everybody must have basic computer proficiency.

Smart tools-Schools should be digitalized and must use smart tool to provide education to students like smart board, visual/audio education, school management software for management of school data.

Training the Teachers for Digital Teaching

Frost & Sullivan found through its conversations with school heads and professors that there are varying degrees of comfort among educators with respect to use of technology. Leveraging such tools requires specific training and orientation in not just the application of curriculum in digital formats, but also other related tasks, such as evaluation, peer feedback, group project work, and so on.

For the last few years, we have teachers being trained on the curriculum and also MS Office. The teachers were divided into small groups subject-wise and train them accordingly. It is not a 100 percent substitution for in-person class coaching. The teachers work on lesson planners. In the planner, the teacher explains what needs to be taken from the software and all concepts are taught accordingly through PowerPoint presentation as well as the digital software. College professors, on the other hand, have been more reticent towards using digital tools for conducting classes. Among those who use tools such as PowerPoint presentations, most are ill-equipped with knowledge to use the format and hence get rated poorly by students.

Digital Tools for Evaluation of Students

Education providers that provide digital software solutions to schools have built-in software assessing students' performance over the years. The data give teachers an insight into a student's performance for evaluation of classroom lessons and conceptual understanding of subjects taught through the digital medium. Looking at it another way, the data help teachers analyze a student's performance from first grade to tenth grade by observing his or her strengths as well as shortcomings and guiding him or her accordingly. These facilities are not available in the Indian Universities though.

Challenges in the Implementation of Digital India

More than a year has been passed since Digital India mission has been announced but it is facing multiple challenges in successful implementation. Few of the challenges are –

1. High level of digital illiteracy is the biggest challenge in the success of digital India programme. Low digital literacy is key hindrance in adaptation of technologies. According to ASSOCHAM- Deloitte report on Digital India around 950 million Indians are still not on internet. So, there is still to do more to connect people in digital India.
2. Making Digital India is a scheme known and creating awareness among common masses about its benefits is also a great challenge. Participation to digital kranti needs peoples wish, capacity to have mobiles and needs money for continuity.
3. It is not easy to ensure each panchayat of India to connect with functional broad band with optical fibre network. It is a mammoth task to have connectivity with each and every village, town and city. There are 2.5 lakhs Gram Panchayats in India and connecting all is not an easy task. The recurring repairing process is also a great challenge.
4. The issue pertaining to taxation and regulatory guidelines have proved to road block in realizing the vision of Digital India. Some of the common policy hurdles include lack of clarity in

FDI policies have impacted the growth of ecommerce (ASSOCHOM).

5. 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 ofabout 31000 hotspot at present to reach global level (ASSOCHOM).
6. The private participation in government projects in India is poor because of long and complex regulatory processes.
7. Many request proposals issued by government are not picked up by competent private sector organizations since they are not commercially viable.
8. There is a wide digital divide between urban and rural India. Till now funds have not been deployed effectively to meet the cost of infrastructure creation in rural areas.

Suggestions

Digital India campaign can't be successful on its own. Policy changes are needed to make digital India a reality.

1. Digital literacy is first step in empowering citizens. People should know how to secure their online data.
2. To make this programme successful, a massive awareness programme has to be conducted. There is pressing need to 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. Digital divide needs to be addressed.
4. Manufacturing content is not government's strength. This mission needs content and service partnerships with telecom companies and other firms.
5. PPP models must be explored for sustainable development of digital infrastructure.
6. Private sector should be encouraged for development of last mile infrastructure in rural and remote areas. To encourage private sector, must be favourable taxation policies.
7. The success of digital India project depends upon maximum connectivity with minimum cyber security risks. For this we need a strong anti-cybercrime team which maintains the database and protects it round the clock.
8. 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.
9. There is need for effective participation of various departments and demanding commitment and efforts. Various policies in different areas should support this goal.
10. For successful implementation, there must be amendments in various legislations that have for long hindered the growth of technology in India.

Conclusion

Digital India will open up greater possibilities than ever before. A powerful set of forces is accelerating the speed of social change throughout the world. These include a rapid rise in the levels of education, high rates of technological innovation and application – ever faster and cheaper communication that dissolves physical and social barriers, both within country and internationally, an easier access to information and the further opening up of global markets. It is here that IT plays a pivotal role. We have to take Digital India as a business transformation and proactively identify opportunities in advance and invest in it before demand actually arises.

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