DIGITAL INDIA AS A CATALYST IN THE LIFE OF VISUALLY IMPAIRED

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This paper provides an inside vision of difficulties and challenges towards empowering visually disabled people digital as the life is becoming easier due to the digitalization. The study also enlightens the inadequacies of the provided resources as well as the shortcomings of the performing authorities. Notwithstanding with efforts of government of India to promote digitalization in India for people with visually impaired are in large part of the country remain excluded from becoming digital citizen. The space and opportunities accessibility remains a biggest challenge for majority of people with visual impairment all across the country. In various institutions and places, the opportunities to handle the digital media are scarce and also in technical control upon the technology, there is still a lot to be done. In a major study done wherein so many people with visual impairment were interviewed on what are the scopes, opportunities and challenges of digitalization and to become digital citizens of India. The overwhelming points that were put together by those people said that 'people with visual impairment are still struggling to connect with the digital society. They are confronting with so many problems in becoming digital. The points they shared like negligence of digitalization in public transport system, no tactile support system on railways, bus stops and other public places, ignorance of disabled friendly examination patterns and higher studies systems and problems in using new technologies emerging day by day in digital world. The study recommends that during the policy making and implementation of the policy, machinery should also focus on the capabilities of the visually disabled people so that the facilities could become accessible for visually challenged people too.

Keywords- Digital India, Visual Impairment, Digital Empowerment, Digital Transformation, Media Literacy.

Introduction:

According to S S Badrinath, world-famous ophthalmologist and founder of Iconic Sankara Nethralaya of Chennai, every third blind person in the world is an Indian.[1]

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1 Vivek Deshpande, *"45 million visually-challenged people are still from India"* Indian Express, September 1 , 2014, http://indianexpress.com/article/cities/mumbai/45-million-visually-challenged-people-are-still-from-india/

Today in the contemporary world all forms and tools of communications are towards coin the major digital changes. Hence, the digitalization can play an important role towards making visually impaired people's life easier.

There is a gap in understanding the challenges and benefits that visually impaired people perceived about the digital India. The focused group and face to face interview study was conducted to describe the challenges people with visually impairment are facing. Now, the question raises that are digital instruments and platforms useful and friendly for visually impaired people too or only designed for non-disabled people.

Jacqueline P. Candido argues in his research that there is a lot to be done to know and experience the perspectives and views of visually challenged persons about online learning. To achieve this objective, he supports qualitative methods to identify the challenges being faced by the people with visual impairment towards digital learning.[2]

There is a vast difference between visually impaired people and normal sighted people in understanding digital world. It is significant to experience and apprehend the challenges people facing who are visually impaired towards becoming digital citizen of India. This study was conducted to learn the understandings and perceptions of visually impaired people about digital empowerment.

India has provided equal rights to her citizens. The Persons with Disabilities Act (1955) specially emphasizes on the rights of equal opportunities, protection of rights and full participation of the persons with disabilities.[3] But when we consider the digital world, we often forget people who are visually challenged. Most of the visually challenged people remain excluded from the digitalization process.

Objectives of the Study

The study was conducted to achieve the following objectives:

1. To identify and describe the barriers and challenges in Digital India.
2. To know the animus of visually impaired people towards digitalization.
3. To know how digitalization act as catalyst for visually impaired people.

2 Candido, J. (2008). Visual Impairment in a visual medium: Perspectives of online learners with visual impairments. PhD Thesis, Drexel University at https://idea.library.drexel.edu/islandora/object/idea%3A2932/datastream/OBJ/view accessed on April 2, 2017.

3 PWD (Equal Opportunities, protection of Rights , and Full Participants) Act, 1955, http://newsonair.nic.in/PWD_Act.pdf

4. To find out important aspects which are indistinct or less focused and should be included in the policy and implementation framework of digital India.

Review of Literature

The focus of this study is to penetrate the ways that people with vision impairments in India experience the digital transformation.

This study has been conducted among the visually impaired people to know how they connect themselves with the rest of the world in the digital era.

George, A. (2016) says, parents often do not know how to deal with a blind child, school teachers also unaware of tackling a vision impaired student.

The study reveals that how far digitalization helps to the visually impaired people to confront the daily challenges and difficulties in life. It requires more attention to enhance the living standard. A less focus is being given to disabled people in the aspect of media literacy (Weigand M. et al. 2013).

This is a challenging task for government machinery and organizations working in the field to train and empower a large number of disabled populations in digital world and fill the digital gap between visually disabled people and people with normal sight.

Methodology

The focus group interview technique is implied as a methodology. An open-ended questionnaire as a research tool was used for the research, because on a structured questionnaire, respondents may respond with one line answer so it was important to talk with them in a participatory manner including personal and objective based issues.

Population of the Study

Interviews were done by asking questions to visually impaired persons living in Delhi. All of them were from different parts of the country, staying in Delhi for working and study purpose.

Sample of the Study

Total one hundred and ten (110) visually impaired people living in Delhi were interviewed. In the sample population all were male. 85 persons (80%) of 25 to 35 age groups were studying in different streams and colleges and 25 people or 20% of the sample population of 35 to 65 age groups were involved in jobs or services.

Selection of the Subject

To know the gaps in performing the digitalization for disabled and to fulfill those inadequacies, it is important to identify the "Challenges in path of visually impaired people towards becoming Digital Citizen of the Country".

As the interviews and participatory work with visually impaired people carried out, the researcher recognized that rigorous research is required to lay bare the challenges and difficulties being faced by visually impaired people in daily life even after getting things digital. The system and the machinery working for disabled, require systematic changes through proper study on needs and requirements of disabled friendly digital resources.

Qualitative Data Analysis

The data in this research is descriptive. It is important to remember the objectives and goals of the study during analysis of the data. Content analysis is a method through which researcher filter the volume of data in a systematic manner.[4]

The gathered data was sorted into the topic. For these open-ended questions were asked to the respondents to collect the views and perceptions of the participants on the topic.

Findings of the Study

Persons with visual impairment can play with mobile, laptop and other electronic gadgets but the deal is that there must be talking software or in technical terms we called screen reader software. Many of the respondents said they can type on computer or laptop as well as on typewriter. One respondent said, "I learned these things myself with the help of friends in hostel or in college. I tracked my cut-off list on internet for admission in Delhi University. Today my dependency has been reduced upon the scriber. Now I myself type my assignment on computer, fill my form online but still there is dependency on scriber during the time of written examination. In the digital era we should adopt the online examination pattern, which would be transparent as well as disabled friendly."

In the yearbook MILID (2015) Vedabhyas Kundu (p.287-298) says "Visually challenged young people can get opportunities as radio jockeys and radio journalists. With assistive technologies and new software, they can get opportunities as web content writer".

4 Maxwell, Joseph (2005). Qualitative Research Design: An interactive approach (2nd Ed.)

It was opined by participants that "It seems that the development work is being served for non-disabled only. Because at most of the places and situations disabled people are unable to access the digital resources like vending machine is not visually impaired friendly. Visually impaired people cannot access that machine because how they will come to know that what product is there and at what cost. Second, at metro stations if we placed the Metro Yatri card or entered the token in the machine, how we will come to know that now the door is open and we can pass from it. Third, visually impaired people who are not able to use android mobiles, for them there must be talking software in keypad mobile phones. Fourth, visually impaired students cannot easily search OPAC that is online public access catalogue without someone's help because in all these situations the machines or computers are not equipped with interactive voice response (IVR) technique".

For all of us, to reach new heights support from family members is must. Not only financial support but moral support too. Without their support a child, especially who is visually impaired cannot grow in the manner that makes him/her gentle. There are many examples of blind students living in Ashrams or Hostels even after having home in the same city or place. "They could not grow in that environment because they do not get parents' care. In the digital era, no one else would buy the digital devices for them. If they will not have these devices how they will become digital friendly."

Many of the Principals do not allow our children to get enrolled in their schools. They claim their list of reasons that they are not able to provide special teachers and attention on visually impaired students. Our children could not get admission even in the government school that is in front of our Ashram, just across the road side. Now they go to Govt. Boys Senior Secondary School, Prashant Vihar, Rohini Sector 14, Delhi which is 8 to 10 KMs ahead from Ashram situated at Mangol Puri, Delhi. The reason behind getting admission in that school is because the Principal of that School is himself blind and he understands the meaning of being blind and their difficulties.

In an article published in IMI by George Abraham[5] says "if Government officials and policy makers themselves are unaware, then how can one expect the common man to be enlightened. Parents more often than

5 Abraham, G. (2016). Empowering the Visually Impaired: Opportunities and Challenges. IMI Konnect Volume 5 (6) 2016, Social Entrepreneurship (Winter Special Issue), 6-9. https://imi-k.edu.in/images/IMIData/pdf/KonnectWinterSpl16WebVersion.pdf accessed on April 2, 2017

not do not know how to deal with a blind child. Schools do not have an understanding of how they could handle a blind student. Corporates do not know how to deploy employees who are blind."[6]

"With the help of digitalization many countries (developed or developing countries) are making visually impaired people's life easier. In our country still the basic main challenge we are facing is poor public transport. Only few areas are being digitalized by the government from where money can be generated and voters can be approached. There is less focus on making public interest infrastructure digital. Can we think of digital transport system everywhere and all the time?

Where we have Screen reader software, those devices are easily accessible. All books are not online but still with the help of software like JAWS (Job access with speech), we understand the subjects through audio format. In the digital era, the time is coming for us also. If we get training into it, we will become independent with the help of digitalization." (Respondent 6, Group interview 3, April 3, 2017, Evening)

Due to digitalization, the people with disabilities can also have equal livelihood as that of persons without any disability. They can live a self-governing life (Williamson, et al., 2001).

"Indian Government is running a training program on how to do digital transactions. Ministry of Youth and Sports Affairs is conducting this training program across the country but it seems that this training program is only for sighted people. If once we also got trained, we would be able to do digital transactions ourselves. Our dependency on ATMs will be reduced. We also want to make e-payments but we are not aware of these applications. It seems that the process of digitalization is still not disabled friendly in India. According to him, most digital or electronic resources are designed for non-disabled users. If it is so then how blind people will be trained in doing digital transactions?"

Through mobile phones we can make e-payments by using some applications like Paytm, BHIM App and SBI Buddy because there is screen reader software in our mobiles. But we cannot access the ATMs. In most of the ATMs we always afraid of being cheated by others because talking system or interactive response system (IVT) doesn't work in many ATMs and at the mean time we have to share our ATM passwords with our caretakers. The primary challenge we face in digital era is that if any ATM

6 *ibid*

at a time become out of service, then it remains out of order for a month or longer. Bank doesn't concern for repair those out of order Machines in a time frame."

We are looking for payment through thumb impression but how we will come to know that how much rupees have been deducted from our account after giving thumb impression on pay machine. Second, people want to make digital payments in exact amount of their bills. For example, if we give 100 rupees for an item of rupees 99/- but most of the times against the charge of Rs Ninety-nine the merchant did not return one rupee. IVR[7] system must be there in payment making machines otherwise always there will be some chance of cheating with blind people.

"In politics, there is a concept of vote bank. Every party has their particular followers. We are also in large number of populations as the citizen of this country having voting right. In this manner, we also can be a vote bank for any party. To attach this large number of vote bank authorities should pay attention on our requirements i.e., in public transport there are many taxi services getting booked on phone but it is very costly, everyone cannot afford for them. There should be a digital system at all bus stands which could announce the bus numbers, routes and timings of the buses just like Delhi Metro. There must be tactile based floors at bus stands, footpaths and on road crossing pathways. It will help blind like me to become independent in today's fast life." My dependency has been reduced upon the scriber. Now I myself type my assignment on computer, fill my form online, but still there is dependency on scriber during the time of written examination. He opines that in the digital era can we adopt the online examination pattern, which would be transparent as well as disabled friendly. Weigand mentioned that not much attention has been paid towards information and media literacy suitable for disabled and specifically for visually challenged individuals.[8]

Discussion on the findings of the study

It was common opinion of all one hundred and ten (110) respondents that digitalization acts as a catalyst in their life but today accessible and inclusive platforms and services are needed in every sector. Our public transport system should be digitalized and there should be visually challenged friendly traffic signals, for example beep sound in traffic signals for VI people.

7 Interactive Voice Response

8 Monika Weigand, Johannes Zylka and Wolfgang Muller *"Media Competencies in the Context of Visually Impaired People"* Communication in Computer and Information Science October, 2013

The Prime Minister of India in his speech during launching the National Digital Literacy Mission, (Jharkhand, August, 2014) said "a digital revolution is about to begin. My vision of 'Digital' India encompasses a time when the common man is able to track the government's work from his mobile phone".[9]

The study reflects that visually impaired people are encountering great challenges towards digital living. Maximum of them can use mobile for using social media tools i.e. WhatsApp and Facebook. Some of digitally literate visually impaired people are using online applications for e-transactions. But on the other hand many people are there who are not familiar with the day-by-day changes happening in the digital world.

The study reveals the important aspect of the digitalization process that most application designers are still unaware of challenges and needs of blinds. Due to high development cost and low business market, they do not design their product for visually challenged population.

Nowadays, the world without electronic and digital things is like living alone on the planet. Findings of the study reveal that buying electronic equipments has become more expensive. A person from poor background cannot afford to buy an expensive digital or electronic gadget.[10] However, the government has provided mobile phones to disabled people (Divyangs), but Users say, after a time period of one or two years this gadget started being hanged up. Second, what they will do of those devices unless until they are not trained enough to make use of those digital resources and software applications.

If someone want to know about the beneficial schemes that is planned and launched by the government of India for visually disabled people how they will come to know. There is no awareness on what is the path has to be followed for digital training. Less number of training points is also a challenge in this path.

Most of the times and places blind people have to be depend on others for knowing the bus number. Many times, bus driver doesn't stop the bus at the place fixed for the bus stop but speed up the bus after seeing the blind with a stick. All are in hurry; some people do help in crossing the roads, some ignores because they are also connected with digital life. They spend

9 PM Narendra Modi , "Digital Revolution is about to begin" August 21, 2014

10 Experts Say the 'New Normal' in 2025 Will Be Far More Tech-Driven, Presenting More Big Challenges, Pew Research Center Feb 18, 2021

more time on online social platforms. They are also connected with these digital gadgets but there is a limit for them because not all the gadgets are disabled friendly, especially in the case of blinds.

Conclusion and Recommendations

The study indicates that when everyone is living digital life, disabled people also try their best to use digital resources for their betterment. But there are some hurdles before them, which set their limits in doing so. In conclusion of the study the suggested recommendations to makeup these challenges and scope of further research in future:

1. The digital resources are reducing dependency on others but still not all the digital devices are disabled friendly. We can design digital applications and devices for disabled users with disabled (especially visually challenged) friendly features. Identifying these features is another case of study.
2. Even after the applications and digital devices are being designed for disabled especially for the blinds it is important to train them too.
3. Easy reach to the resources, especially in rural areas. Many times, these people remain unaware of the schemes that government launches for them. If they will come to know about those schemes, they would be encouraged and will try to reach to the resources if available nearby.
4. Need of strict actions and follow-up programs as there is less focus towards digitalized public transportation system. Even at many stages implement machinery fails in quality and design check of the work done by the contractor.
5. Need to make traffic signal system disabled friendly. So far, we do not have beep sound in traffic signals even at many places in cities like Delhi.
6. Create tactile technique-based pathways on roads, bus stands and other public places.
7. Digital literacy programs are not running in effective manner. Use of JAWS and Interactive Voice Response (IVR) technique in maximum digital resources even in keypad mobile phones because illiterate and poor people especially from rural India are not able to use digital devices without these basic softwares. Even in certain programs or

services like *99# to check account transactions in mobile phones. The major limitation of digitalization is absence of IVR technique in the software or digital services for visually challenged users.

8. Increase training programs in promoting digital literacy among visually impaired people.
9. If digitalization occurs in examination too, dependency on scribers and bribe culture for getting good scribers will be reduced.