



INCREASING USE OF TECHNOLOGY IN POST-COVID ERA IN INDIA

Prof. Sujit Kumar Paul

Professor of Rural Development and Management, Department of Lifelong Learning and Extension (REC) Visva-Bharati (A Central University) Sriniketan-731236, Birbhum, West-Bengal

Souradeep Sarkar

Research Scholar, Department of Lifelong Learning and Extension (REC) Visva-Bharati (A Central University) Sriniketan-731236, Birbhum, West-Bengal

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Abstract

Covid-19 pandemic struct the world and the pandemic began in India from January 2020. The country was in lockdown due to the pandemic from the end of March 2020. In this period only emergency services were available and other services were closed or were occurring online after sometime. From this period, technology supported many organisations like Non-Governmental Organisations, Retailers, Food-delivery Businesses, Schools and it has helped the Government institutions to spread information and awareness. This uses of technology have increased after the pandemic and the number of people being technology friendly has increased. Therefore, the objective of the paper is to observe that whether the use of technology and have increased and if there is increase in use of technology in which sector it has increased.

Keywords- *Pandemic, Government, Organisations, Technology, Covid-19, Data, Businesses, Schools*

Introduction- The Covid-19 Pandemic struct the world when the first known case was reported in Wuhan, China in December 2019. The first Covid-19 case was declared in India in 30th January 2020 in Kerala in 3 Towns of Kerala from 3 Students who came back from Wuhan, China. The whole country went into lockdown on 25th March 2020. In the first wave of the virus daily cases picked in September 2020 and there was a gradual decline after that before

the second wave in march 2021 after which there was a rise in cases observed. The second wave caused more destruction as compared to the first wave due to a shortage of vaccines, low availability of oxygen, and lack of availability of Hospital Beds, etc. By March 2022, the number of cases in India was 22,487 approximately. At that time 58.8% of the population was fully vaccinated and 70% of the population got at least one vaccine dose. So, from then everything started to normalize slowly. Since the period of pandemic, technology supported many organisations like Non-Governmental Organisations, Retailers, Food-delivery Businesses, Academic Institutions specially in Schools and it has also helped the Government Institutions to spread information and awareness. This uses of technology have increased after the pandemic and the number of people being technology friendly has increased.

The Impact of Covid-19 in India was-

Displacement of Migrant Workers- The Covid-19 Pandemic struck India in 2020 and left the migrant workers in deep trouble. They were unemployed as all factories and shops etc were closed due to the lockdown imposed by the Government to control the pandemic. So, the migrant workers decided to return home walking kilometres with their families. So, they died due to the extreme journey some died due to accidents. The Central Government announced to have directed the State Governments to establish relief camps for the migrant workers and later the Central Government also issued rules protecting the rights of the migrant workers. In its Report to the Supreme Court on 30th March 2020 the Central Government said that the migrant workers started to walk to their homes due to fake news that the lockdown will last more than 3 months. In early May the Central Government declared “Shramik Special” trains for the but on 26th May the Supreme Court said that the problems of migrant workers have not been solved and ordered the Central Government and State Governments to provide free food, shelter and transport to the stranded migrant workers.

Drug Shortages- The Indian Pharmaceutical Companies reported in January 2020 that there will be a problem of drug shortages if the situation in China worsens as 70% of the pharmaceutical material. Impending to the global shortage in March 2020 India restricted the export of 26 ingredients. During the second wave, there was a shortage of many medicines and low stocks of many medicines which also lead to Black marketing.

Education- All Schools and Colleges were closed by the Central Government on 16th March 2020. Revised Guidelines for examination by maintaining distance were given by the Central Board of Secondary Examination(CBSE) on 18th march but on 19th march all the CBSE and JEE examinations were postponed. All the Examinations were gradually postponed. The Union Public Service Commission also postponed the Interview for the Civil Service Examinations.

Very few educational institutions ran effectively at this time through online applications. Thus, a digital divide was created.

Economy- There was a limited social movement during the time of the pandemic compared to the first wave so the economic impact was less in the time of second wave than the first wave and the economic indicators also indicate that comparatively economic impact was less in second wave than in the first wave. The Monthly Economic Review of April 2021 which was released on 7th May 2021 stated that the country has learned to carry on with its economic activity with COVID. Since the pandemic poverty has increased in India and the livelihood of most families had a devastating effect.

Other Health and Health-care Related Issues- The focus was on fighting the coronavirus so people died due to other diseases like tuberculosis. There was a setback to the fight against the disease tuberculosis period as the number of cases of tuberculosis reported dropped between 2019 and 2022 by 24% in India. Many other services like operations, immunisation, and institutional deliveries of babies were interrupted in this period. This period notices the death of many doctors, nurses and other healthcare workers. As of June 2021, 776 doctors have died due to the Covid-19 pandemic.

Problems in Rural and Semi-rural India- Most of the population in India belongs to the rural or semi-rural area. They had a great problem during Covid-19. There was a lack of Human Resources and other facilities in that area. The migrant workers came from urban areas(their workplaces) to rural areas(their homes) and the virus spread. People came from rural areas to urban areas for getting health services. During this time, it was seen in Uttar Pradesh that due to a lack of place for cremation the dead bodies were dumped into the Ganga River.

Transport- From 17th march 2020 many flights were cancelled. From 19th march, the Government of India issued a notification that all the international flights are not allowed from 22nd march and on 23rd march notification to stop flying domestic flights from 25th march was given. Around 250,000 Indians were excavated from foreign countries through the Vande Bharat Mission in this period.

Indian Railways took many efforts initially like removing curtains and blankets from A.C. coaches of the train, hiking platform tickets, and cancelling 3700 trains in this period. Finally, from 22nd March movement of all the trains was stopped. Public Transport across the nation was affected during this period.

Other Problems- Festivals like Holi were celebrated in a normal manner in 2020 as if there was no pandemic. The Char Dham was carried on in a restricted manner. 2 Super spreader religious events were 2020 Tablighi Jamaat Covid hotspot in Delhi and the 2021 Haridwar

Kumbh Mela. Many festivals like Eid and Durga Puja happened according to the guidelines. All the sports tournaments were postponed in this period like the I-league, Indian Super League, and Indian Premier League, etc. All the cinema Halls, Gyms, Restaurants, and other places of recreation were closed in this period. There was the rise of the number of people using technology more and more for their work. In the month of April 2020, Microsoft reported that in day 200 million people participated in meeting done through Microsoft teams. There was the use of technology in many sectors of the economy.

Research Questions-The Research Questions for this study are-

- a) Is there an increase in the use of technology in Post-Covid era in India?
- b) How and in which sectors use of technology has increased?

Objectives- So, In accordance with the research questions the objectives of the study are-

- a) To find out the increase of the use of technology in Post-Covid era in India.
- b) To find out how the technology has been used and in which sectors has it been used.

Research Methods- The study is on the increasing use of technology during post-covid era in India. So secondary data was collected on the increasing use of technology and also data was collected on the sectors in which increased use of technology has been observed. The data is both qualitative and quantitative according to the need of the research. It is also shown how technology has been used in different sectors. The data collected has been analysed and conclusion has been drawn from the data.

Findings- During the period of the covid-19 there was an increase in the use of technology in the whole world. It was not different from the world in India. In India also there was a significant increase in the use of technology. There was an increase in downloads of different applications at this time especially video calling applications like Zoom, Microsoft team and Google Meet, etc. Once the CEO of Microsoft Satya Nadella said that “ We’ve seen more than two years’ worth of digital transformation in two months. The Covid-19 Pandemic observed the use of technology in almost all sectors to keep the sectors running during the time of the pandemic. The positive side of the pandemic is that it taught us how can be work done in different sectors more efficiently and in less time with the effective use of technology. It was easy to interact with people and get connected with many people at a time through different applications during the time of physical distancing during the lockdown. The work-from-home culture became normal in this period which is made possible by the use of technology. There was technological support observed with public health groups, food delivery businesses for delivering items from restaurants and groceries, e-commerce for retail shops, and also helped other government agencies. Some of these solutions of work by maintaining physical

distancing and other covid protocols were famous but all of them worked to overcome the problems. Technological enhancement brought new models in the companies. It created a digital connection between people. Due to lessons learned during the pandemic human civilization will always have increased positive relationship with technology. Some of the important sectors in which technology was used during and after the covid-era are-

- **Education-** In the field of education the progress of India was hampered due to the pandemic Covid-19. A report was made by the Observer Research Foundation according to which a number of close to 250 million children's lives in the country was hampered when the government had to shut down the schools to impose lockdown to control and try to stop the spread of the virus. In this period the number of students dropping out increased from families who were from the lower financial condition because due to death and Job's shut down the income of the families lowered. Many challenges were faced by the Indian Education System in this period of the pandemic. From the period of the lockdown, there was more reliance on online education for which a good Internet connection is needed. Comparatively Internet connection is poor in rural areas than in urban areas so digital divide was observed due to this. There was a lack of clarity regarding the process in which the examination was postponed and upcoming will be done. The mode of the examination changed from offline to online due to the pandemic. Confusion was prevailing among the students and parents as time to time several decisions were made and changed regarding the exam. Confusion is also there regarding the system of marks distribution. In this situation of barriers also there were moments that showed that there were chances for improvement of the education system. Many private institutions lend a helping hand to the government to develop the education sector so there may be increase in the literacy rate. E.g.- There has been an agreement signed by the Rotary India Literacy Mission(RILM) with the Assam State Government, Haryana State Government, and Maharashtra State Government in which there will be an increase in literacy rate through an initiative which is led by the students in which level of learning will develop and total education will prevail. It was reported that Bihar Government provided Smart Televisions in more than 3000 schools and Uttar Pradesh Government provided Smarts Television in more than 2000 schools.

During the time of the covid-19, only the educational institutes were forced to enforce online education for their students to continue the academic courses. In this, every teacher and student stayed at home according to the lockdown guidelines. Only emergency services were available at the start of the lockdown due to the pandemic so the education sector was fully

stagnant. After a while, their slow movement in the education sector when different online platforms came into play with effective roles and education through online sources and platforms started in India. Soon after these developments examination were also done online with help of different online tools in different educational institutions varying from schools and colleges etc. The two types of training namely synchronous and asynchronous training were used to make people comfortable getting education through use of technology. The mode of training in which there are direct interactions between the teachers with their students through a virtual platform is called synchronous training. In this virtual platform, there is a chance for students getting an education from teachers all over the world using platforms where video and audio conferences can be held like skype, zoom google meet etc. There was also use the of technologies like interactive online whiteboard, library resources in print, video, or audio form, teacher's tools and control of different types like drawing tools, texting tools, erasers, shapes, and colours etc. The training in which students are able to access all the digital contents and complete all their assessments, projects and examinations by the help of instructors who are technical experts in their own comfortable time and comfortable space. Embedded learning is also observed in which there is a mix of synchronous training and asynchronous training in the educational institutes. Embedded learning is a type of teaching methodology where the teachers had to first explain the topic, in short, using visual models which are further followed by posing a question to the student who is the learner which forces the student to think in their own about the topic and then understands the topic and give an answer which led to a better understanding of the concepts. This process of embedded learning also makes the students pay attention in class. Though there are challenges in developing countries like India which has a vast population to impose online learning in the whole country and technology is going to all the students slowly and steadily and which have increased in the post-covid era. According to a report in 2021 edutech platform upgrad grew upto 100% in 9 months from the start of the financial year. In this period Byju's have also got 40 million new users. They also have reported there has been a 30% increase in engagement time with the application. According to an internal survey done by Byju's 75% of the parents want their children learn online post covid. According to CEO and Co-founder of Unacademy 70% of the users were from small town. Another data which shows rise of Online Education is that the demand books dropped 40-50% in this time.

- **Health-** The Covid-19 Pandemic had a hazardous effect in the health care facilities of the whole world and it was not different in the case of India. There is a struggle in both the

public and the private healthcare sectors while responding to the impacts of the pandemic. There are not only problems in adopting the different diversified healthcare responses in the terms of cutting-edge technological tools and innovation in the field of public health services and medicines to take some immediate decisions to address the pandemic by making the curve of the disease flat but also to revisit and reopen the avenues of digital health during making of health policies and in the time of public discourse. This time is appropriate to take a shift that is tangible towards holistic technological systems and digital-tools which are data-driven while keeping all the short-term, medium-term and long-term responsive strategies in mind. This change can help in engaging all the public and private health care services to work together in formulating policy dialogues, receiving enough technical assistance, and getting trained on specialized policies and response interventions at both the regional and national levels. The Aarogya Setu application which was launched in 2nd April 2020 became the world's fastest growing mobile application in 13 days of launching. More than 100 million installs of this application occurred in 40 days. The hardware is tested well but they were of lack of use due to lack of implementation in a developing country like India slowly and steadily use of technology is happening in health care services of India in both the public and private sectors. With time the new technologies will percolate down. Telemedicine had great potential which is observed from the time of the pandemic when many people consulted about their different health issues without physically going to the doctor and interacting online and getting solutions to the heal their problems. This is a very good system of use of technology as people get solutions from doctors who are experts in different fields by seating at home e.g., a patient from Kolkata, West Bengal can consult a doctor from Bangalore, Karnataka about his/her problem. This encouraged a new business model of helping through telemedicine in the country. Though some companies are there it is time to encourage more companies in using digital tools in healthcare services from the forefront. As per predicted by experts the telemedicine Industry is expanding day by day. Some online telemedicine services in India which grew from the time of Covid-19 are eSanjeevani OPD, Practo, E-Doctor Seva and Milo Doctor etc. "eSanjeevani OPD" which is an initiative of government of India have served more than 9 crores of people. According to Shashank ND, CEO and Co-Founder of Practo after 6 months of the pandemic 80% users of the application were new. In that time, they more than 17 crore users which has now increased to more than 30 crores. On this platform there are more than 1 lakh doctors and about 76000 hospitals. Now they serve more than 2 crore patients every month. The service providers are observing the assessing capacities and avenues, intaking innovations and technologies on basis of pieces of evidence, using technology in diagnostic

and telemedicine tools, mobile applications for different fitness, medical, health care, and wellness facilities, and use of data-driven software is also done. The pandemic has forced them to use all these technologies in providing adequate health care services in the country. But the problem is that this use of technology is seen mainly in urban and developed areas. It is not enough to provide this type of technology-driven health care system only in the developed urban areas where most the people in the country live in a rural area where the health infrastructure is poor. So, it should be the target of all the stakeholders of health services to provide this advanced health care in the rural areas as soon as possible.

- **Businesses-** There was a great impact on the businesses in the country from small businesses to large businesses which have crores and crores of transactions. This pandemic time taught all businessmen and entrepreneurs to handle their businesses digitally. Through the use of technology businesses have become more customer-centric, and the business model was made more adaptive. The business was more visible and decision-making improved through the business through the use of effective technology. Technology also improved the chain of supply in the world. Home-delivery of food and different other goods have increased in the pre-covid era. Many cloth businesses arrived at this time. Now customers have also become technology friendly and they are ordering goods by choosing from different options from all over the world. Businesses have been boosted by use of technology. Remote infrastructure and collaboration tools are used in businesses now. Technological support for IT assets, customer care, and for monitoring customer care has become inevitable. The use of technology has also helped companies to reduce costs. There is a debate that extensive use of technology will lead to an increase in unemployment. It is true that in present times and upcoming future companies will become more technology-driven so more skilled workers will be needed. The workers should get good training to use technology. The Government should take initiatives so that more and more people can get training and get used to technology driven work so that human resource can be rightly used in development. According to a data from Shopify 150 million make their first ever online purchase in 2020. 70% of the IT companies are trying make the model of work in hybrid mode. According to a report made by the CBRE South Asia Pvt Ltd, 73% of the companies have model of hybrid work that is both office work and work from home exists.

Results and Discussion

- a) In the time of Covid-19, every sector suffered problems.
- b) Technology helped the human race to survive during the time of the pandemic.

- c) Online education became prominent from the time of the pandemic.
- d) Technological advancement has occurred in the health services.
- e) Technologies have helped businesses to grow.
- f) Work from home has become a convenient work model for most of the companies. So, many companies are adopting hybrid model in work culture in recent time.
- g) Technology has still not reached to all the people in the country.

Conclusion

So, we can conclude that technology has made life easy in the pre-covid era. The use of technology has increased in important sectors of development of a country that as Education and Health. Technology has also helped businesses to grow and survive. It should be seen by the Government that the workers can be trained so that they do not lose their employment for the inefficiency of the use of technology. It should also be seen that these technological benefits also reach to people of Rural India.

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