

Innovative use of information and communication technology during COVID-19

Ajaz Ahmed Wani

Head Department of Zoology Govt. Degree College Doda, Jammu and Kashmir.

Abstract

Technology will not be able to avoid the onset of a pandemic, nevertheless it can assist in managing a crisis more effectively. As Covid-19 pandemic impacted our lives both personally and professionally. The scale of co-ordination and data management required for the effective implementation of strategies in most successful countries on adopting digital technology and integrating it into policy and health care. During this time of sheer uncertainty and constant fear, our willingness to adopt technology has been our lifeline.

Key Words: Innovative, Technology, Digital, Covid-19, Pandemic, Information.

Introduction:-

Epidemics and Pandemics have been threatening the human race since from the beginning of the human civilization, such as SARS, H1N1, Ebola, AIDS, Flu, and many more have shown their teeth in the past, but with each such outbreak, new ways are managed to fight such unexpected diseases that can potentially kill millions of the people. But at the same time technology can not prevent the onset of pandemics, however it can help in preventing the spread, warn, educate and empower those on the ground to be aware of the situation, and as a result lessen the impact. To harness the potential for technology to effectively respond to the crisis, it is essential to prioritize the use of technology through human rights lens aimed at protecting citizens, maintaining essential service, communicating life saving information and fostering socio economic interactions for the benefit of all [1]. However despite relying on established public health principals, countries across the world had varying degree of success in managing the burden of COVID-19.

Digital technology in health sector can facilitate pandemic strategy and response in ways that are difficult to achieve manually. There are certain countries such as South Korea have integrated digital technology into government co-ordinated containment and mitigation process, which includes contact tracing, testing surveillance and strict quarantine, which could be associated with the flattening of their incidence curves [2]. South Korea has incurred only 0.5 COVID-19 death per 100000 people [3]. Whereas in USA with three times as many intensive care unit beds per 100000 people and ranked number one in pandemic preparedness before the COVID-19 pandemic has suffered 10 times as many death per Capita [3]. The successful countries have successfully utilized different tools and technologies such as migration maps, which use mobile phones, mobile payment applications and social media to

collect real time data on the location of people, have helped and facilitate COVID-19 preparedness and tracking of the people.

Tracing people with facial recognition and big data:

In case of pandemic management data analytics can help in quickly identifying the infected individuals, connect with them, track who are infected by coming in contact with the infected one. The other technologies such as facial recognition along with data can accurately identify people even if they are masked. Such technologies can help in monitoring movement and tracking the people who are quarantined. It can also help in keeping a tab on people and ascertaining whether or not they have been in contact with an infected person. Such people who break the rule during quarantine, CCTV cameras along with facial recognition technologies can help in identifying them.

Medication:- Scientific research is going throughout the world to develop a coronavirus vaccine and some countries succeeded in the development of vaccine, which is presently used by many countries throughout the world. Now a days, it is hard even impossible to find a business or industry that does not totally rely in computers handled devices and the networks to interconnect them or connect them to internet. Maintenance of standard level of security, services and interconnectivity is the task the department has to take care of about [4]. With the help of technology. It became faster and easy to understand viral protein structure, and helping medical researchers to find the way forward for the development of vaccine and other related medicines. Teams at the Allen institute for AI, Google Deep mind have created AI tools, shared data sets and research results. This google Deep Mind introduced Alpha fold a cutting edge system that predicts the 3D structure of a protein based on its genetic sequence. The University of Texas at Austin and the National institute of Health used a popular biological technique to create first 3D atomic scale map of the part of the virus that attacks to and infects human cells-the spike protein. AI helps the scientist to develop the COVID-19 vaccine.

Use of autonomous vehicles, drones and Robots during pandemic:

In situation like COVID-19 pandemic self driving cars, drones, robots can all help at a time when need to avoid gathering and human contact. As robots can be used for delivering grocery and other daily requirements, sterilizing hospitals, and patrolling the streets where as drones can be used for food deliveries, tracking infecting population, carrying test kits and medicines to the quarantine centres, thermal imaging to identify infected people spraying disinfectant etc. Autonomous vehicles can be used to transport affected people to and from healthcare facilities without any difficulty and risking the lives of other people. Thus these technologies helped a lot in fighting coronavirus particularly in the developed countries.

Technology supported temperature monitoring:

In order to access the temperature of human body from a distance wireless thermometer guns and other similar infrared body temperature measuring device have become the most important medical equipment that are being used at checkpoints of offices, hotels, airports,

hospitals, trains, shopping malls and other public places. Automated thermal monitoring along with facial recognition is making the process faster and more effective.

Fighting misinformation during pandemic:

It is natural thing that during the time of pandemic lot of misinformation about the number of fatalities, diagnosis, medication, government policies, etc. creates anxiety and panic among the population. This leads to widespread chaos, panic of buying, price rise, hoarding of essential commodities, sometime violence on the streets, conspiracy theories and so on. But the information technology like Google, facebook, Whatsapp, youtube etc. are working tirelessly in providing the verifiable and right information such as that published by World Health Organization (WHO), government or local authorities. By providing accurate information to everybody, a transparent scenario can be created and the people can be informed about the right steps to take. Besides Facebook and Google unit to help NHS fight fake Coronavirus news.

Conclusion:-

The World cannot develop or advance nor can one achieve the sustainable development Goals without modern technology and new solutions to old problems.

The COVID-19 pandemic has underscored the pressing need for countries to focus more on elevating science, technology and innovation in both policy and practical term. The coronavirus pandemic also derives world leaders to ensure the development benefits of STI for the benefit of the people all over the world.

There is need for more research, collaboration, innovation and data sharing to cope with the immediate impact of the coronavirus crisis and go beyond it. After the COVID-19 outbreak it is evident that the technology innovation are helping to manage the epidemic and better equip to fight future public health emergency in a timely systemic and calm manner.

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