

CHAPTER-13

AUTHOR'S INFORMATION



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CHAPTER-13

ROLE OF INFORMATION SCIENCE DURING COVID -19

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ABSTRACT

Information science consists of so many inclines of Science and Technology. Information science deals with information related to particular which includes organizing, selecting, collecting, processing and management of data. Information science use many tactics and tools for doing such activities. COVID-19 is the newly grown virus in the family of coronavirus which in incurable once get infected by it. As there is no vaccine developed as of today July, 2020. It is first found in Wuhan, China and spreads in all over the world like fire. Impact of coronavirus on human is very dangerous and harmful. In this paper we will discuss and highlight the role of information science during this situation and how its handling the COVID-19.

I. Introduction

The COVID-19 is the new virus belonging to the family of coronavirus. At present it is considered as incurable pandemic which has spread throughout the world. It was first noticed in Wuhan, China. Government and health care centres have declared guidelines to prevent from this life threatening virus by taking various prevention measures and following social distancing everywhere. Governments and medical care takers (doctors) are advising the People who are found ill with moderate respiratory problems and not require special treatment for recover. During this tough time, apart from scientific and medical fraternities, the only domain which has

influenced the current scenario if information science which has played immense important roles. The tools of information sciences are well explored to keep the world momentum working this can be gauged right from delivering the information of COVID-19 every second to the working model via virtual and online resources. The information science has given excellent platform to display world its importance to carry forward the global activities even when the world is completely lock down to witness its severe pandemic ever reported. All the governing bodies including WHO, is relying on the information tools to come up with best possible solution to combat the present crisis. The research and scientific teams are best utilising the online databases to elucidate the virus and its structure by implementing the bioinformatics tools and BLAST techniques which are well advance with the latest information technologies. Thus the information technologies are shaping the world to survive and bounce back to meet the global standards. Based on these important facts and consideration the present chapter is executed to depict the roles of information science during the present scenario [1-5].

2. INFORMATION SCIENCE

Information science is scientific domain which deals with the technologies related to information and data sciences. This has grown rapidly to conquer the world in almost every sector and has uplifted the existing mode of standards and user friendly applications to gain one click information across the globe. This scientific streams has different sub branches such as data science, machine learning, artificial intelligence, neural networking, nano informatics, bio informatics etc. [4-6].

3. ROLE OF INFORMATION SCIENCE IN COVID-19

Information science focus on understanding and implementing the desired activity with the aid of information tools and techniques. During the COVID-19 situation, ever before any domain could initiate the work and understand concept of pandemic crisis, the information scientist or data scientist were the frontline professionals who can the world the ongoing impact by elucidating the root cause of the pandemic. It was the information technology which helped in elucidating the structure of the virus, predicting the drug strategies, its preventive measures as per the WHO which is also relied on the information tools. The world is completely

dependent on the information science to even come up with the best possible drug or vaccination. Apart from this, the information tools were used to come up with apps which aided to track the infected patients and predict the next possible outbreak and hotspots of COVID-19. The worldcoronameter is completely gathering information and updating it every second which is possible due to usage of information technologies, Every governing bodies are constantly working to deliver their best by using the available resources of online tools [5-12]. In the next section, the chapter will segregate the ongoing usage of information technologies to curb the current situation.

Some of the basics done by information science to tackle this situation-

- i. **Software development-** Application like AarogyaSetu and AyushKavachCOvid helps people to get updated information on COVID-19 and of their surroundings to take more precaution. These apps will help you to find if anyone is infected in near area so that you won't step out. They get data about number of cases and prevention measures need to be taken. In every country, they have launched application to get data in detail. You can also assess your health and check if any symptoms arise.
- ii. **Information center-** Information science created center from where one can get data of everywhere to know the current situation of COVID-19. Also updating all prevention measure on daily basis to circulate the information.
- iii. **Online Center-** It is because of the information science; everyone is moving towards online to handle the situation. Online schools, offices, work from home, data transfer etc. is done by the information science.
- iv. **Contactless Commerce** - As COVID-19 situation best prevention measure is social distancing. Therefore, contactless commerce is started where people can buy and sell without contact. Though social distancing impacted badly to global economy potential. This is because of information science where people can get anything and handle the situation from home having all preventive measures.
- v. **Supply chain management-** In this pandemic, everything went low. Demand patterns also changed. As everyone work from home, school shifted to online

classes etc., demand of goods like toiled paper, food, stationaries, and more has changed. Production need to take place with the same supply limitations of social distancing which affected the overall demand of such demands. It is thus information science, which is fulfilling the demand of consumers in terms of contactless shopping.

- vi. **Use of social media for information-** Information science well using data from social media to create awareness and spread information through social media platform. Today, most of the people uses social media platform like Facebook, Twitter, Instagram etc. So we get data like number of cases, about red zone areas through twitter or any other social media as well. And thus shared in media to show the information worldwide.
- vii. **Online education issues-** The current world is not accepted and allowed smooth transition to the online world in terms of education. In India, many people do not access internet, laptop, phone etc. and any don't have that knowledge to shift online 100 percent drastically. They need knowledge and time to learn and then make their children to learn through online. This created mental stress so much. This rapid move is not acceptable everywhere not to students too. They finding it tough. Here, information science supported and guided but then also it takes time to settle down smoothly.
- viii. **Technological and changing work culture-** People are facing issue in working too as social distancing is compulsory everywhere and then it need different work criteria in office too following social distancing. Because people can work from distance then there will be a change in their requirement too to go to workplace. But in this COVID-19 situation people are preferring to work from home rather going to workplace. It is information science due to which employees get connected to each other through networks and computers to do work done.
- ix. **Susceptible and Non susceptible-** This has become the new challenge where everyone seeing each other with suspicious. Companies and healthcare need to track people on the basis of susceptible and non-susceptible to ensure the safety and avoid lawsuits. One must need to take care and know all

symptoms of COVID-19 to take care. Information science bought all the data tracker app and computer based application to ensure and handle the situation.

- x. **Physical Activity** – The physical activity during COVID-19 will be benefits in many ways like it will help in enhancing immune function and will reduce inflammation therefore it can help in reducing the severity of infections ,it will improve common chronic conditions that increase the risk of severity in COVID-19, it will help in managing stress by reducing symptoms of anxiety and depression, It will help in to bring cortisol levels in balance as stress and distress create imbalance in cortisol which tend towards negativity to influence immune function and inflammation. Information science has taken care of this by broadcasting on every app compulsory show of physical activity.
- xi. **Concern of Classic Science design-** COVID-19 situation will be an opportunity to define the role of ontologies, knowledge management issues, artificial intelligence, big data and many other to solve the problems with COVID-19. Classic science can use information science get all the information and all current knowledge related to COVID-19 to solve the issues related to it and provide the solutions which will drive everyone in a positive way.
- xii. **RPA** – RPA stands for Robotics and Robotic Automation. It is used to know all the controls on behavior during COVID-19 pandemic by assessing social distance and contactless commerce and increase the use of robotics to limit human exposure to handle the dangerous situations. For example, in few hospitals, medicine has been distributed by Robotic machine to the positive patient of coronavirus. Many places human are replacing by robots for manual work. Many places robots are used to spray disinfectant, dispense hand sanitizer, check temperature, find those who are not wearing masks and many other activities. Robots are also used for many other white collar activities. It is done in China during this pandemic where robot has done health screening, they remind people for survey, if anyone have high temperatures, employer get notified. Robot also gather information by zip code and summarize the statics data of COVID-19 of that particular activity. This all possible because of information science and its process.

Advance Going- Analysis have shown through information science that this COVID-19 pandemic will go till December 2019 end, thus we need to take care following considerations-

- Easing work with social distancing
- Contactless commerce
- Pearson recognition while wearing masks
- COVID-19 app for privacy, gather information, tracking cases etc.
- Gather information and get updated through social media platforms.
- Robotics impact on companies
- Susceptible versus non- susceptible monitoring and its impact on the work place.
- Channing pattern of supply chain and its management to meet need and demand in this pandemic.
- Artificial intelligence application to manage the knowledge and information systems through science technologies.
- Computer generated communication tools to get connected to everyone and everywhere like workplace, online classes etc.
- Changing and developing work

Conclusion

COVID-19 that is coronavirus acknowledged as pandemic which is very serious and harmful virus spreading like fire all over the world. Started from Wuhan market of China and spreads everywhere and harmed many lives. Hence the world is completely dependent on the information technologies to manage the crisis situation. Much more research is essential to come up in information scientific domains which will be guided resources to predict such future outbreak in coming years. information science brings together and use the theories, techniques, technologies and principles of various disciplines toward the solution of information problem.

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