PANDEMIC AS OPPORTUNITY: INNOVATION AND GROWTH

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ABSTRACT:

Human history has seen many sizeable pandemics. The pandemic related crises have caused significant influence on all aspects of life; Social behavior, Culture, finances, education and environment. COVID 19 epidemic and its resulting lockdown has not only caused devastation but also provided opportunities for innovation and growth.

This article provides a brief summary of instances of using pandemic as opportunity, indicating that growth happens even in adverse conditions

Keywords: Pandemic; COVID 19; education; online education; agriculture; innovation; medicine; industry; gadgets

I. INTRODUCTION

The corona virus disease (COVID-19) originated in Wuhan, China, and was first reported in December 2019. It has spread to 219 countries and has claimed lives of more than two million people[1], as on 25 Jan 2021. The corona outbreak in India was reported on 30 Jan 2020, in Kerala's Thrissur district. The COVID-19 continues to have varied impact on lives of people.

History has recorded various pandemics of different infectious diseases which has cost millions in terms of human life. The most talked about have been pandemic due to plague[2,3] in Asia, Africa, Europe and the pandemic due to Spanish flu all of which resulted in the death of millions of people[4,5] amongst others. The pandemics like HIV and others have continued in the current millennium as well, and the latest one COVID-19, which has an immense global impact, will definitely not be the last.

To curb the spread of virus, many governments took the decision of complete lockdown. This resulted in a sudden drop in industrial and many other economic activities[6]. Manufacturing units either closed or worked below capacity. Only stores selling essential commodities and medical supplies were permitted to operate. The air travel completely stopped. As a first in the recent times there were no takers for petrol. Small as well as big businesses eg. tourism and hospitality were affected by the lockdown[7].

Covid-19 has again brought forth the fact that under stress and uncertain times, we can give out our best. If the stimulus is strong enough, it can bring about a change. This leads to remarkable innovations. For example, since dine in was not possible, restaurants had opened up for home delivery. Emphasis was on frequent sanitization and contactless delivery. Further, the restaurants also started with DIY cooking kit, which is here to stay. Schools shifted to online mode of teaching[8], not only conducting teaching through the online platform but also evaluation. Covid 19 has provided impetus to keep up with the innovation even after the crisis.

The Covid-19 crisis has also given us a scope to show our social side. In India, citizens had come forward to help the migrant workers go back to their home town, providing them food and means of transportation[9]. People have also taken up the responsibility of feeding stray animals.

Though there were some negative impacts due to COVID 19, it also had some positives. Due to lockdown there was a significant reduction in emission of greenhouse gases and other air, water and land pollutants[10]. The
mosquito menace was reduced. Work from home resulted in more family time. It provided us with an opportunity to introspect and reorganize our lives.

Hence our focus is on lessons learnt, adaptability and overcoming adversities. In the current article emphasis is on instances of adaptability and innovations, where adversities have been converted into opportunities.

II. PANDEMIC AS AN OPPORTUNITY FOR INNOVATION AND GROWTH

Uncertainty created by pandemic has provided impetus for innovations, which could be sustained even after the crisis. Let us look at some key areas where such innovations and growth have taken place.

Advances in medicines:

Covid 19 has claimed more than 2 million lives so far. The race was on for making a vaccine. To counter the pandemic which has brought the world economy to its knees, a new method was used by pharmaceutical companies to create a vaccine using mRNA technology. Pfizer vaccine, Moderna vaccine and Covishield are result of research and development which were developed in record time. Due to pandemic, technologies such as synthetic RNA vaccines and viral vectors have advanced by a decade.

To reduce the chances of infection, COVID 19 era has encouraged medical telecommunication as against face to face consultation with the doctors. It is here to stay. This will be a boon for remote locations where the doctors are not available. Now a days COVID patients are self isolating and preferring home hospitalization. Post COVID also this trend could continue. Patients could use wearable healthcare devices like ECG monitors, temperature sensors to help doctors monitor and treat them. Government could step in and control the prices of such devices and also have them covered under health insurance schemes. Being digitally connected has made virtual care, hospital at home and advances in online diagnosis and therapy possible.

New Gadgets

Our economy may have been negatively affected by COVID 19, but it has brought out the creativity, innovation and invention in many individuals. New gadgets were designed to fight COVID 19.

In early days of pandemic, when the nature of disease was not well understood, there was a race to make affordable ventilators. People rose to the challenge and various types of emergency mechanical ventilators were designed.

The corona virus spreads through surface contact. Depending on the nature of surface, it can survive on it from a few hours to few days. This resulted in an open contest to innovate, patent and manufacture various UV sanitizing cabinets to kill the virus on the various surfaces. Room sanitizers based on UV as well as infrared rays, also found their way into the market.

There are a large number of door openers available in market, in various designs and sizes, right from hand held multipurpose ones which fit in your pockets, to the paddles which are fitted at the base of the door.

Agriculture

Inspite of being disturbed by the pandemic, Indian agricultural economy has shown growth. Huge buffer stocks of rice and wheat supplemented by a record harvest in 2019–20 crop season enabled the Indian food system to tackle the pandemic effectively.

However, the pandemic had created a havoc in the field of agriculture. There had been shortage of labour due to migrant worker exodus, restriction on movement and resulting difficulties in reaching the market. Though this has put a big strain on the entire agricultural industry, the small scale producers were affected the most. All the same, the small scale farmers have innovated and have implemented unusual methods of reaching the customers. Many small farmers have adopted the digital platform as a way to directly sell produce. A number of NGOs have worked as liaison between the farmers and consumers, directly bringing the produce from farms to home. This has helped farmers get a fair price for their produce.

Indian government not only announced a number of measures to help agriculture sector during this crisis, but has also grasped this pandemic created situation to announce long-pending reforms in farm laws.
Industry

In these times when maintaining social distance is a necessity, a number of companies have changed the way they work. Work from home has become a norm. It was discovered that this mode of working increases the productivity of an individual besides bringing down the allied expense on electricity and maintenance to name a few. The people are trying out new technical gadgets for virtual teamwork, teaching, and learning.

Some of the manufacturers had remodeled their production to meet demands for medical products ranging from face masks to ventilators [19].

E-commerce platforms have seen a huge surge in business. Indian companies like Reliance, TATA DMart which worked only through their brick and mortar stores, have also made an entrance on digital platforms. More energy and intensity is being put into improving customer experiences online. Web designers, app developers, social media and online marketing experts have an opportunity to grow their businesses by reaching out to those who need their services now more than ever.

Infrastructure improved by leaps and bounds to support this boom in the usage of E-commerce platforms.

Education

Due to coronavirus pandemic, and the imposed lockdown, the educational institutes were closed abruptly. The education got disrupted right from elementary schools to colleges and universities. To bridge the gap, digital classroom apps were adopted by many to continue learning remotely, in lieu of face-to-face instruction. Platforms like zoom, googleduo and Microsoft teams [20] have become very popular for teaching and learning. This has provided many with opportunity to innovate and provide such apps. These software not only help in teaching and learning but also in evaluating. With the software like moodle [21], MS teams, assignments can not only be assigned but also evaluated; study notes, ppts and online resources can also be shared with students, besides having a provision for conducting exams.

Post-pandemic, especially if the companies continue to adopt work from home policy, some schools and parents may recognize the cost-savings and effectiveness [22] of digital classrooms. It is possible that a part of the classroom teaching could move online, while the offline school session maybe reduced to three days a week instead of five days and the remaining two days could be held online.

Since, during the pandemic students and parents alike have got used to the idea of learning from online platforms, the online courses like NPTEL, Udemy and Coursera have become more popular and have shown significant growth.

There are new opportunities for products and services which pander to learning from online platform. Interactive online learning, video streaming, online tutors and tutorials, online simulation and games are some of the services and products whose demands have increased with expanding usage of digital platforms, and will continue to do so. This is also true for courses on hobbies, fitness etc. DIY kits and the associated videos have found a new growing market.

III. CONCLUSIONS

COVID 19 crisis has brought opportunities in its wake. To summarize:

The advancements in making vaccine along with developments in the field of immunotherapy might help to overcome new challenges in the post COVID era. They may help us fight new pathogens, antimicrobial resistances or stubborn diseases like cancer.

The post COVID era may see preference for medical teleconsultation and home hospitalisation. The smart wearable healthcare devices may help doctors diagnose and treat patients from remote locations.

Human creativity even in adverse conditions provides solutions. The inventions like mechanical ventilators, no touch door openers will continue to make life comfortable in the coming times. Moving forward, cleanliness will be a priority and opportunities flourish for inventiveness; new technology will
be developed or incorporated in a new way to offer in-store or office cleanliness, such as UV or infrared lights based sanitizers, temperature sensors etc.

Digital technologies were adopted by small farmers to sell their produce. They were able to connect with their potential customers directly. This community led support has made it possible for farmers to get fair price for their wares and customers to get fresh produce directly in their homes.

In recent years, though India has developed as self-sufficient and a net exporter of food, the domestic agricultural production and marketability had been affected by the pandemic. In order to safeguard the subsistence of millions of people associated with the agricultural system, processes which add value to primary agricultural production systems have been promoted. These are the businesses which use raw materials from crop residues, by-products and waste from primary agriculture. Accelerating research and encouraging entrepreneurship on secondary agriculture products is the need of the hour. Further, modernization of the agricultural technologies could increase export potential and create employment. Monetizing the extra buffer of surplus crop besides bringing in revenues, may also reduce huge maintenance and logistics costs. Again, it is imperative to reduce wastage through scientific storage.

The businesses both big and small have adapted to the challenges of COVID 19. Where possible there has been a shift towards digital technologies. E-commerce is here to stay. During forced lock down consumers have created and reinforced new online buying behaviors and habits, which may not change post COVID.

The global slow down has resulted in fears of a new recession and the associated financial collapse. This calls for strong and bold leadership and decision making. Short- and long-term planning is needed to rejuvenate the declining economy following this crisis. Entrepreneurship should be encouraged as it caters to both innovation and growth. Make in India concept is a step in the right direction.

The online teaching has encouraged the development and innovation in virtual meeting software. The apps and software have evolved in this period to keep up with the demands of online teaching. Schools have outsourced the designing of educational software which caters to their specific needs.

Companies already in the educational technology field and those who aspire to enter it should carry out survey of students, parents, educators and administrators. They should try to discover possible improvements which can be made to existing resources and identify ways to enhance the digital classroom experience.

Clever integration of games and story telling in the online teaching has demonstrated higher engagement and increased motivation towards learning in students, making them truly fall in love with learning. As the usage of smart phones is becoming more of a norm, website and apps being developed to fulfill this need have a tremendous market value as has been shown by the success of BYJU’S and Khan academy.

Moreover, there is an increasing scope for startups and existing businesses to help people with their fitness regime, hobbies etc. Online tutorials, forexample, or Do it Yourself (DIY) kits along with associated videos are finding an emerging market. Thus, the pandemic and the associated uncertainty has also sprung up opportunities. With a little support from the government and the big players of private sector, the challenges of the COVID 19 pandemic can be converted to opportunities for innovation and growth.

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