Dr. BRR GOVT DEGREE COLLEGE JADCHERLA

Department of English

A PROJECT REPORT

HOW CORONAVIRUS SAPRKED A WAVE OF INNOVATION IN INDIA

- SREEVAS SAHASRANAMAM

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DECLARATION

We are hereby declare that the study project: **HOW CORONAVIRUS SAPRKED A WAVE OF INNOVATION IN INDIA** is a record of work done by us under the supervision of **R.ANITHA**, faculty of English, Government Degree College, Jadcherla, Mahabubnagar District and that the project has not been previously done by any others in this college and any other college/University.

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Date : 27/06/2022

Place : Jadcherla

CERTIFICATE

This is to certify that the Study project on **HOW CORONAVIRUS SAPRKED A WAVE OF INNOVATION IN INDIA**

is a bonafide Project work done by B.A I students listed below.

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HOW CORONAVIRUS SAPRKED A WAVE OF INNOVATION IN INDIA

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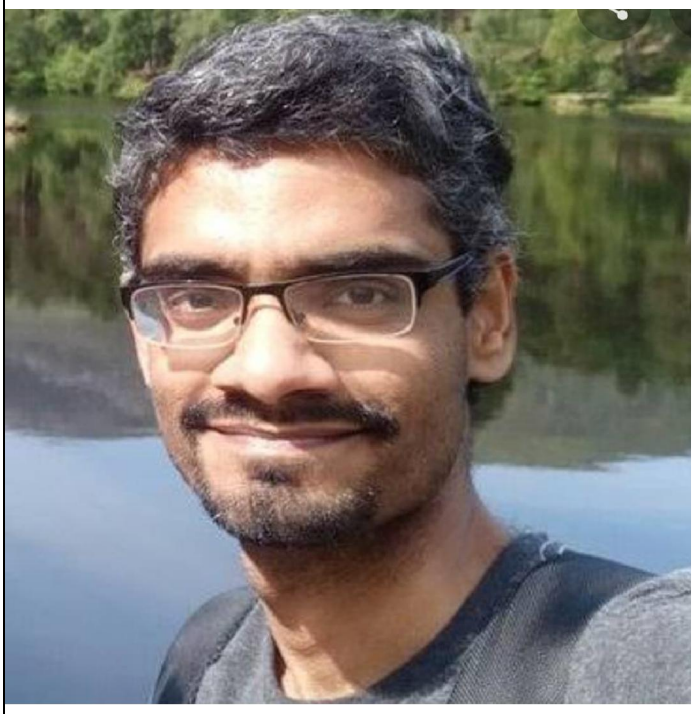

Sreevas sahasranamam studies entrepreneurs and innovators who tackle big challenges especially in emerging markets as well as the institutional factors that affect their work. He leads the doctoral training centre in socially Progressive Innovation and Entrepreneurship at the University of Strathclyde, and is a part of the Global Entrepreneurship Monitor UK team .At the Strathclyde Business School, in addition to teaching, he supervises work on the commercialisation of technologies.

India locked down 1.3 billion people on March 25, 2020, in the wake of COVID-19 pandemic. The economic cost of it was estimated at USD 98 billion, while the social costs are still unknown. This study investigated how government formed reactive policies to fight corona-virus across its policy sectors. Primary data was collected from the Press Information Bureau (PIB) in the form press releases of government plans, policies, programme initiatives and achievements. A text corpus of 260,852 words was created from 396 documents from the PIB. An unsupervised machine-based topic modelling using Latent Dirichlet Allocation (LDA) algorithm was performed on the text

corpus. It was done to extract high probability topics in the policy sectors. The interpretation of the extracted topics was made through a nudge theoretic lens to derive the critical policy heuristics of the government. Results showed that most interventions were targeted to generate endogenous nudge by using external triggers. Notably, the nudges from the Prime Minister of India was critical in creating herd effect on lockdown and social distancing norms across the nation. A similar effect was also observed around the public health (e.g., masks in public spaces; Yoga and Ayurveda for immunity), transport (e.g., old trains converted to isolation wards), micro, small and medium enterprises (e.g., rapid production of PPE and masks), science and technology sector (e.g., diagnostic kits, robots and nano-technology), home affairs (e.g., surveillance and lockdown), urban (e.g. drones, GIS-tools) and education (e.g., online learning). A conclusion was drawn on leveraging these heuristics are crucial for lockdown easement planning.

Entrepreneurs and innovators across India have responded quickly to the challenge posed by the COVID-19 pandemic. A host of new innovations, some emerging from start-ups that have been incubated by universities, have appeared in recent weeks.

There are a number of reasons for the quick response, including the urgency of the humanitarian situation and a proactive approach to crowdsourcing ideas from the government. India also has a wealth of trained engineering talent and helps foster what's called jugaad – a frugal innovation mindset to find hacks to problems with limited resources.

Robots, apps and ventilators

Around the world, social distancing and contact tracing have been the buzzwords of the response to COVID-19. A particular problem as lockdowns begin to ease will be how to stop the virus spreading in public spaces such as airports or bus stations. Asimov Robotics, a start-up based in Kerala, has deployed robots at entrances to office buildings and other public places to dispense hand sanitiser and deliver public health messages about the virus.

Robots developed by Asimov Robotics are also being deployed in hospital isolation wards to carry food and medicines, which eases the pressure on medical staff.

The hygiene of public spaces is another area of notable innovation. Start-ups such as Aqoza technologies and PerSapien claim they have developed chemical formulations that disinfect public spaces. Aqoza's approach, developed during an outbreak of Nipah virus in Kerala in 2018, is a water-based sanitiser disinfectant, while Airlens minus Corona from PerSapien is a machine which the company claims dispenses ionised water droplets to oxidise the viral protein.

Another startup, Droom, claims it has come up with a special anti-microbial coating called Corono Shield, which inhibits the growth of microorganisms such as bacteria, algae, yeast, moulds, and mildew on the surfaces of vehicles. It is being tested by police in Gurugram in Haryana state.

Start-ups such as Marut Dronetech have partnered with state governments to test the use of drones to monitor adherence to social distancing rules. Drones are also being used to deliver medical supplies and even check people's temperature using thermal imaging.

Connecting people

My conversations with some of these entrepreneurs and innovators from India have highlighted a good example of the triple helix model of innovation, integrating efforts between universities, industries (start-ups) and the government, in response to COVID-19. Although the active involvement of engineering volunteers from universities and industry is the lifeblood of these innovations, two other enabling factors are also particularly crucial.

First, the intermediary organisations helping to bring the three groups together. For instance, the national government's Department of Science and Technology has set up a task force to map technologies developed by start-ups related to COVID-19. It is also funding start-ups to develop relevant innovations such as rapid testing for the virus.

Another example is that of the Kerala Start-up Mission (KSUM), a government-supported entrepreneurship development agency. It launched initiatives such as "Breath of Hope" which brings together an interdisciplinary volunteer team of IT professionals, biomedical engineers and doctors to develop innovative medical devices. Start-ups such as Asimov Robotics and QKopy are part of KSUM.

How coronavirus sparked a wave of innovation in India

nnovation has been at the forefront of India's response to COVID-19. Image: REUTERS/Pawan Kumar

Crowdsourcing ideas

Second, crowdsourced platforms have also proved to be an important channel for bringing together the wisdom from universities, industry and government. The national government launched the COVID-19 solution challenge on March 16 that invites innovators to offer ideas and solutions for tackling the pandemic. Industry associations such as the Federation of Indian Chambers of Commerce and Industry collaborated in an online hackathon to develop non-medical solutions for COVID-19

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Similar crowdsourced platforms from start-up incubators such as BreakCorona received 1,300 ideas and 180 product solutions within two days of launch. In another effort, volunteers have set up an online crowdsourced portal called Coronasafe-Network, a real-time open-source public platform containing details on COVID-19 precautions, tools and responses which serves as a useful starter-kit for innovators.

India needs to sustain and enhance this entrepreneurial mindset to create the next wave of innovation to continue the fight against COVID-19 and for the socio-economic recovery once lock-down restrictions begin to ease.