

Nurturing India's innovation capabilities to propel growth

By Rishiksha Krishnan & N Dayasindhu



The Covid-19 pandemic has underlined some of our strengths as well as weaknesses. Among the strengths are hidden capabilities and resilience, and among the weaknesses are our failure to convert our capabilities into infrastructure, products and services that can offer a better quality of life to our people.

To close this gap, we believe that innovation could be one of the most important drivers of India's growth in the coming decade. In the recently released Global Innovation Index (GII) 2021, India ranked #46. The Government has proposed a target rank of #25.

There is no esoteric silver bullet that can take India to a top 25 ranking. Boring as it may sound, it requires us to focus on our fundamentals. Fortunately, we have some role models. Apart from our successes in strategic sectors, we have examples of outstanding innovation from India like the low-cost high-quality cataract surgery by Aravind Eyecare, the DTSi engine in Bajaj Auto's Pulsar and, more recently, Covaxin commercialised by Bharat Biotech based on research done by the National Institute of Virology.

What do we need to do to enhance innovation? We need to invest in infrastructure, provide a conducive policy environment, strengthen our institutional mechanisms that cover the "lab to

market” value chain, and nurture grassroots level capability development initiatives to foster innovation.

India must improve its infrastructure. The GII ranks India at 81 for the infrastructure pillar. While we are recognized as a global leader in ICT services, our rank in the ICT infrastructure sub-pillar is 86. We need to provide access to good quality electricity and ICT access to many more of our citizens. These are a must for our children to learn better and for longer. They also help us to work more efficiently and effectively.

We have a successful institutional model that we can replicate in other sectors in BIRAC – Biotechnology Industry Research Assistance Council – set up by the Department of Biotechnology. BIRAC has so far supported over 1200 start-ups, 60 bio-focused incubators, provided funding support of about INR 2,000 crores, and generated over 200 IPs. The best part is that BIRAC has a total of about seven programs supporting all the phases in the “lab to market” value chain – ideation, prototyping, scaling-up and commercialisation.

We need to make the research in our universities and Government research labs more externally-oriented. Our GII rank in the indicator University-industry R&D collaboration is 65 and lower than our overall rank. We need to expand initiatives like the Gopalakrishnan Deshpande Foundation and IIT Madras Research Park to facilitate translation of basic research and take ideas from the lab to the market.

At a grassroots level, we believe that the National Education Policy 2020’s integrated approach to education at school level will provide opportunities for discovery and innovation at the school level. We already have the Atal Innovation Mission making an impact with the Atal Tinkering Labs program that has so far engaged over 70 lakh students across Indian schools to foster their curiosity, creativity, and imagination and we need to scale this up. While we are justifiably proud of the IITs, IISc etc. we need many more technical institutions that are world-class.

Not surprisingly we do well on indicators pertaining to ICT services and MNC R&D centres. India ranks 1 in GII in ICT services exports. The Indian ICT services industry is an engine of Indian industrial growth from the 1990s and has attracted many MNCs to set up their R&D subsidiaries here. India ranks 15 for presence of global corporate R&D investors. While these are commendable achievements, we need to strengthen mechanisms that link these talent pools to solving local problems such as support for tech ideas proposed by start-up entrepreneurs emerging from these R&D centres.

There are other silver linings as well. During the Covid-19 pandemic, we were able to pool our capabilities and innovate to address emergency issues. We developed ventilators, Covid-19 testing kits, etc. in rapid time. This was facilitated by quick identification of needs, coordination by multiple Government and quasi-Government agencies, and Government labs working in cohesion with established companies, start-ups and universities. We need to institutionalize the knowledge of how we executed these projects, nurtured the innovative capabilities required, and most important foster the “can do” spirit. This learning can help us to catch on to emerging technology waves to drive future growth domains.

India has missed catching and riding on emerging technology waves in the past. We need to learn how to prepare talent, set up institutional mechanisms, and invest in specific infrastructure to ensure that we do not miss out on the next waves in artificial intelligence, quantum computing, INNO and cyber-physical systems.

Ultimately the GII rank is a useful indicator. What really matters for us is that our quest for a better GII ranking should help us transform India to build innovation capabilities that produce high-quality products and services at economical India prices that can drive growth and prosperity.

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IIMB's Post Graduate Program in Enterprise Management recently conducted their flagship business summit *Drishti 2021* where the theme was "Resurgent growth – Building back better."