

Our Views

The Innovation Triangle for economic growth

As we aim to become the 3rd largest economy in the world during the Amritkaal, an area that the country cannot afford to overlook is Innovation. Traditionally, our focus has been on services and manufacturing of traditional items, and less on creating new products. Our share of patents filing is less than 1% of the patents filed globally. Comparatively, China accounts for almost half of it. Similarly, our investment on innovations is less than ten percent of what the USA invests. Further, systemically we are unable to facilitate innovation - on an average, we take approximately 4 years to register a patent whereas the global average for this is just 1 year.

I believe, an essential component of our journey towards a developed country will require a big push on innovation and the Prime Minister has rightly given a call recently for “**Jai Anusandhan**”.

FICCI, at its recently concluded 95th Annual General Meeting hosted a panel on Innovation with representatives from Indian industry, Indian academia, along with some of the young talented Indian scientists who pursued advanced research outside India and have successfully commercialised it. One of the successful innovators at the panel was the founder of Perfect Day, a food technology company, which has created properties of milk using fermentation technology and without any animal inputs. It's product is already commercially launched and is well received in the market. The second young talent has founded a company, Gradient, that has more than 250 patents relating to the industrial water treatment in their name. His doctoral work, recognised by Scientific American as a “top 10 world changing idea” is now part of Gradient's technology portfolio.

Both these individuals who went to the USA to pursue science are very young and their less than 10 years old companies are largely funded by big global funds. While the story of these brilliant individuals were shared through the panel discussion, there are many-many more such inspiring stories which are not widely known. Intrigued to understand why these individuals and companies couldn't achieve in India what they did outside, I had a long conversations with them and concluded that for innovation to flourish in India we need an **Innovation Triangle**.

The base of the **triangle** has to be provision of **top-of -the-league facilities to carry out cutting-edge research work**. Usually, in developed nations, academic institutions play this role wherein they instil a research orientation in young and aspiring students from undergraduate level itself. Students carry out significant research work and focus on their doctorate thesis. India too can look at promoting research through various academic institutions that can each adopt research in a specific sector as their core strength. This would also ensure coverage of multiple disciplines across a wide spectrum of sectors. Large academic institution could be mandated to create minimum permanent seats to facilitate research in a particular sector. With the number of well-established institutions with good capabilities that we have, this should be easily possible. Also, multidisciplinary research capabilities could be promoted alongside bachelors programs to give a hands-on early experience to young students before they decide on which specific area of interest to pursue further.

The one arm of the triangle is the industry sponsorship. Industry must play a proactive role to promote research and also help commercialise it. In the US, academic institutions have alliances with industries in specific sectors and over time universities in these areas produce more of a specific kind of talent - for example one could be a great university for biomedical engineering and another for computer studies.

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The second arm of the triangle, **availability of risk capital is equally critical**. We need institutions who could provide risk capital for research. Any research project requires funding to sustain its program over a long period of time. And though the success of every research is never guaranteed, a lucky innovative break-through would require **financing for commercialisation**.

Once we get this **equation of the Innovation Triangle** sorted, I am sure that the result will be **multiple times larger than its Area!**

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