

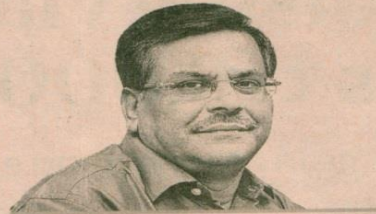
The paradox of innovation

There was some good news on the innovation front last week: India moved up six ranks to 60th in the 2017 Global Innovation Index compared to last year. It's a significant improvement from the 81st position out of 140-odd countries in 2015. Even countries such as Trinidad and Tobago, Bosnia and Herzegovina, and Morocco were ahead of India that year.

The good news didn't end there. Consider international patent applications filed from India to assess the innovative activity in the country. According to figures released by the Geneva-based World Intellectual Property Organisation, international patent applications filed from India rose 8.3 per cent to 1,529 (1,423 last year).

These two developments have already prompted many to claim how innovation in India is happening both in large corporations as well as at the grass-roots level in remote villages.

Unfortunately, the letdown came from The Times Higher Education World Reputation Rankings 2017, which was released last week. No Indian university made it to the top-100 list, though Asian universities improved their performance, with 28 of them making the cut. This shouldn't have come as a surprise. Just last year, the Indian Institutes of Technology found themselves at the bottom of Asia's most innovative universities' rankings. The IITs ranked 71 on the Reuters Top 75 — Asia's Most Innovative Universities list that identifies institutions doing the most to advance science, invent new technologies and help drive the global economy. The Indian Institute of Science in Bengaluru, the only other Indian institute in the list, was ranked 72.



POWERPOINT
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What innovations can a country pursue on a sustained basis if its higher education institutes consistently come up with below-par performances in global rankings? It's no surprise therefore that over 70 per cent of the patents filed in the country are by multinational companies; Indian companies and academia share the remaining 30 per cent. Most Indian universities lack focus on research, which in effect reduces them to teaching shops when it comes to international rankings — reason why India has only two research organisations of repute — the Indian Institute of Science and the Indian Space Research Organisation. This has happened because the number of researchers in the country is just

about 15 per 100,000 people, placing India among the bottom five in this category.

India seems to be having no shortage of paradoxes. For example, the country has become the third-largest start-up ecosystem, but it lacks successful innovation. In fact, the most alarming failing of too many of India's entrepreneurs is the endemic neglect of the criticality of innovation — reason why 90 per cent of Indian start-ups fail within the first five years.

Also, while India has established itself as a credible, cost-effective manufacturer of medicines, supplying over 20 per cent of the world's generics and about half the vaccines sold globally, yet on an index measuring country performance on health-related sustainable development goal indicators, the country ranks poorly at 143 out of 188 countries.

Here is yet another paradox. India is on top of the list of countries ranked on the basis of its generous R&D-related tax incentives. But it is still considered

to be a laggard in innovation because it lags in other areas such as collaborative R&D tax credits (offered on expenditures made to support research at universities, national labs, and research consortia), and encouragement to commercialise innovation, rather than just for the research, according to a study by the Information Technology and Innovation Foundation, a technology policy think tank.

A senior government official admits the sorry state of affairs in Indian research and academic institutes has resulted in a talent drought not only in the government but in every sphere. As a result, in the last 60 years or more, India has failed to produce a single ground breaking innovative idea that made a notable economic impact. The fact also is that no Indian citizen has won a Nobel in any tech discipline since independence. The only resident Indian to have won Nobel was CV Raman, in 1930.

Many say real Indian innovation continues to be low-cost tweaks at the bottom of the pyramid, or, to use a word Indians love, *jugaad*. While several best-selling management books have celebrated this, it is also the reason why there is hardly any incentive for a small business to invest in new technologies. The collective obsession for "more for less" can hardly develop an ecosystem for real innovation. India Inc's miserly spend (less than 1 per cent of sales) on research and development is an evidence of this. Just one out of five Indian manufacturing firms offer in-service training, compared with 92 per cent in China and 42 per cent in Korea.

Even official records of the Indian Patent Office cast a gloomy picture — the total number of patents granted during 2015-16 (the latest available) was 6,326, out of which only 918 were from Indian applicants. The number of applications filed by Indian companies was 13,066, which was just 28 per cent of the total.

The good news from the Global Innovation Index is, thus, hardly a reason for cheer.