

## Industry-academia tie-ups to foster innovation

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*Collaborations between the industry and the academia are vital for the success of this Bill and without the provisions to patent intellectual property, the industry will not feel the need to commercialize inventions*

In countries such as the US and Europe, innovation traditionally has had its genesis within the confines of universities and academic institutions. In the case of biotech research too, innovative molecules are discovered within the labs of academic institutions up to phase II before being licensed to big pharma and biotech companies, which have the capabilities to develop and commercialize the product. This, coupled with a decent amount of funding or grants and other forms of support from the government and public agencies, makes it a win-win situation for both the academia and the industry.

The strong nexus between the industry and academia has not just taken many products from the lab to the market but also encouraged scientists to engage in more research studies. In the 1980s, the US Bayh-Dole Act played a significant role as a catalyst to inculcate the practice of technology transfer between universities and the industry.

This culture is lacking in India due to myriad reasons, such as lack of funding, lack of incentives for scientists, a disconnect and strong divide in the perspectives of the industry and the academia. A collaboration between the two is a prerequisite in bolstering research on new chemical entities (NCEs) and new biological entities (NBEs) in the country.

The Protection and Utilization of the Public Funded Intellectual Property (PUPFIP) Bill, 2008, or the Indian version of the Bayh-Dole Act, seeks to sow the seeds of this culture by fostering innovation and protection of intellectual property by incentivizing research. However, can a theory be translated into practice if the Bill becomes a law? Will India be able to replicate a scenario that took place 30-years-ago in the US?

**Collaborations are vital**

Collaborations between the industry and the academia are vital for the success of this Bill. Giving an academic perspective, Dr B N Ganguli, research adviser to the KJ Somaiya Group of Colleges at Vidyavihar and former deputy to the director of Hoechst Center for Basic Research, says, "The industry-academia interaction must be reviewed in depth in the Indian context. Today, there is a barrier in mutual trust that must be dissolved. The academia believes that the industry is only interested in quick profit research and not advancement of scientific innovations. The government can and must play a significant role in the academia-industry cooperation and collaboration."

The Bill has been modeled on a formula that more intellectual property is equivalent to more innovation. It was structured on the premises that conferring ownership and patent rights to universities will accelerate collaboration between the two segments. Without this provision, the industry will not feel the need to commercialize inventions out of the academia.

Mr KV Subramaniam, president, Reliance Life Sciences, says, "The Bill should bring about better academia-industry collaboration, as commercialization of IP should be a big driver."

Dr Milind Antani, head of pharma and life science practice, Nishith Desai Associates, says "Our opinion on this question is heavily coloured by the view of the secretary, Department of Biotechnology, Ministry of Science and Technology. According to him, the flow of knowledge from laboratory to industry is happening but it is not happening effectively and uniformly in all the public funded academic research institutions because this requires process development."

He adds that the Bill aims to institutionalize the processes by bringing a uniform understanding and practice of mapping intellectual property, patenting and technology transfer, so that the flow of knowledge to the industry is seamless and efficient.

"Borrowing information on status quo from the secretary's statement above, the Bill does have the potential to bring about industry-academia collaboration in the country. The mandatory requirement of protection of intellectual property and obligation to utilize it would increase the flow of knowledge from research institutions to the industry and lead to technology transfers," says Dr Antani.

Dr Vijay Chandru, president, Association of Biotechnology Led Enterprises (ABLE) and chairman and CEO, Strand Life Sciences, says that the Bill may put India on the right track. "In the Indian context, we can mimic the US act but the other pieces of the ecosystem, such as a tech transfer office and incubation centers, have to be taken into account. The major research institutes are starting to work in that direction. The Department of Science and Technology, always had a process through which you could approach them for commercialization of an invention, but it was a case-by-case scenario. In the broad sense, it is a step in the right direction. Some points such as the fine imposed on research that is not commercialized are worrisome. There are some kinks that need to be worked out."

### **The concerns**

The main concern amongst industry and academia circles is whether or not extra emphasis on IP protection and high cost of patenting would stifle research and innovation. This Bill if translated into an act will be detrimental for scientific research as it will put unnecessary pressure on research institutes to produce something which is patentable, claim some experts.

Says Dr BV Ravi Kumar, managing director, Xcyton Diagnostics, "The cost of patenting has increased and institutes that have a fixed budget for intellectual property issues will not be able to afford the costs of patenting. Most institutes actually cannot judge what intellectual property is useful and patentable and hence can run into losses if they try to obtain a patent for all their research. This Bill is based on a misconceived notion. There should be laws which are enabling instead and create higher awareness and sufficiently protect a conceived product." The industry requires the products developed by research institutions to be viable as product development is costly. Merely having a patent does not translate into licensable products.

Dr Kumar also points out the need for bodies that can act as junction points between industry and academia. Strong collaborations can be formed when the industry representatives are allowed to work alongside academia and are incubated in the institute for the initial stages of product development. With regards to high cost of patents, Dr Chandru gives another perspective. "There is no doubt that there will be a push towards patenting resulting in filing of frivolous patents, but eventually the cost of patenting will dissuade people from getting frivolous patents," he says.

At the end of the day, claim experts, ownership of patents should lead to acceleration of innovation and not block research that could benefit the society at large.

## 'Bill is planning to cover every type of IP entity'

Abhayporwal **Interview with *Mr Abhay Porwal*, head of operations, IPpro Services India Private Ltd, Bengaluru**

Mr Abhay Porwal's specialties include patent drafting (in accordance with US patent and trademark office guidelines), patent filing, patentability assessments, patent invalidation and infringement searches, freedom-to-operate searches, claims mapping projects, technology and intellectual property (IP) landscaping analysis, freedom-to-practice analysis and product clearance search. He is an alumni of the Indian Institute of Technology, Mumbai, and previously worked as an IP analyst at Honeywell Technology Solutions Lab, India.

***Do you think India needs a Bayh-Dole Act, given the present rate at which scientists are getting patents on their inventions?***

**Mr Porwal:** The Protection and Utilization of Public Funded Intellectual property (PUPFIP) Bill is aimed at protecting each and every invention that is coming out of government funded research. There are several institutions and inventors with various sources of funding such as industry collaborations. This enables them to carry out research, protect the IP in it and finally commercialize it for generating revenue for themselves and the industry partner.

However, there are institutions that may not be able to collaborate well with any industry partners. In such cases, the government funds (with the requirement of patent protection as per the Bill) might help the universities and the inventors to carry out research and encourage innovations. This may foster a research culture in the institutions and we might see many great technologies coming out of our own institutions. Having said that, there are chances that the commercializing aspect may hijack the research culture at the universities. Researchers may very well focus only on research areas that have great commercializing potential. This may adversely affect fundamental research, which takes many years to reach the market.

Another point with government-funded research is that there is a possibility that inventors may not get enough in royalties. In the case of acquisition of any patent by the government (these can be government-funded research as well), the patentee will also be given a reasonable remuneration. However, reasonable remuneration is vague and may not be a substantial amount, so inventors are less incentivized. The Bayh-Dole Act clearly enables inventors to get a reasonable share of the royalty.

***Do you think it will be possible for research institutions to afford the legal costs associated with patenting?***

**Mr Porwal:** Since these are government-funded research, the technology transfer office of the institute may have to budget for the patent cost. The cost for applying a patent in India is nominal and thus should be affordable. However, institutions can think of identifying possible licensee and get them to cover the patenting cost (reimbursing the cost if already spent by the institution).

If the patent application is still pending, then while licensing the patent application, the licensee needs to cover the legal cost as well or a portion of the legal cost. The legal cost may include prosecuting and paying the maintenance fee. If any future improvements are likely to come out of the pending application, then payment for filing and prosecuting of the patents for these improvements can be covered by the licensee.

***Are there any other channels of protecting intellectual property that can and should be incorporated in the Bill?***

**Mr Porwal:** As far as protection is concerned, the Bill is planning to cover each and every type of IP entity for protecting the inventions.

***Would scientists be compelled to get patents on their research following the passage of this Bill?***

**Mr Porwal:** The PUPFIP Bill, in its current form, gives rights to a government funded institution for it to decide whether or not to opt for patent protection for inventions that are coming out of research, which is funded by the government.

Therefore, in scenarios when there are differences between the institution and the inventors regarding the need for a patent protection, the final decision lies with the institution. Thus, technically the inventors might be forced to seek patent protections for their inventions in case the institution they work for want the same.

***Do you think universities will be able to earn a sizable amount through licensing incomes?***

**Mr Porwal:** This would depend on the actual inventions coming out the universities. As is the case with any other breakthrough invention, if a discovery is directed towards an area requiring immediate attention and has potential of making

it big in the market, you surely would have many takers for it and, in turn, the licensing deals will pour in.

**- Manasi Vaidya**