

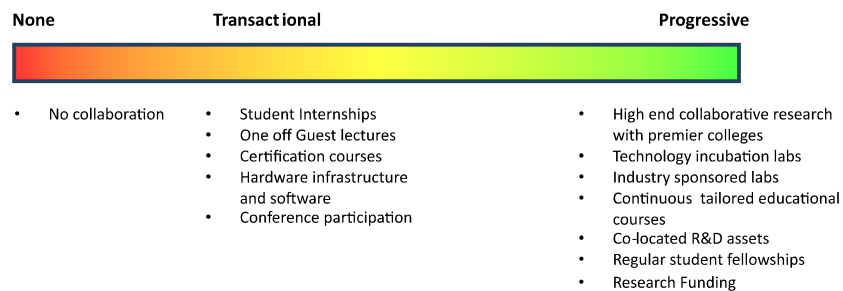
Industry-Academia Collaboration – Pune Technology Sector



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The benefits of a close connect between the knowledge industry and the academia, which is the knowledge and talent farming industry, cannot be disputed. However, there are probably several reasons preventing the realization of the full potential of collaboration between the industry and academia.¹ There are no specific models that are widely used, based on which, collaborations can be gradually developed and replicated.² As we move closer to the era, when sustenance is increasingly dependent on the ability to innovate and adapt, pressures will drive the emphasis on industry-academia collaboration from the desirable to the inevitable.



Some engagements between premier academic institutes and the industry are of a *progressive* nature. These partnerships include ongoing research consultations and collaboration, industry-sponsored research projects and funding, industry-sponsored laboratories, technology business incubators, co-located R&D assets, industry-sponsored student fellowships, academia delivering tailored courses, etc. Companies have benefited immensely from these collaborations by having quality research at low costs, development of several technological innovations and developing talent that dovetails well into their requirements. On the other hand, these premier institutes obtain access to high quality industry mentorship for their research students and have been successful in the development of several incubated companies and helping students and faculty commercialize the Intellectual Property developed through the entrepreneurial ventures.^{3,4}

However, the vast majority of the engagements between the industry and the academia can be described to be of a *transactional* nature.⁵ Interactions in these cases are of a moderate nature and largely limited to student internship projects, participation and discussion in industry-related conferences and seminars; one-off and non-periodic consultations and lectures by academic faculty with industry personnel and certification courses offered for continuing education for industry personnel.

There is a huge gap that exists between these two paradigms of collaboration but there are several in-between initiatives that may be considered to address some of the challenges faced by the industry and the academia today.

SEAP conducted an email survey of few Pune engineering colleges in April-May 2017, to understand the view point of the academia on how educational institutes were gearing up to meet these daunting challenges in the impending future. Their responses indicate that industry-academia engagements were largely related to internships and live projects being offered to students by companies, guest lectures provided by industry experts and accreditations of colleges from a few companies. While these colleges offer PhD programs, there were mixed responses when it came to industry demand for PhD students. The Pune IT/Digital Technology companies rarely recruit PhDs from the colleges.

Dr. P.V.S. Shastry, secretary of MKSSS, reported that Cummins College of Engineering has state-of-the-art laboratories and provides financial support for experimentation. Cummins College also has several MoUs signed with many companies. The college also encourages sabbaticals for its faculty in the industry and believes that these practices should be intensified further. The college would also like to have opportunities for consultative industrial engagements with students and faculty.

Prof. Dr. A. V. Kulkarni and Prof. Dr. Radhika Menon, Dean and Associate Dean for Research, respectively, at the Dr. D. Y. Patil Institute of Technology, report that they have taken initiatives in starting incubation centers. The college also offers certification courses for industry personnel. They have accreditations from Capgemini and Wipro Technologies. The college also has MoUs in place with IBM, Zensar Technologies and Microsoft IT Academia. The college believes that some of the talent crunch issues faced by the industry could be addressed if the companies start adopting batches of students from the first year of engineering itself by providing them with various certification programs along with projects being mentored jointly by senior employees and the faculty.

A vast majority of industry believes that there is a good pool of technological talent available. However, as the pressures of innovation increase on these companies, they recognize that, in order to be able to engage in meaningful innovative research exercises; their employees need to develop a creative thinking ability, a research and an innovative mindset to augment the technology problem solving skills they possess. Pune colleges, that were surveyed, indicated that although they have PhD programs in their college, the industry rarely offered jobs for such students. One of the reasons for this is the gap that exists in terms of industry research requirements and academic research pursuits. R&D in the industry is typically driven by the business strategy and vision of the companies and the projects are assessed in terms of the business value they generate. On the other hand, academic research is not necessarily focused on the application value of their findings and is more often driven by novelty in the research and success is measured by the papers that may be published in domestic and international publications.² Pune colleges also expressed eagerness to collaborate with the industry.

A few Pune colleges have also started taking initiatives towards starting incubation centers. Besides fostering a research orientation in new technologies within the academia, this setup presents great opportunities for companies to provide projects to students and mentor them resulting in a much better and meaningful utilization of these centers. These centers could also offer opportunities for the industry to carry out research projects at much lower costs.

Recognizing the emerging needs of the industry to supplement skills and technology capital with creative and innovative mind sets; academic curriculum could be developed to include courses that develop these competencies amongst students.

Industry associations should help set up formal forums between the academia and the industry to brainstorm on all of these in-between initiatives to develop mechanisms that would benefit both. Given the pressures on innovation, the adoption of new technologies within the industry is moving at a much more rapid pace in comparison to the changes in the curriculum in the academia. The directional convergence between academic research and industry explorations can be achieved by increasing the frequency of interactions and sharing knowledge of each other's pursuits. The need is to evolve a highly collaborative ecosystem for an exchange of new problems, new ideas and carrying out joint exploratory exercises. Such a symbiotic relationship between the academia and the industry would also ease the pressure on the industry to find the right and ready talent. It will also enhance the absorption of research scholars and PhDs in the industry, thus encouraging more students to pursue research.

References

- 1 M. M. Gandhi. "Industry-academia collaboration in India: Recent initiatives, issues, challenges, opportunities and strategies" M. M. Gandhi at the International Academic Conference in Paris (IACP). http://www.abrmr.com/myfile/best_track/best_track_58694.pdf
- 2 Pankaj Jalote. "Challenges in Industry-Academia Collaboration" by Pankaj Jalote. <https://www.iiitd.edu.in/~jalote/GenArticles/IndAcadCollab.pdf>
- 3 CII and MHRD, India. "Select Case Studies on Industry Academia Collaboration". <http://ciiindustryinstituteconnect.in/wp-content/uploads/2016/04/CII-MHRD-Case-Studies-on-Industry-Academia-Collaboration.pdf>
- 4 IRCC, IIT Mumbai. Industry flier, January, 2016. http://www.ircc.iitb.ac.in/IRCC-Webpage/rnd/PDF/IRCC_Industry_flier_A4_V10_for_web_January2016.pdf
- 5 K. J. Joseph and Vinoy Abraham. "University-Industry Interactions and Innovation in India: Patterns, Determinants, and Effects in Select Industries" in Seoul Journal of Economics. http://s-space.snu.ac.kr/bitstream/10371/67710/1/sje_22_4_467.pdf

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