

Defining the Problem and the Need

INTRODUCTION: All over the developed world, university-industry collaborations have delivered innovative commercial products. China has started using its systems creatively to develop a closer inter-action between its universities and industries and it has started bringing its industries and universities together so that the laboratories and workshops of their universities and the highly qualified Faculty Members can help its SMEs maintain technological superiority.

AT GTU: On 2nd August 2010, GTU established GTU Innovation Council to create a framework, which the Colleges could use for developing a closer relationship with the industries. By 14th February 2011, GTU had set up 25 GTU Innovation Sankuls and every College/ Institute/ Polytechnic, affiliated with GTU was given membership of one of the Sankuls in its area. Every College was also asked to establish a student-driven GTU Innovation Club, through which students in every department were given a target of inviting one professional technologist to its classroom every two weeks.

GTU's program of encouraging Colleges and Final year students to take up Industry-Defined Problems (IDPs) through GTU Innovation Sankuls was instituted in 2010-

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11. (GTU's first cohort of degree engineering students and the second cohort of diploma engineering students was to reach the Final Year during 2011-12.)

All the Pharma students have to do an intensive one semester intern project in the industries.

SURVIVAL ISSUES FOR SMEs: SMEs do not have the resources to invest in technology development initiatives. But with increasing competition, if the quality of the product and the productivity of the work-force of an SME is not continuously improved, it may be difficult for the SME to survive.

GTU SERVICES for SMEs:

1. Development of Credibility Index, with help from Asia Pacific Engineering Network (APEN) – GTU is the Director for India in APEN
2. SME Nursery
3. GTU Management Group's conferences, seminars and meetings to help study and solve the issues facing SMEs
4. Create Platform to discuss various issues and challenges of SMEs by inviting Experts
5. Help to identify the various opportunities for SMEs
6. Help and Educate SMEs for their Growth and Sustainability
7. Strategic partnerships designed to run for five to ten years deliver greater and often unanticipated benefits to all parties through a virtuous circle of interactions.

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BENEFITS of INDUSTRIAL ASSOCIATESHIP SCHEME (IAS) for MEMBER INDUSTRIES

The companies can benefit from knowledge transfer, research results and new methodologies, giving them a competitive advantage in the end. It is a win-win situation for both the parties – the companies offer business insights and the students contribute proven methodology and expertise.

1. The member industries can avail Universities library. Xeroxing of leading journal technical papers can be made and other related facilities shall be extended on a very nominal payment.
2. Fifty percent concession on consultancy charges will be given for the minimum charge alone.
3. Twenty five percent concession on registration fee for attending Conferences / Short Term Courses / Continuing Education Programmes conducted by the GTU.
4. Members will get preference in inviting the Faculty Members of GTU for any specific lecture / technical talk in their organization.
5. General and technical information available in the GTU will be provided to the members and the exchange of information shall be both ways.

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6. Priority will be given by the University in taking up student projects and industrial training in areas identified by the member industries with their cooperation and financial support.
7. Industry members can avail of / may provide video films / information materials on products manufacturing techniques etc.,
8. Annual Publication, calendar, directory, brochures etc., will be sent exclusively to the member industry.

REQUIREMENTS AT TECHNOLOGICAL UNIVERSITIES: Universities have to bring greater practical orientation to their learning systems. Moreover they have to make their research relevant to the needs of the SMEs and the society, since great research has got to be relevant to the needs of the human-kind. These things can be done only through a closer inter-action with the industries.

The Faculty Members expect their students to be given business experience through internships and through opportunities for taking up SME problems as their Final Year project. But in India, till now the universities and the industries have lived in separate silos. Hence most of the Faculty Members have no experience of working in industries, for which the technological institutions are supposed to prepare their graduates. If the universities have to provide well-trained graduates to the industries

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and businesses, the walls, which separate the silos of academia and the industries are required to be broken. This will improve the working of the universities as well as that of the industries.

If Indian companies have to compete in the market-places of the world, they require highly-skilled and well-educated work-force. Such a work-force can be made available by first-rate universities only. Hence if industries are going to be able to compete successfully, they require universities, which are as good as those in the developed and the leading developing countries. Similarly excellent technological universities cannot exist in an environment of out-dated and failing industries.

SCOPE OF INDUSTRY ACADEMIC INTERACTION:

1. Arranging Industrial Shodh Yatras for students so that students are able to find IDPs for their Final Year projects
2. Enabling the students to secure Project Internship
3. Arranging In-plant Training for students during Summer / Winter Vacation
4. Enabling the students to get placed in SMEs with decent Cost to the Company (CTC)
5. Conducting Soft Skill Development and Competency Building Programmes for the students to increase their employability skills.
6. Facilitating Research Fellowships from industries
7. Develop different Monographs and Protocols to suit the needs of the industries.

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8. Various programmes for promoting Industry-Institute interactions, Regional Get-togethers of industries, Government-funding agencies, R&D and Educational institutions, etc. may be organised at regular intervals for cross-fertilization of industrial / academic ideas.

Another Component of the Solution

Dr. Jaimin Vasa has agreed to work as the Advisor to the Vice-Chancellor for Inter-disciplinary Research and Doctoral Studies, Corporate Professorship and for Industrial Training of Faculty Members.

Colleges can approach him for help for

- (i) Identifying CORPORATE PROFESSORS and for
- (ii) industrial training of Faculty Members.

CORPORATE PROFESSORS:

1. An expert from industry, with several years of job experience should be given the status of a Professor. He could be called as a Corporate Professor, so that the individual may also earn due recognition from all concerned.
2. Colleges will identify the experts, on their own or with the help of Dr Jaimin Vasa and apply to GTU for endorsement with
 - o complete information about the expert,

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- the subject that he would teach and assess for continuing assessment or the exact modules of the subject that he would teach and assess for continuing assessment.
3. For each such endorsement, a small fee will be charged by GTU.
 4. The endorsement will be either for a full subject or for a few modules, which should not be less than 20% of a subject.
 5. If the total number of subjects – after counting each full subject or part of the subject- taught by endorsed Corporate Professors reaches the level of the load for one Professor, GTU will consider it equivalent to one regular Professor.

ADJUNCT PROFESSORS: Retired and distinguished researchers can also be endorsed as Adjunct Professors. For Adjunct Professors, rules, similar to the rules for CORPORATE PROFESSORS will apply.

Let every College work, jointly with GTU, towards a goal of having CORPORATE and ADJUNCT PROFESSORS, with a total of 20% of the total number of professors at a College. (The number of ADJUNCT PROFESSORS must not exceed 10% of the total number of professors at a College.

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HOW TO HAVE EFFECTIVE INTER-ACTION – a few points:

1. Strategic partnerships need input at the highest level from both the industries and the university.
2. Every College should make the goals and benefits of partnering clear to the Faculty as well as the industry. It should be emphasized that through collaboration, both the universities and the industries will have to grow technologically together.
3. Every College should design incentives for its Faculty Members and provide resources to manage a cultural shift that does not undercut basic research but puts a clear priority on engaging with industry for mutual benefit and for the benefit of society.