A Model for Promoting Entrepreneurship among Students and Faculty @ IIT Bhubaneswar

Dt: 28th Sept 2015

Prof R V Raja Kumar

At an advanced institution like IIT Bhubaneswar, it is expected that many technologies and processes are spun off from its research endeavours. Concerned and forward looking institutions encourage technology spinning off and initiation of startups. Globally, there are several success stories of university research maturing into initiation of companies which later grew to multinational level contributing for the prosperity of nations and creating employment. It is desirable that IIT Bhubaneswar takes some significant steps in this direction, at this juncture. Personally I have thought of a model which may be further discussed, fine-tuned and adopted, if acceptable. Parts of this model have been applied successfully in my earlier assignments.

The Proposed Model:

Students from a technology institution, take up careers typically in research, research & development, education, manufacturing, as engineering executive, general executive, software and IT professional etc. In order to fulfil the aspirations of the 1.3 billion Indians majority of whom still live in rural areas, we need to encourage our students to take up entrepreneurship in significant numbers and see that the opportunities in manufacturing, service industry and technologies for the rural sector are exploited, a healthy growth takes place and prosperity is achieved. This would also very significantly avert the current situation of inadequate employment opportunities. That is, while providing world class holistic education and inculcating research culture, providing opportunity for well-rounded personality building and growth at the institutes, we need to create opportunities for entrepreneurship and create job givers along-side job seekers. .

A spirited implementation of an approach involving the following steps can significantly and effectively inculcate the entrepreneurship culture and realize the above dream:

1. Motivating students to take up entrepreneurship
2. Driving the culture and innovation in almost all engineering courses including theory and practice.
3. Providing opportunities for a student to try innovate anywhere on campus including in all laboratories.
4. Providing opportunities to incubate technologies on the campus
5. Providing related breadth courses that support entrepreneurship
6. Imparting awareness about funding opportunities and facilitation
7. Creating a Science & Technology Entrepreneurship Park (STEP) close to the campus.

Realization of the Model:

Item-1, can be implemented by the Schools, faculty, motivational lectures organized from Schools, Gymkhana, DIC and others. Item-2 can be realized mainly by the faculty and also creating an innovation center in the campus. Item-3 can also be realized through an innovation center on campus. In order to implement items 3 and 4, an associated policy frame work and on campus technology incubation facilities are to be created. Item-5 can be realized by creating Breadth courses like Entrepreneurship and Small Ventures. While item-6 can be realized through the general means of banks and venture capitalists, in the case of students creating a funding through the means of government initiatives, angel funding and endowment creation with the support of industries, confederations of industry and Corporate Social Responsibility funding. It is essential to create a STEP at least of medium size to start with to support small ventures.

Technology Incubation Facility: I propose to start Technology Incubators at IIT Bhubaneswar to facilitate the graduating/just graduated students to carry on research and development activity towards innovating product and business plan development. This facility provides the following to its immediate graduates who enroll as entrepreneurs in single or team and for a period of up to 2 years, to start with:

- Limited office and work space in the premises of the campus including laboratories, free of cost.
- Institutional services such as Internet facility, electricity and water on loan basis or free of cost in the limited office and laboratory space.
- To make available the facilities of the institute for carrying out any product/prototype/technology development on campus including consumables to the tune of Rs 1.00 Lakh (however, beyond this limit, any expensive consumables are to be borne by the entrepreneur or entrepreneur team) per annum on loan or in kind. The institute may waive off the loan when the prototype is not taken out by the entrepreneur.
- An entrepreneur or entrepreneur team has to arrange for their accommodation and living by themselves. Very selectively, if available they my avail institute accommodation and catering services on payment

The institute will build an entrepreneurship park subsequently with space available to further facilitate startups. An entrepreneur may shift to the entrepreneurship park on payment of a relevant fee based on affordability, at an appropriate time.

Relevant Courses:

Typical engineering curricula have provision for introducing a Breadth courses. Introduction of a few courses relevant for a budding or would be entrepreneur or an enthusiast would greatly support the activity. To name two very relevant courses which may be offered as Breadth courses to all branches of Engineering and Sciences include the following:

- Entrepreneurship and Small Ventures
- Technology innovation cases

The former may be aimed at helping on how to start ventures including an introduction to entrepreneurship, understanding entrepreneurial process, financing of ventures, management of ventures would provide the required knowledge. Inclusion of a business plan and motivational (and success stories) lectures and making it a part of the course, may significantly help. One way to foster innovation is to provide an opportunity for student to go through innovation case studies and make him/her appreciate the same. This can be made possible by providing lectures and hands on practice on a few innovation cases selected based on one's own interest and field of study. The lectures may consist of a brief Introduction, a description of the function of the product or equipment, design, production and marketing aspects and economics of feasibility. The supporting laboratory facility should include the innovation cases for demonstration and study.

There can be other course which may include courses on management or aspects of management like marketing for ventures.

Funding Opportunities and Mentoring:

The students who register as entrepreneurs are expected to arrange their funding on their own tapping resources such as the following:

- Loans from banks
- MSME and other government resources
- Own resources
- Venture funding
- Angel investment
  Eg: The Billion Dollar Babies initiative of The Indus Entrepreneurs (TIE) (The program aims to help select Indian product startups reach $1 billion in global enterprise value through this ambitious initiative that promises to leverage the reach and resources of TiE Silicon Valley).
- Other funding resources

The institute would put its efforts in bringing together the entrepreneurs and the agencies that provide funding to new ventures including the angel funding opportunities through the STEP. The institute would put in efforts to provide mentor support from volunteering faculty and angel mentors from outside, to the entrepreneurs who wish to avail the support. The institute would also put in efforts to create selective angel funding

and mentoring support from government, agencies like CII and NASSCOM. The first efforts put from my office in this direction are yielding encouraging results.

Science & Technology Entrepreneurs' Park (STEP):

Establishing a Science & Technology Entrepreneurs' park is one important step which may facilitate spinning off of companies. In the past in 2013, an attempt was made from IIT Bhubaneswar, by submitting a concept paper against a request for proposals from MHRD. There is a need for renewing such actions from the institute.

Innovation Center (DIC:

A somewhat related initiative that can culminate into entrepreneurship is to create an innovation center and to infuse innovation culture among students. IIT Bhubaneswar started a Design Innovation Center (DIC) with the support of MHRD. There is yet another initiative being taken with the Government of Odisha is aimed driving innovations in building materials area. We need to expedite actions on these.

While such facilities can come up, every laboratory of the campus should facilitate and serve as an innovation center

---