

Keynote Talk by Prof. Dr. A. S. M. A. Haseeb

Innovation and Entrepreneurship Education for Engineering Graduates: Global and National Perspectives

ABSTRACT

Technological innovation is universally recognized as a critical driving force to foster economic growth. Bangladesh- being at a crossroad in its economic journey- identified innovation as a means to accelerate the growth of its economy. Over the past years, this country has been making considerable efforts to encourage innovation and creation of startups. These resulted in some notable success leading to the emergence of a number of startups, including a unicorn. But these developments mostly concentrate on ICT enabled areas. In order to fully exploit the potential of innovation, we need to expand these efforts to other areas, including deep tech. Worldwide, universities are known to play very crucial roles in promoting innovation. MIT Sloan School of Management defines innovation as, Innovation = Invention x Commercialization. Commercialization of an invention essentially requires entrepreneurship. We therefore need to properly train our students in entrepreneurship, in order to convert them into successful innovators. BAETE, in its new accreditation manual (V3.0), incorporated one program outcome (PO) which relates to entrepreneurship, PO12: “Demonstrate knowledge and understanding of the competences necessary to transform opportunities and ideas into a new business”. This makes it compulsory for accreditation seeking engineering programs in this country to impart entrepreneurship education to their students. It may be noted that converting an invention into a commercial product is a complex process, involving extensive stakeholder interactions, and a series of steps as outlined in the NASA Technology Readiness Level (TRL). Successful universities like MIT, Stanford, Cambridge etc. train their students in entrepreneurship in a multitude of ways. At the center of their entrepreneurship education and training is an action-oriented pedagogy, e.g., experiential learning, project-based learning, etc. where students are deeply engaged in learning by doing. In addition to attending courses, students get trained through hackathons, startup competitions, venture creation programs etc. in incubators and accelerators. The most successful universities have campus-wide culture and ecosystem to teach entrepreneurship through interdisciplinary programs where students from engineering, business, etc. participate in groups. These universities expose their students to experienced entrepreneurs as mentors. They engage students in strategic industry collaboration and facilitate acquisition of funding, provide IP support, etc. These universities have a plethora of units, centers, institutes etc. creating a campuswide network to support innovation and entrepreneurship. In Bangladesh, an increasing number of universities during the past years have been putting efforts on promoting innovation. The government of Bangladesh has been supporting innovation in universities through different schemes such as, University Activation Program, Student to Startup Initiative, University Innovation Hub, establishment of Intellectual Property Management /Technology Transfer Office, etc. With the inclusion of entrepreneurship education in PO12, engineering programs now need to find out how best this outcome can be achieved. Universities in Bangladesh can learn from global best practice but have to apply the acquired knowledge thoughtfully to suit the local context. This presentation intends to provide an overview of entrepreneurship education and training in the context of supporting innovation. Rationale, global best practice and local efforts are discussed.



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