

The TIPE model for teaching patent and technology-based entrepreneurship

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Abstract:

The traditional IP (intellectual property) education for engineering students used to cover patent search and patent filing that are mostly related to the research and development (R&D) stage. However, the commercialization of patents and related technologies needs to move downstream to deal with the business issues. It has been a trend in both business schools and engineering schools to look at patent commercialization from technology-based entrepreneurship in both research and education. This is especially needed in Hong Kong since the Hong Kong government would like to turn Hong Kong into an international IP trading center. Universities in Hong Kong have cumulated a huge amount of patents, so are other universities over all the world. CityU alone has been cumulating over 700 patents filed or granted, most of which have not been commercialized. A famous research has revealed that the excellent research and patents do not necessarily lead to Silicon Valley, but Death Valley, from the commercialization perspective. Different education is needed to train special technical talents to deal with the commercialization stage of patents.

This project aims to develop a TIPE model to teach patent and technology-based entrepreneurship courses at the undergraduate level in both engineering and business schools. The TIPE model will help students to experience the process from Technology (& patents) identification, Idea generation, Product (service) design and further down to Entrepreneurship (i.e., TIPE). The project will enhance student learning in discovery capability, creative thinking capability, hands-on innovation capability, and the systematic and comprehensive capacity to prepare and present a business plan to commercialize a patent via a startup. The project will be implemented in SEEM 4034 (Product development and innovation: managerial approach) at SEEM department first and then SEEM 4019 for both engineering and management schools. It can be disseminated to several other courses in the future like the minor in technological entrepreneurship. This project may have the following innovation and/or contribution:

- 1) It expands IP education from patent search and filing to patent commercialization.
- 2) It expands IP commercialization from the seller-to-buyer model to an entrepreneurship-oriented TIPE model.
- 3) It is initiated by the technology-push instead of the market-pull approach/strategy.
- 4) It brings team-based experiential learning into technology entrepreneurship education (TEE).



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5) It aims to help patents and technologies pass the Death Valley into Silicon Valley.