“From Lab Bench to Store Shelves:” a Translational R&D Model and Methodology

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Abstract

According to the report: Competing in a Global Innovation Economy: The Current State of R&D in Canada by the Council of Canadian Academies (2018): “Canadians have not fully captured the economic benefits stemming from Canadian research advances.” One way of capturing economic (and non-economic) value from academic research is by implementing systematic research mobilization programs. Indeed, research conducted at universities can have considerable commercial potential. However, turning those discoveries, innovations, and inventions into commercially viable products can prove extremely difficult. Based on a systematic review and narrative synthesis of the literature on translational research: the different models, its practice, and the efforts to streamline it, I propose a novel translational research & development framework to better link university science and engineering research to commercial outcomes, i.e., to create a more seamless transition from research to business. I identified the best practices in translational research (as encountered mostly in biomedical research), adapted them for use in more general science and engineering research contexts, and combined them with well-established best practices in project management, new product development, new venture creation, science of team science, and intellectual property management. The result is a robust, structured framework that can help university investigators bring their ideas to market.

Bio

Dr. Carlos Bazan is currently Assistant Professor and Engineering Chair in Entrepreneurship with the Faculty of Engineering & Applied Science at Memorial University. His research work lies at the intersection of academia, innovation and entrepreneurship; it is concerned with turning academic research outcomes into successful businesses, e.g., via translational research & development. Dr. Bazan has been studying efficient and effective ways of translating basic and applied research outcomes into commercially viable products and services. This includes the identification of both best practices for successful technology innovation, transfer and commercialization; and barriers in the ecosystem that are hindering the translation of university innovations into successful businesses. He is the author of the Translational R&D Model and Methodology: “From Lab Bench to Store Shelves,” used to design and conduct translational R&D projects for a more seamless transition from research to business.