

# Chapter 15

## Application of MSTAM Methodology in Project Management: A Case Study of ITF Robotic Automation R&D Project

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### ABSTRACT

*Innovation technology development and commercialization are not new, but this is a hot topic in this decade in Hong Kong. The relevant researches are focused on two dimensions from research and development (R&D) technologist perspective (supply-side) and industry user perspective (demand-side). This is a part of the author's engineering doctorate thesis. The thesis title is "An Analysis of the Determinants of Innovation and Technology Fund (ITF) R&D Projects Commercialization in Hong Kong's Logistics and Supply Chain Industries." A pilot implementation case study has been conducted and tested, and the MSTAM methodology are workable for ITF R&D project deliverables commercialization to the industry.*

### INTRODUCTION

This is the first attempt to investigate how to effective and efficiency to develop the project management mechanism for helping the R&D Technologist and Industry to solve the gap from the idea generation, apply research, development, technology implement and adoption to the market. For the traditional ITF R&D project operation mechanism has many monitoring procedure and operation step to examine the R&D project progress. But the mechanism may be ignored the R&D deliverable whether apply to the Industry in suitable time, need and fulfill the expectation of Industry User and R&D Technologist.

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## ***Application of MSTAM Methodology in Project Management***

Complicated and long project time schedule are the key issues affect the enabling technology to the Industry. This research study aims at linking with both supply-side and demand-side together to balance their requirement and expectation. A pilot implementation has been conducted the MSTAM (Market, Science, Technology, Application and Market) methodology in an ITF R&D project.

This research study aims to develop a new project management model to have a good grasp of factors influencing R&D project commercialization through a multi-perspective methodology. It is a good reference for all R&D personnel to manage the R&D project in Hong Kong. The proposed model and project management framework can be used to examine which factor can be generated the additional value into the R&D project and solve the basic problems of ITF R&D projects for increasing the ITF R&D projects commercialization rate opportunity to the market. In order to solve the foundation problem of ITF R&D projects commercialization to the Hong Kong's Logistics and Supply Chain Industry. A Seed Research Programme project has been selected to prove that using MSTAM methodology is an effective tool to increase the adoption rate of R&D projects deliverables to the Industry.

## **BACKGROUND OF ITF R&D PROJECT**

ITF R&D projects are divided into 4 projects categories (ITSP 2017 & ITC 2015) such as 1) Seed Research Programme; 2) Platform Research Programme; 3) Collaborative Research Programme; and 4) Public Sector Trial Scheme. The detail is given as below.

1. **Seed Research Programme:** This programme is a foundation of ITF R&D project, under R&D Centres which are exploratory new technology concept and provide the foundation for future application to next step to another R&D projects such as platform research programme, collaborative research programme, and public sector trail scheme programme.
2. **Platform Research Programme:** All platform projects require industry sponsorship from at least two private sector companies which covers at least 10% of the total project cost during the project period. The companies should not be related to the lead applicant by ownership or management. Sponsorship can be in the form of cash, in-kind contributions, or a combination of the two. The IP rights generated from the project will be owned by the lead applicant, which can be a R&D Centre or a designated local public research institute. However, in the case of R&D Centre projects, wherein the university undertakes most of the R&D work, the R&D Centre may be free to negotiate with the university regarding ownership of the IP rights. Platform Research Programme applications are normally solicited (via "Call for Proposals") twice a year.
3. **Collaborative Research Programme:** For collaborative projects, the industry co-applicant should cover no less than 50% of the total project cost (or no less than 30% in the case of R&D Centre projects) during the project period. Industry co-applicants can be one of the following; a private sector company incorporated in Hong Kong under the Companies Ordinance (Cap. 32), an industry support organisation, a trade and industry association, or a professional body with the capacity to enter into contracts. The IP rights generated during the project may be owned by the industry co-applicant if it has contributed 50% or more of the total project cost during the project period. If this is not the case, the lead applicant should be the owner of the IP rights. Collaborative Research Programme applications are accepted throughout the year.

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