Chapter VII
CMM FastTrack: Experience and Lessons Learned

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ABSTRACT

This chapter presents the Capability Maturity Model Fast-track Toolkit (CMMFT) programme which aims to provide a faster and cheaper method of obtaining Capability Maturity Model Integration (CMMI) capability with the end goals of increasing quality of software products and gaining competitive advantage as software development practices are recognised internationally. The programme is specifically designed for helping software SMEs (small- to medium-sized enterprises) in Hong Kong to “fast track” their quality and process improvement effort. We first present an overview of the CMMFT programme, including its expected benefits, project deliverables, and project plan. Then, the results of our project are summarised. Finally, we outline the key lessons learned and future work. It is hoped that others can learn from our experience in assisting SMEs to enhance their development capability and become more competitive.

INTRODUCTION

Small- and medium-sized companies often face budget, time, and resource constraints when they approach process improvement. Compounded to these challenges, they also lack the experience and skills in starting the “quality improvement journey” (Mondragon, 2006; Revankar, Mithare, & Nallagonda, 2006). Although senior management or middle managers in these organisations realise the benefits of process improvement and are willing to devote effort, they lack guidelines of effective approach for the improvement project.
This chapter presents the Capability Maturity Model Fast-track Toolkit (CMMFT) programme which aims to provide a faster and cheaper method of obtaining CMMI capability (SEI, 2001a; 2001b; 2001c; 2001d) with the end goals of increasing quality of software products and gaining competitive advantage as software development practices are recognised internationally. The programme is specifically designed for helping software SMEs (small- to medium-sized enterprises) in Hong Kong to “fast track” their quality and process improvement effort.

This project builds on a prior project initiated in 2000. The Hong Kong Software Quality Assurance (HKSQA) project aimed to help Hong Kong companies improve software quality by providing companies with a set of ready-to-use procedures, forms, and tools (Ko & O, 2002). The HKSQA model provides an intermediate step to capability maturity model (CMM) with the key objective of achieving maturity level 2. Based on the experience with HKSQA and other models, we believe that the CMMFT programme can help more SMEs to get on the “process improvement train.”

The second section presents an overview of the CMMFT programme, including its expected benefits, project deliverables, and project plan. The third section presents the results of our project. Finally, the last section outlines the key lessons learned and future work.

CMMFT PROJECT

The SME Development Fund (SDF) of Hong Kong Special Administrative Region (HKSAR) aims at providing financial support to projects to enhance the competitiveness of Hong Kong’s SMEs in general or SMEs in specific sectors. SDF is administered by the Trade and Industry Department of the Hong Kong government.

In 2004, the Hong Kong Computer Society, with the support of nine local IT professional associations and in collaboration with the Hong Kong Polytechnic University, proposed the CMMFT programme to the SDF. The main objective of the project is to provide a fast-track means for Hong Kong software SMEs to reach development capability assessed to maturity level 2 (Repeatable) and 3 (Defined) of CMMI (Chrissis, Konrad, & Shrum, 2003). When developed, the CMM Fast-track Toolkit can serve as an effective means of communication during software development between software SMEs in Hong Kong and partnering software companies located in the Pearl River Delta region (Southern China), encouraging wider collaboration and cooperation. The increase in software quality of a significant proportion of SMEs will also in turn benefit the Hong Kong software industry as a whole as it becomes better regarded in the region and internationally.

Benefits to SMEs

For SMEs participating in the CMMFT programme, the major benefits that can be derived from this project include:

1. Faster and cheaper method of obtaining CMMI capability.

The traditional method of achieving CMMI capability consists of hiring CMMI assessors and consultants to evaluate existing practices of the target software organisation against CMMI, followed by more work to fill in the CMMI required gaps to reach a specific CMMI level of software development capability before a formal assessment takes place. Apart from the lengthy period required, typically 18 months to achieve CMMI maturity level 2 from 1 or 3 from 2, the associated high costs excludes the majority of Hong Kong SMEs from considering this approach.

In contrast, our project recognises the specific needs of Hong Kong SMEs on speed and costs to achieve CMMI capability without compromising quality, since the developed Fast-track Toolkit can be fully verified and