Abstract

Implementing process standard or reference model in software companies have become a trend for the industry because they have recognized the importance of quality of software projects and global competitiveness. Yet, there are several popular international standards, featured with different purposes and contents, some of which are similar, compatible and overlaid. As such, organizations have problems deciding which standard to employ and have difficulty in integration and internalization of the standards they have chosen. Some studies have worked to relieve such problems by making comparison of different standards. Lin, after comparing ISO/IEC 12207 and CMMI-DEV (Capability Maturity Model Integration for Development), suggests that the two complements each other [4]. Both standards are well-recognized in Taiwan; the former has become Taiwan’s national standard for software life cycle activities, the later is a process model that regulates developers’ logics. However, there is lack of substantial comparison results between the two standards that organizations can reference with while implementing them.

This study attempted to make a more comprehensive and structural comparison and mapping between the two standards. A matrix template was completed with comparison results of processes and work products.

Except for peculiar processes such as operation, maintenance, usability, and reuse program, ISO/IEC 12207 and CMMI-DEV 1.2 share similar contents of processes or process areas (PA). Main difference lies in that the former tends to state general principles of practices, leaving
organizations flexibility to deploy: the later tends to specify rules and practices in more detailed and substantial way. This research result can provide reference for organizations to implement the two standards in an integrated way.

**Keywords**: CMMI-DEV, ISO/IEC 12207, Software Process Improvement, Reference Model