

## KMS components for collaborative software maintenance – a pilot study

### ABSTRACT

Software maintenance (SM) environment is highly complex, knowledge-driven and collaborative environment. Therefore, a Knowledge Management System (KMS) is critical to ensure various parties have the necessary information to perform SM activities. In an effort to model the requirements for sharing and sustaining knowledge in SM environment, we review literatures on Knowledge Management (KM), KMS and SM frameworks to identify the knowledge components, tools and technologies. An initial model of KMS components in collaborative SM is proposed, to be verified vis-a-vis a questionnaire survey. Before the questionnaires are sent out, a pilot study was conducted to identify misfit questionnaire items so that they could be revised before being sent out. Rasch Unified Measurement Method (RUMM) is used to analyze the pilot data. Item reliability is found to be poor and a few respondents and items are identified as misfits with distorted measurements. As a result, some problematic questions are revised and some predictably easy questions are excluded from the questionnaire.

**Keyword:** Knowledge management system; Software maintenance