



SOFTWARE ENGINEERING KNOWLEDGE CONSTRUCTION IN SOFTWARE COMPANIES - AN EMPIRICAL STUDY IN SRI LANKA

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Research on knowledge management in software engineering companies encounters very many unsolved and emerging issues needed to be tackled. This situation leads to a research area with utmost importance. Software development is a knowledge intensive and collaborative endeavor. It encompasses a diversity of knowledge related to concerned business domain, adopted development processes, techniques and available technologies. The success of the development heavily depends on knowledge and experience of the software engineers. Formalization of this knowledge in order to effective sharing among software engineers is uphill tasks. Hence, our research study aims to reduce this gap by evaluating current status of knowledge management practices in Sri Lankan software companies by an empirical study. Concurrent mixed methods research design, which allows researchers to collect quantitative and qualitative data concurrently has been used in this context. Knowledge synthesis theory which is an approach from systems science is used in this study to analyze and to interpret the perceptions of software engineers working in selected software organizations with respect to their knowledge management practices adopted by them. Findings of this study emphasized that the implementation of knowledge management practices consists of challenges related to technological, organizational as well as personal aspects such as Personal Software Process. Especially knowledge management can be seen as an opportunity to establish a common language among software engineers so that they can interact, negotiate and share the knowledge necessary in the software development process. The results also insist that incorporating knowledge management practices in software engineering, resulted savings in time and cost for development as well as better decision-making abilities leading to better quality software product. Along with these findings, our corresponding analysis and suggestions for more effective knowledge management and better creativity support, and some perspectives and future research directions in this field are presented.

Keywords: *software engineering knowledge, knowledge management practice, tacit knowledge, knowledge sharing, organizational learning*