

## UNDERSTANDING ARCHITECTURAL KNOWLEDGE SHARING IN AGILE SOFTWARE DEVELOPMENT IN SRI LANKAN SOFTWARE COMPANIES

Sewwandi K.I.<sup>1\*</sup> and Vasanthapriyan S.<sup>1</sup>

<sup>1</sup>Department of Computing & Information Systems, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka, Sri Lanka

\*kisewwandi13@gmail.com

Researchers have been given significant attention to sharing architectural knowledge in the software industries. Unfortunately, studies directly concentrated on the Sri Lankan software industry are difficult to locate and there is currently a gap in literature regarding the sharing of architectural knowledge in Sri Lankan software companies. Quantitative study method is used in chosen software companies to perform the study with development team employees. SPSS tool was analysed to data. This study aims to fill this gap by evaluating current status of architectural knowledge sharing behaviour, technique and strategy for architectural knowledge sharing in Sri Lankan software industries using an empirical investigation. Agile methodologies concentrate on team level collaboration, and some techniques for inter-team architectural knowledge sharing have also proved to be successful. But these techniques focus on within-team and between-team architectural knowledge sharing in the organization. The survey focuses on architectural knowledge sharing within agile teams and between the team with company colleagues. To identify the architectural knowledge sharing techniques, strategies, applied and challenges faced by the practitioners in agile software development growing software companies in Sri Lanka. In agile software development, collaboration and coordination depend on the communication, which is the key to success. Questionnaire was designed considering factors based on the previous literature covering dependent variable; architectural knowledge sharing practices; and independent variables; communication, agile techniques, organizational culture, quality and relationships. Structural equation modelling is used to analyse data, in order to assess both measurement model and structural model. According to findings, hypothesised associations with communication, agile techniques, organizational culture were identified to have a significant impact on architectural knowledge sharing practices while, quality and relationships do not represent an important relationship. Findings further emphasize techniques, strategies and motivation sources of architectural knowledge sharing in agile software development.

**Keywords:** *Architectural knowledge sharing, Knowledge management, Agile*