

An Empirical Study of Software Project Managers Using a Case-Based Reasoner

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Abstract

BACKGROUND – whilst substantial effort has been invested in developing and evaluating knowledge-based techniques for project prediction, little is known about the interaction between them and expert users.

OBJECTIVE – the aim is to explore the interaction of cognitive processes and personality of software project managers undertaking tool-supported estimation tasks such as effort and cost prediction.

METHOD – we conducted personality profiling and observational studies using think-aloud protocols with five senior project managers using a case-based reasoning (CBR) tool to predict effort for real projects.

RESULTS – we found pronounced differences between the participants in terms of individual differences, cognitive behaviour and estimation outcomes, although there was a general tendency for over-optimism and over-confidence.

CONCLUSIONS – in order to improve task effectiveness in the workplace we need to understand the cognitive behaviour of software professionals in addition to conducting machine learning research.