

# An Empirical Study on Establishing Quantitative Management Model for Testing Process

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**Abstract.** Frequently, effort of defect detecting and fixing are counted into software testing activities/phase. Current leading software estimation methods, such as COCOMO II, mainly estimate the effort depending on the size of software product and allocate testing effort proportionally. It can not predict detecting and fixing effort accurately. In fact, testing effort is significantly influenced by the quality of other software development activities. These lead to the difficulty of the testing effort to be estimated accurately. It is a challenging issue for quantitative software process management. In this paper, we propose an empirical method to identify performance objectives, establish performance baseline and establish quantitative management model for testing process. The method has been successfully applied to a software organization for their quantitative management of testing process.