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**Conference Proceedings**

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**Sat/8/19**

**No. 2 Meeting Room**

**Abstract ID: 16**

## **An Experimental Practice with the Lightweight Test Maturity Model to Improve Test Process of Korean Small & Medium Sized Companies**

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### **Abstract**

In Korea, most software development companies need to efficiently improve software quality on developing products of the project. As a way to improve software quality, most software companies are using their existing reference models that is not customizing to use. However, in order to apply quality-related reference models, many aspects such as organization, education, and training must be prepared, and also yield the vast related artifacts. To solve this problem, we developed a lightweight TMM model in 2016 that reduce some unnecessary items for Korea domestic small& medium sized software development companies. More important things is applied to two domestic software development company with this model Through this, we are able to guide the software development company in Korea to identify the weaknesses of the test process in a short time, and come up with the quality improvement plan in the test organization.

**Key Words:** Test Maturity Model, Software Quality

### **1. Introduction**

Recently, as software has been used in many fields, the importance in software quality has increased. Our Telecommunications Technology Association (TTA) supports the high-quality software development through the GS certification examination process, which detects and corrects some defects in software products. In addition, we developed a lightweight TMM in 2016 based on existing reference models through the process of Figure 1 to help us develop high quality software through test process improvements. This is to check the weakness of development organization through our lightweight TMM and to improve the test process based on it.

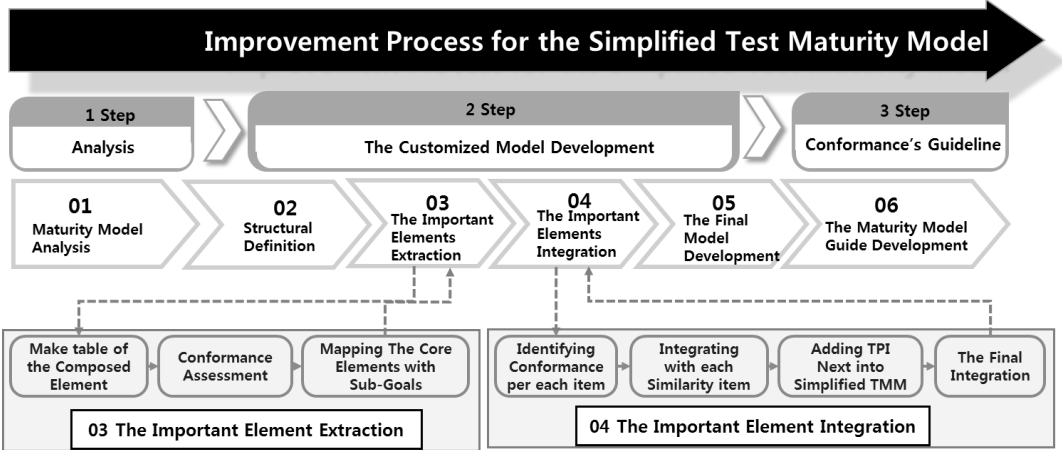


Figure 1. The Development Process of Our Lightweight Test Maturity Model 2016

**2. Test process improvement of the test organization with the Lightweight Test Maturity Model**

For our experimental works, we choose two domestic SMEs to adapt with a lightweight test maturity model. This evaluation is consisted of four steps: application for diagnosis, diagnosis plan, interview, a result review, and improvement. When an evaluation company applies for the Korean test maturity model evaluation, the diagnostic institution establishes the examination plan after receiving the application. The diagnosis plan is prepared by the diagnosis agency to diagnose the test maturity of the evaluating company and negotiate the visit schedule. The company to be evaluated should submit the data related to Zidane to the diagnosis agency. Like this, 1) Analyze data submitted by companies, 2) ask insufficient data, and 3) diagnose test maturity levels through interviews with employees of evaluation companies. After the evaluation, the auditors derive the improvement and submit the evaluation result to the diagnosis target company. Table 1 shows the result of adapting the lightweight TMM.

Table 1. Results of applying the Lightweight Test Maturity Model

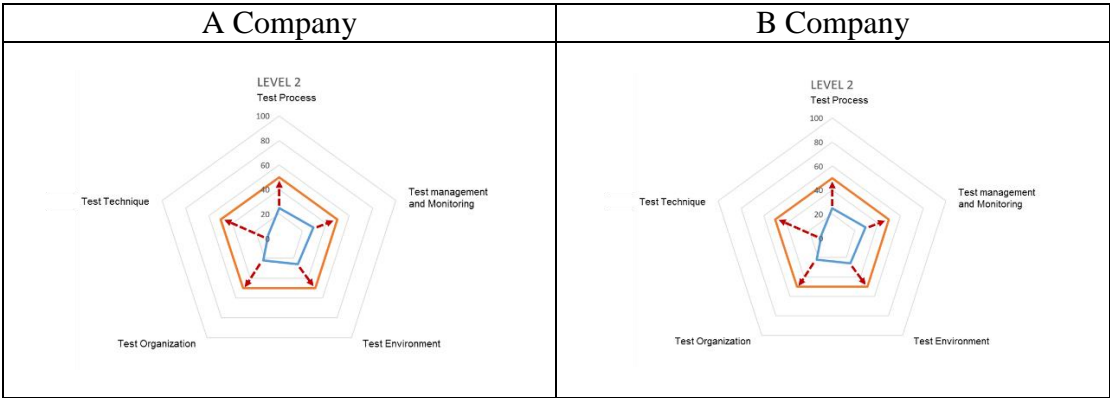


Figure 2 shows the evaluation results. The results of the evaluation show that both company A and company B are not satisfied Level 2. The details of the evaluation results and the diagnosis of each area are confidential and are not disclosed in this paper.

### 3. Conclusion

In this paper, we have guided the test process improvement with applying the lightweight test maturity model. In the course for experimental application, the guideline shows that the company can prioritize issues related to test activities. In the future, we will optimize the Lightweight TMM by stacking various applications.

### References

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### Notes

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