

Case Study

CMMI[®] Minimal Evaluation



Software Measurement Services Ltd.

Consultancy and training in the management of Information Systems.

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The Question

If you are investing to improve your software development and support processes, how can you tell that your investment is being well spent?

This was the question posed by the managing director of a Belfast-based software development business, part of a major international insurance provider. Their IT team develops software for a variety of applications, working partly on its own and partly in conjunction with the parent company in the United States. Some work is outsourced to a software house in India, primarily code and unit testing.

The Plan

The group recruited a dedicated Process Improvement Manager and instituted an improvement programme based on the CMMI.

The Capability Maturity Model (CMMI)[®] provides a standard to which an organisation can compare its practices. It is based on the concept that in order to improve, it is necessary to progress through:

- Maturity Level One – Chaos
- Maturity Level Two – Stabilize the process
- Maturity Level Three – Understand the steps of the process and make them visible
- Maturity Level Four – Measure performance of the process and base decisions on that feedback
- Maturity Level Five – Innovate to continuously improve

With the Capability Maturity Model, performance can be accurately measured and compared over selected process areas, giving management the information needed to make key decisions regarding future investment and targets.

The immediate challenge was to stabilise the projects and to achieve Maturity Level 2. Like so many companies, however, delivery of products to customers had to take priority.

The company made the decision to concentrate attention on the areas that would give the greatest return.

Three target areas were identified as the immediate priorities; project and risk management, requirements development, and configuration management. Project teams also recognised that implementing a disciplined review process would reduce defects and the associated re-work, resulting in a lot less frustration. It was decided therefore to add a disciplined review process as a fourth area for phase one of the improvement plan.

Money, time and effort spent on improving processes must be demonstrably worthwhile - after 12 months of work, the management needed to know exactly how much progress had been made and where to focus next. SMS was commissioned to perform an independent external assessment comparing the local practices against the CMMI.

Why Choose SMS?

In this case, the company already knew and trusted SMS as a knowledgeable and objective provider. SMS was able to respond quickly and provide a suitable procedure within the company's budget.

With over a decade of experience, SMS has established a worldwide reputation for excellence and for maintaining an enviable relationship with clients.

The Answer

SMS proposed using a Minimal Evaluation Process to provide the company with the information it needed. This minimises cost, in terms of direct expense, impact on the staff and on current delivery commitments.

Following one day's off-site preparation, looking at examples of the company's typical work products, templates, and standard processes, the SMS consultant spent five days in Belfast with the IT team. Formal interviews were held with 27 people, amounting to about 20% of the software development workforce.

During the interviews the independent test group was identified as a critical omission from the planned schedule. The Process Improvement Manager was able to schedule additional interviews to cover this important area.

At the end of each interview, each person was asked to name the one thing they would like to change. SMS has found this exercise extremely useful and the "wish list" (anonymous, of course) was evaluated and included in the final report, providing senior management with significant insight into the key concerns of their staff.

SMS completed the appraisal on time and in budget. The findings were set against the tried and tested CMMI goals coverage checklist and a detailed report given to the operational managers. Subsequent presentations of the findings were made to the Managing Director and other managers.

The appraisal showed clearly that the company's investment had institutionalised improved practices in the areas addressed. It had good implementation of technical reviews, by some measures rated in the best 20% of practice.



The benefits of Minimal Evaluation include:

- the rapidity with which it can be planned and scheduled
- its short duration
- its low cost.

It highlights high-priority improvement opportunities and potential quick-wins whilst maintaining the rigour of the CMMI.

And the answer to the company's original question?

Yes, its investment had been money well spent. Results suggested even better returns would be derived from further attention to process improvement.

Next Steps

As a direct result of the Minimal Evaluation, the company established new targets for performance. It doubled the size of its process improvement team, convinced that investment in this area is richly rewarded.

A Schedule of appraisals and interim evaluations continue to evaluate progress, enabling the management team to further define and prioritise areas for improvement.