

SPI Consulting in a Level 1 Company: An Experience Report

Tomas Schweigert and Michael Philipp

SQS Software Quality Systems AG
Stollwerckstraße 11
51149 Köln
tomas.schweigert@sqqs.de
michael.philipp@sqqs.de

Abstract. It has been demonstrated by several case studies that SPI programs generate a substantial benefit, especially for organizations with immature processes. However, experience shows, that there is little buy in to SPI programs from these organizations. The reason is the step by step approach in ISO 15504 and as well in CMMi (Staged) especially the lack of ability to deliver sufficient data for planning and confirming improvements. In these cases a measurement oriented approach might work better because it increases the probability of senior management commitment by focusing aspects which are in the range of management perception.

1 Introduction

There are several case studies which demonstrate that there is a substantial benefit to be had when Software Process Improvement (SPI) is implemented. The last was published by SEI in 2005 [Gibson 2006]. It is also reported that 70% of SPI initiatives fail [Statz 1997]. The two main reasons for failure are a lack of management commitment or unrealistic expectations about what SPI can deliver. In organizations with immature processes both risks have the same origin: the absence of measurement and valid process data.

1.1 SPI from a Management Perspective

From a management viewpoint most SPI initiatives in organizations with immature processes have a common problem: they might outline the improvement in a technical manner but are not able to produce figures suitable for management confirmation of the improvement. This leads to the management dilemma that the costs of SPI are clear (As there is a defined Budget to be spent) but the benefits are not calculable. The potential sponsor is in the position to believe the SPI approach (which leads to unrealistic expectations) or to refuse it (which leads to a lack of commitment).

Alternatively an improvement project may be forced by the customer side as it was historically with CMM or currently in Automotive SPICE but even then there is a high risk that efforts are reduced to the minimum necessary to fulfill the customer

requests. From a management perspective SPI provides compliance instead of performance improvement [Constant 2005].

1.2 SPI from an Improvement Viewpoint

ISO 15504-4:2004 chapter 6 makes a clear statement that business goals should be reviewed before defining an improvement initiative but only relates to processes. After the processes are selected for improvement, ISO 15504 provides a step by step approach through the capability each process. This can result in management frustration because management has no chance to receive other quantitative information than capability levels.

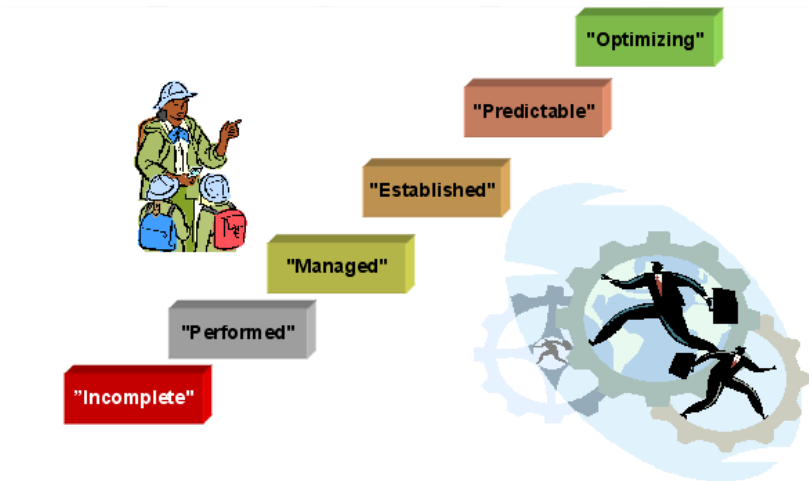


Fig. 1. The step by step approach might fit for technical staff or consultants but does not meet the management information needs

Even if the improvement project is successful in a technical way, meaning that technical people and project leaders accept the improved process and follow these procedures, it is difficult to evaluate the benefits for the business because it is not sure that the required data is available.

A common cause for this weakness is a lack of integration between quality management systems, life cycle models, procedure models and process models. A common symptom is insufficient project planning - isolated improvements for project planning or quality management are not able to fix this problem because they address the symptoms instead of the cause.

2 An Alternative Approach

During an SPI project in a German insurance company the SPI team faced the challenge that the customer was tired of changing processes without any measurable