

A Half-Day Workshop on “Smarter Investment by Aligning SPI Initiatives, Capabilities and Stakeholder Values”

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Abstract. Software companies who want to improve software process capabilities (SPCs) a systematic method to make informed investment decisions on software process improvement (SPI) initiatives. Such decisions should aim at creating maximum stakeholder values. To address this problem, we present a method with tool support that may help companies align stakeholder values with SPCs and SPI initiatives. The proposed method has been developed based on the well-established “Quality Function Deployment” (QFD) approach. The experience with the proposed method suggests that it particularly helps to reduce the risk of misalignment by identifying those SPI initiatives that are most beneficial to stakeholders. The tool support provided with the proposed method also generated positive experiences in increasing the usability of the method and helped companies in the elicitation and prioritization of stakeholder values. Therefore, we propose a workshop for the method work out named “Smarter Investment by Aligning SPI Initiatives, Capabilities and Stakeholder Values” in hypothetical case company.

Keywords: software process improvement, value-based software engineering, capabilities.

Introduction

Company executives need to invest in change initiatives that are most likely to improve those core capabilities of the company that have considerable impact on benefits provided to customers and other success-critical stakeholders. Change initiatives include, but are not limited to, SPI initiatives and aim at improving a company’s performance in delivering stakeholder values. Software quality teams often struggle to convince senior management to grant funding for SPI programs for lack of getting a clear picture of tangible benefits [1]. Even if there is common understanding on needed investment in SPI programs, senior management and the SPI team still may fail to invest in “right” capabilities, i.e., capabilities that best improve the value to stakeholders. By investing in right capabilities companies may diminish risk of spending financial assets on change initiatives that do not provide evident advantages to stakeholders.

While there are many potential benefits of SPI initiatives, one of the major risks is to focus on initiatives that have only marginal effects on capabilities of the company and bottom-line benefits. We refer to such misguided focus as “misalignment of SPI initiatives and stakeholder value”. Software process assessment models, such as CMMI or Spice, are useful to give an overview on relevant target candidates in software process areas (SPAs) and provide feedback on process maturity to motivate SPI initiatives [2].

We present a method for eliciting and aligning stakeholder values with a company's software process capabilities to identify the most promising SPI initiatives. Stakeholder value is the part of value-based requirement engineering activities which includes: “*identification of success-critical stakeholders; eliciting their value propositions with respect to the system; and reconciling their value propositions into a mutually satisfactory set of objectives for the system*” [3]. The proposed method is largely based on “Quality Function Deployment” (QFD) principles and is supported with a prototype tool for more efficient data collection and analysis. The method comprises two iterations:

I) The first iteration helps to understand the alignment/impact between stakeholder values and SPCs,

II) The second iteration helps to understand the alignment between SPCs and SPI initiatives.

Based on the analysis of alignment data from both iterations, the decision makers are more likely to make an informed decision on investing in “right” capabilities, which shows a strong connection between SPI initiatives, SPCs, and stakeholder values. Furthermore, the accompanying tool support intrinsically fosters an improved common understanding between senior management and SPI teams on the value of SPI initiatives.

References

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