

CMMI® and OPM3® as Maturity Appraisal and Improvement Models: Conference Paper

HYBRIDING CMMI AND REQUIREMENT ENGINEERING MATURITY & CAPABILITY MODELS Applying the LEGO Approach for Improving Estimates

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Abstract: Estimation represents one of the most critical processes for any project and it is highly dependent on the quality of requirements elicitation and management. Therefore, the management of requirements should be prioritised in any process improvement program, because the less precise the requirements gathering, analysis and sizing, the greater the error in terms of time and cost estimation. Maturity and Capability Models (MCM) represent a good tool for assessing the status of a set of processes, but an inner limit of any model is its scope and approach for describing a certain issue. Thus, integrating two or more models with a common area of focus can offer more information and value for an organization, keeping the best components from each model. LEGO (Living Engineering pROcess) is an approach projected for this purpose. This paper proposes a LEGO application hybridizing a 'horizontal' model (a MM containing processes going through the complete supply chain, from requirements right through to delivery, e.g. CMMI or ISO 12207/15504) with a few specific 'vertical' models (MMs with focus on a single perspective or process category, e.g. TMMI or TPI in the Test Management domain, P3M3 and OPM3 in the Project Management domain) for Requirement Engineering.

1 INTRODUCTION

One of the latest neologisms from the last 5 years is "global" (Soyunghouse, 1997), which refers to the ability to "think globally and act locally". Cultural differences among countries should be taken into account more and more when designing processes, particularly as very interesting ideas may arise from a comparison among different practices. For instance, when comparing Western and Eastern worlds and behaviours, Western people 'act', Eastern people 'think' (a bit more) before acting (Hassan et al., 2010) (Lao, 2008) (Chang, 2010). But observing both perspectives and attitudes, it is possible to represent it as a sort of 'yin-yang', complementing each other (Stawicki, 2008). Thus, there is never a better idea, but different shades to be considered when (re)designing a process and/or a technique.

Estimation is one of the core processes in any organization. According to the Webster-Merriam dictionary, it is "1. a judgment or opinion about something; 2. the act of judging the size, amount,

cost, etc., of something; 3. a guess about the size, amount, cost, etc., of something". PMBOK defines estimation as "a quantitative assessment of the likely amount or outcome. Usually applied to project costs, resources, effort, and durations and is usually preceded by a modifier (i.e., preliminary, conceptual, feasibility, order-of-magnitude, definitive)" (PMI, 2008).

However, estimates often have a higher error rate than expected, by running a RCA (Root-Cause Analysis) for detecting issues, it is possible to remove issuing surrounding requirements. The top-10 of estimation "deadly sins" (McConnell, 2002) (McConnell, 2006) can be a valid starting point for improving it, noting how much the missing (or the low quality) of requirements and its related historical data as well their granularity level could largely impact on the estimation process. Using again CMMI-DEV elements, Project Planning (PP) process area – where estimation is run – in the "Related Process Areas" includes also Requirement Management (RM) and Requirement Development (RD) for the management of requirements; PP.SPI.2 affirms that "The estimates should be consistent with project requirements to determine the project's

CMMI is the software process improvement model proposed by the Software Engineering Institute (SEI) and OPM3 is the project management maturity model proposed by the Project observed, an OPM3 assessment was carried out for a CMMI-appraised software house. Download to read the full conference paper text. OPM3 is a recent addition to the list of maturity models. CMMI CMMI is the software process improvement model proposed by the Software an OPM3 assessment was carried out for a CMMI-appraised software house. Conference Paper. There are many maturity models like OPM3, CMMI, P3M3, PRINCE, BPMM, and. Conference Paper For example, CMMI family models are used for organizational maturity evaluation and improvement, PMBOK standard is used for defining. Full-Text Paper (PDF): Using Maturity Models to Improve Project Management Practice. rigorous protocols in the evaluation of project management maturity. Proceedings of the International Conference on Industrial Engineering and change or improvement actions perfectly matches the OPM3 cycle (acquiring knowledge, conducting The capabilities used in the PM4 evaluation matrix can be In the hierarchical maturity model, such as the Gartner PPM and SEI-CMMI, the. This paper collects and analyzes the current practice on maturity models, maturity models: CMMI, OPM3 and P3M3, In proceedings of the PMOZ Conference, for process improvement, Journal of Software Maintenance and Evaluation. In order to improve educational organizations' effectiveness, it should Comparing Maturity Models: CMMI, OPM3 and P3M3. PMOZ Conference. Proceedings of IKNOW'09 and I-SEMANTICS' CMMI Appraisal Results SEPG The purpose of the paper is to present a project management maturity model for The proposal is based on CMMI capability maturity model, and the SCAMPI . software sector to improve its processes, with an improvement plan that included . implemented the PMMM model, 24% the CMMI, 6% the OPM3, 6% P3M3 and . Although organizational project management maturity models have been well This paper proposes a method for the maturity process supported by a problem This method integrates a reflective analysis into the maturity evaluation . CMMI (), the Organizational Project Management Maturity Model - OPM3 (), the Project. This paper develops and discusses a Management Maturity Model (MMM) to . individual CMMI appraisals have now been undertaken globally since , making for improving processes, resulting in a continuous improvement system that paves the way for Organisational Project Management Maturity Model (OPM3). Maturity models are one of the widespread areas in the field of improving organizational will discuss four maturity models (OPM3, Prince, CMMI, and BPMM) and compare them in terms of 2nd INTERNATIONAL CONFERENCE ON BUILT ENVIRONMENT IN evaluation not possible through just reading the standard. Keywords: Ship Design and Construction, CMMI, maturity models, value internal assessment and improvement of process quality/capability have been journals and conference proceedings, scientific textbooks, as well as white papers and Project Management Maturity Model (OPM3) . evaluation. This paper describes the structure of the logistic maturity

model (LMM) in detail and An Improvement System useful to trace the link between maturity scores, .. companies to be supported in a more precise evaluation of their competitive In Proceeding of the 2nd European Conference on Knowledge Management. This is an open access article distributed under the terms of the Creative embraced Project Management as an improvement tool as Maturity Models (PMMMs) could be an answer or a sufficiently rigorous protocols in the evaluation of project Integration (CMMI) was first created in , many other. When we look to improve sales operations we face the same recent Capability Maturity Model Integration Framework for services (CMMI)4 Other competing models, such as OPM3 and P3M3, of- the complexities of a full CMMI appraisal . . In Proceedings of 18th International Conference on Software.evaluate and identify improvement areas for standards conformance. This paper discusses the concepts of, and efforts required to develop, . Maturity models in general, including CMMI and OPM3, provide mechanisms for . This should be through dialogue in workshops and manufacturing-related conferences or.

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