

发起人高层会议总结报告

RAGHAV S. NANDYAL

SITARA TECHNOLOGIES PVT. LTD.

Dear Raghav Nandyal:

一、总体发现

在这次高成熟度评估中，我们进行了多次访谈和文件审查。通过利用贵公司丰富的经验和专业技能以及热情的协助，我们对本公司的 CMMI 成熟度实施情况有了更全面的了解。在本次评估结束后，我们获得了一系列宝贵的建议和改进意见，未来将进一步提升我们的管理、分析、开发能力。本次评估发现了一些改进建议，包括更好的识别机会、对破坏性测试的预判、逆向需求识别等方面，经过公司高层经理、EPG 过程改进小组、项目经理、QA、CM、OT 等过程改进中的重要角色回溯问题与研究讨论，一致认为发现改进项与公司的实际情况高度符合，符合度为 95%。

二、经验教训

我们从各个涉及到的过程域为切入点分别进行详细总结。

1. 需求开发和管理

针对不同的需求，我们意识到在项目方面：应当根据不同的项目属性，客户的要求，来建立需求的策略，并且对逆向的需求形成需求规范，并且要求所有的需求都按此规范来执行，比如密码的强度、用户有隐私条款的实现方式等等。而在 EPG 方面，也应当定期对需求获取的策略进行评审。获得所有项目组需求、设计、开发成员的承诺。

2. 验证

项目方面，我们应当建立相关的通用性的验证策略，将故障场景、破坏性操作等建立统一规范并执行，后续也作为其它项目测试必须要执行的内容。当然，制定了规范，就应当也要进行不定期的评审，以确保满足不同项目的要求。另外，也可在编写用例时参考需求文档和设计文档中是否描述了反操作和反用例，如果没有则找需求和设计人员沟通并添加。如果有描述则根据描述的反操作和反用例来编写测试用例。同时，针对本项目仅仅只开发了手机端的情况，建议也可以站在用户的角度上，开发网页版，来更好的服务用户。

测试过程虽然采用了白盒、黑盒测试，一些好的测试经验和技巧但都依赖个人经验，并没有形成机制化。我们建议对可以复用的经验和教训进行总结提炼，形成机制化，好处是能更好、更高效地帮助测试工程师开展测试工作。

3. 风险与机会管理

我们应当在决策分析、过程性能改进中也要识别机会的存在，并进行跟踪。同事应当更早的介入风险和机会识别过程，发掘机会的可能性，提升商业机会的可能性。

4. 过程资产开发

在接收到项目的阶段性报告之后，EPG 应当根据阶段性报告的内容对项目的目标进行评估，如果项目的目标已经发生了严重的偏差，EPG 应当及时介入，并要求项目组更改项目目标，编写根本原因报告。并且增加阶段报告的回顾性会议，复盘项目的情况，给予项目纠偏的帮助。

5. 评审

针对目前没有评审回滚的机制，我们可以在同行评审、过程改进实施后，如果发现没有效果，应当立即进行项目内部会议的讨论，如果各干系人均认为效果不佳，则应放弃当前的改进，并重启改进之前的过程。这个过程应当制定为项目组内制度，并执行。

6. 原因分析与决定

目前影响生产率的因子暂时还不太足够，对项目的指导可能会产品偏差，后续会对负相关的因子加以识别，并对正负因子之间的关系占比进行灵敏度分析，争取应用到过程性能模型/基线中。

7. 配置管理

针对配置管理没有验证的问题，月度 EPG 会议上对配置变更的信息会进行验证，并将变更的确认的信息记录于《配置变更记录》文件中。

同时，每月通过月度 EPG 会议对配置变更的信息进行表更效果确认，确认结果记录在 EPG 月报及会议纪要内，并将确认后的信息记录于《配置变更记录》文件中。

8. 培训

组织的培训需求和培训计划后续也会进行评审，并以评审记录表的形式进行留痕。

9. 项目管理

EPG 将增加每月对职能部门的工作总结及投入产出的分析，通过 EPG 月度会议进行阶段回顾总结，评估对培训、质量保证类等生产率建立过程基线进行量化管理。

考虑实施定期的“产品和过程”回顾性会议，以了解所使用的过程是否与正在开发的工作产品有关。此外，产品回顾有助于记录已经开发的功能的经验教训，并可能

会改善产品功能的快速发展，如果必须构想以后的版本，则回顾性会议也有助于建立有效的产品线。

项目通过《度量分表表》执行项目过程度量分析，并对过程度量数据进行分析，完成度量分析表，根据分析结果识别项目过程改进项，并利用过程性能基线及模型进行分析引进过程改进项，通过项目独立改进项报告进行验证与目标达成的一致性，出现偏差会及时调整及修订项目管理目标，并形成阶段常态化管理。

三、重要意义

- 1、节约了项目级公司生产成本，规范了项目流程及规范制度，项目结束时对项目成员的绩效进行评估，通过这种方式，项目经理可以从项目团队成员以及同级别的资源管理者那里获得有价值的反馈，从而提高领导力以及相关利益相关者的管理技能。
- 2、项目管理模型可以帮助组织找出其项目管理中存在的缺陷并识别出项目管理的薄弱环节，形成对项目管理的改进策略，从而稳步改善项目管理水平，使企业的项目管理能力得到持续提升，并有效的提高了客户满意度。
- 3、帮助企业在软件开发过程中建立严格的质量保证流程，包括代码审查、测试、缺陷管理等，从而提高软件的质量和可靠性
- 4、通过过程分析和持续改进，不断优化的过程，我通过培训、规范、标准化、度量、监控、沟通、协作、改进、学习等多种手段，不断提升组织的能力与成熟度水平。提高公司产品整体质量。通过对项目不良成本的分析，强化阶段任务的投入，及时发现问题并提出预警，有助于减少产品设计阶段的问题，从而提高产品质量和员工素质
- 5、实施 CMMI 需要企业员工掌握一定的软件开发技能和项目管理知识，因此促进了员工技能的提升，并展示了企业其对软件质量的重视和对客户的关注，提高企业的

形象和信誉度。

四、改进措施

通过对本次评估中发现的弱项，问题，建议项的汇总 EPG 小组对其进行分析讨论，对各项问题执行了详细的改进措施及计划，并通过《EPG 改进计划表》、《过程信息跟踪表内》进行跟踪管理、每月 EPG 阶段会议进行改进效果确认和分析，改进效果并记录于《EPG 月报》、《月度会议纪要》、《过程改进报告》、《差距分析报告》内。并对相关过程体系文件等进行修订发布，最终移交组织财富库进行资产管理。

《过程改进计划》对组织需要改进的内容定义了详细的的活动项、过程总工作量、标准执行时间信息、推广方案、活动所需资源列表。EPG 根据改进要求收集试点项目样本信息，通过 EPG 小组、项目经理、公司高层管理者对改进构成所有相关风险进行了识别。组织从技术、培训、咨询等提供了充足的支持和保障，有效的保障了改进过程的效率及改进的效果。并标准化的推广至所有项目。

改进环节的执行部分，EPG 每月定期对整个改进过程进行监控，对执行过程所有量化数据进行收集并进行分析，甄选适合的过程性能模型进行管理，通过统计工具验证和监控过程的稳定性及有效性，并通过过程分析识别的改进点进行及时应对，不断根据过程需要优化过程性能模型，保证改进目标的达成。所有改进相关的影响因子需全面的覆盖正负相关所有因子，以保证所有过程的相关因素都被分析到。持续提升项目整体水平。

通过本次评估识别的过程执行项和公司实际实施现状使我们进一步加深了对 CMMI5 的理解，让企业从体系本质上认识到了不足的地方，实施 CMMI5 是一个持续改进，不断优化的过程，正如我们公司的质量目标：提供领先的解决方案、全程务实的

优质服务、不断提高客户满意度，持续改进。后续我司将通过培训、新技术的引用、成熟的过程性能模型、监控、标准化的流程、完善的制度规范、有效的绩效考核机制、等维度进行组织内部的提升和改进，提高开发效率等方面具有重要帮助，进而协助公司更好的适应市场环境，实现长期愿景。因此，我们会以 CMMI5 作为重要的工具，不断提升产品质量和管理能力。再次感谢本次评估老师的辛苦付出及专业指导。

我在此授权并同意您本人和 SITARA Technologies 在 SITARA 的出版渠道上分享我们的评估成果，在 SITARA Technologies 认为合适的情况下宣传我们的评估成果。

伍千虎

创智和宇信息技术股份有限公司

发起人：伍千虎

2023年09月11日



EXECUTIVE SESSION BRIEFING - SPONSOR FEEDBACK

RAGHAV S. NANDYAL
SITARA TECHNOLOGIES PVT. LTD.

Dear Raghav Nandyal:

Overall findings

In this high maturity appraisal, multiple interviews and document reviews have been conducted. Through leveraging you and your team's extensive experience and expertise, as well as the enthusiastic cooperation, we have gained a comprehensive understanding of our company's CMMI maturity implementation. Following the conclusion of this appraisal, we have acquired a series of valuable recommendations and improvement suggestions, which will further enhance our management, analysis, and development capabilities.

Several improvement suggestions have been identified in this appraisal, including better opportunity identification, anticipation of destructive testing, reverse requirement recognition, among others. After a retrospective examination and research discussion involving key roles in the process improvement, such as company senior managers, EPG process improvement teams, project managers, QA, CM, and OT, it has been unanimously agreed that the identified improvement items align highly with the company's actual situation, with a conformity rate of 95%.

Lessons Learned

We have conducted detailed summaries for each of the process areas involved, using them as entry points for our appraisal.

Engineering management

For different requirements, it is realized by us in the project aspect that requirements strategies should be established based on different project attributes and customer demands. It is required that a requirement specification is formulated for reverse requirements, and all requirements must be executed according to this specification. This includes aspects such as password strength and the implementation method of user privacy clauses, among others. In the case of EPG, the strategies for requirement acquisition should also be periodically reviewed. Commitment from all project team members, including those in design and development, is obtained.

In the project aspect, relevant generic validation strategies should be established. Fault scenarios, destructive operations, and similar aspects should be standardized and

executed uniformly. These will subsequently become mandatory testing procedures for other projects. Naturally, once the standards are established, periodic reviews should also be conducted to ensure compliance with the requirements of different projects.

Furthermore, when writing test cases, it's advisable to reference the requirement and design documents to check if reverse operations and use cases are described. If they are not described, communication should be initiated with the requirements and design personnel to add these details. If they are described, test cases should be written based on these reverse operations and use cases.

In addition, for this project, which has only developed a mobile version, it is recommended to consider the user perspective and develop a web version as well to better serve users.

Although the testing process currently incorporates white-box and black-box testing and benefits from some good testing experience and techniques, it relies heavily on individual expertise and lacks formalization. We recommend summarizing and refining reusable experiences and lessons learned to establish a more formalized process. The advantage of this is to better and more efficiently assist testing engineers in their testing work.

Project management

Opportunities should be identified and tracked in decision analysis and process performance improvement. Colleagues should get involved in the risk and opportunity identification process earlier, exploring the potential for opportunities and enhancing the likelihood of business opportunities.

Regarding the lack of a rollback mechanism in the current situation, a mechanism should be established. Following peer reviews and process improvement implementations, if it is observed that there is no improvement, an immediate discussion should take place during internal project meetings. If all stakeholders agree that the results are unsatisfactory, the current improvement should be abandoned, and the previous process should be reinstated. This process should be institutionalized within the project team and executed.

Support

Currently, the factors affecting productivity are not quite sufficient. Guidance for the project may result in product deviations. Subsequently, efforts will be made to identify the negatively correlated factors and conduct sensitivity analysis on the proportion of relationships between positive and negative factors. The aim is to apply this analysis to process performance models/baselines.

Regarding the issue of unverified configuration management, the information related to

configuration changes is verified during the monthly EPG meetings, and the confirmed details are documented in the "Configuration Change Records" file.

Additionally, a monthly review of the effectiveness of configuration change information is conducted during the monthly EPG meetings. The results of this confirmation are documented in the EPG monthly report and meeting minutes, and the confirmed information is also recorded in the "Configuration Change Records" file.

Organizational training needs and training plans will undergo subsequent reviews, and these reviews will be documented in the form of a review record sheet.

Monthly work summaries and input-output analyses of functional departments are added by EPG. Phase review summaries are conducted through monthly EPG meetings to assess the quantified management of productivity processes such as training and quality assurance baseline establishment.

Regular "Product and Process" retrospective meetings are considered for implementation to understand if the processes being used are relevant to the work products being developed. Additionally, product reviews help capture lessons learned from developed features and may enhance the rapid evolution of product features. If envisioning future versions is necessary, retrospective meetings also aid in establishing effective product lines.

The project conducts process measurement analysis using the "Measurement Analysis Table" and analyzes process measurement data. The measurement analysis table is completed, and project process improvement items are identified based on the analysis results. Process performance baselines and models are utilized to analyze the introduction of process improvement items. Consistency with goals is verified through the Project Independent Improvement Item Report. Any deviations are promptly adjusted and project management objectives are revised, forming a normalized stage management process.

Relevance

Project-level company production costs are saved, project processes and regulations are standardized. Performance evaluations of project members are conducted at the end of the project. Through this approach, valuable feedback is obtained from project team members and peers in resource management, thereby enhancing leadership and management skills of relevant stakeholders.

The project management model helps the organization identify defects in its project management and pinpoint weak links in project management. This leads to the development of improvement strategies for project management, steadily improving

project management capabilities, ensuring continuous enhancement of enterprise project management capabilities, and effectively increasing customer satisfaction.

It aids the organization in establishing stringent quality assurance processes during software development, including code reviews, testing, defect management, etc., thereby improving software quality and reliability.

Through process analysis and continuous improvement, processes are continuously optimized. I employ various means such as training, standardization, metrics, monitoring, communication, collaboration, improvement, and learning to continually enhance the organization's capabilities and maturity level. This elevates overall product quality within the company. By analyzing the costs associated with project defects and strengthening phase task inputs, problems are detected and warnings are issued promptly, thus reducing issues in the product design phase and improving product quality and employee skills.

The implementation of CMMI requires employees to possess certain software development skills and project management knowledge. Therefore, it promotes the improvement of employee skills and demonstrates the company's commitment to software quality and customer satisfaction, enhancing the company's image and reputation.

Improvement measures

In the future, by summarizing the weaknesses, issues, and suggestions identified in this appraisal, the EPG team will conduct detailed analysis and discussions. They will implement comprehensive improvement measures and plans for each issue. Tracking and management will be done through the "EPG Improvement Plan," and the effectiveness of improvements will be confirmed and analyzed during monthly EPG stage meetings. The results of these improvements will be recorded in the "EPG Monthly Report," "Monthly Meeting Minutes," "Process Improvement Report," and "Gap Analysis Report." Relevant process system documents will be revised and published, ultimately transferred to the organizational knowledge repository for asset management.

The "Process Improvement Plan" will define detailed activity items, the total workload for the process, standard execution time information, promotion plans, and the list of resources required for the organization's improvement needs. EPG will collect sample information for pilot projects based on improvement requirements and will identify all relevant risks in collaboration with the EPG team, project managers, and senior company managers. The organization will provide ample support and assurance from technical, training, and consulting perspectives, effectively ensuring the efficiency and results of the improvement process. Standardization will extend to all projects.

Regarding the execution of the improvement process, EPG will regularly monitor the entire process every month, collecting and analyzing all quantitative data from the

execution process. They will manage it through suitable process performance models, verify and monitor the stability and effectiveness of the process using statistical tools, and promptly address improvement points identified through process analysis. The process performance models will be continuously optimized based on process requirements to ensure the achievement of improvement goals. All factors affecting improvement must comprehensively cover both positive and negative factors to ensure that all process-related elements are analyzed. This continuous improvement approach will enhance the overall project capabilities.

Identifying process execution items and comparing them with the company's actual implementation through this appraisal will deepen our understanding of CMMI5 in the future. It will make the organization realize the areas of deficiency fundamentally. Implementing CMMI5 will be a continuous improvement and optimization process, aligning with our company's quality goals: providing leading solutions, delivering pragmatic high-quality services throughout, continuously enhancing customer satisfaction, and pursuing ongoing improvement. In the future, our company will improve internally through training, adopting new technologies, mature process performance models, monitoring, standardized processes, well-defined regulations, and effective performance evaluation mechanisms. These aspects will significantly contribute to enhancing development efficiency and help the company better adapt to the market environment, realizing long-term aspirations. Thus, we will use CMMI5 as an essential tool for continuously improving product quality and management capabilities. Once again, we appreciate the hard work and professional guidance of the assessors in this appraisal.

I hereby authorize and give consent to you and SITARA Technologies to share our appraisal accomplishments on SITARA's publishing channels, giving publicity to our appraisal accomplishment as SITARA Technologies deems it fit.

任千宏

PowerSI Information Technology Co. Ltd

Sponsor: Wu Qianhu

September 11th, 2023

