

尊敬的 Raghav 先生：

首先，作为公司 Sponsor，我代表天津易商数科科技股份有限公司全体员工，再一次感谢您主持我司 CMMI5 级复审工作；疫情原因，此次以远程视频会议形式完成了此次评估，我对于您本次的审计过程中的专业性和敬业精神表示钦佩。

在本次 CMMI2.05 级复评估中，主任评估师 Raghav 先生针对所有的实践域，对我司研发管理提出了很多好的改进建议，从工程以及全局来说，这些改进建议覆盖率达到 97% 以上，这对公司的技术能力提升和管理能力提升都具有重要的意义。

经过分析改进建议项的分布情况，公司后续计划按照以下优先级实施改进：

- 1、EPG 分析降低编码注入缺陷比例目标时候，识别的因子包括培训时长、代码复用比率，建议增加更多业务相关的因子，比如业务复杂、业务熟悉程度，以便增加预测概率。
- 2、目前创建 PPB、PPM，使用了历史数据，有些数据更新不够及时，可以考虑增加项目中新数据，以便及时改善模型，改善性能指标。
- 3、项目根因分析报告中，识别的根因是框架升级缺少培训，项目经理应更早的识别这个问题，更早的解决。
- 4、CAR 报告中，对于改进措施有效性的验证，仅仅在本项目中做了效性验证，建议由 EPG 推广到其他项目中进行验证。
- 5、系统测试报告缺陷分析不详细，建议呈现测试用例覆盖率、缺陷注入 vs 缺陷识别以及预计要达到的通过标准的量化结果。
- 6、公司技术革新时，在编码和集成阶段，建议组织增加测试自动化工具研究，提高测试自动化工具使用比例，比如引入自动化测试工具 Paywright、Selenium，提高测试效率。
- 7、项目集成计划中，定义的集成任务工期没有定义每个组件模块的集成时间，建议详细定义每个组件集成的时间节点，以便更好的把控集成进度和风险。
- 8、建议每年的培训预算，根据公司规模的扩大而增加，以适应企业业务拓展的需要。
- 9、企业范围改进解决方案，增加结合市场调查和专业人员的参与。

以上提出的改进建议项对于公司的研发管理水平大有帮助，发现了我们存在的短板问题，尤其是两点问题：1、根因分析不够彻底，量化指标因子偏低。如果根本原因分析的不够详细，不能识别出更多的量化指标因子，导致模型预估偏差较大，从而可能引起项目进度失控，增加了项目交付失败风险的发生概率。2、需要加强业务相关性的培训。除了软件技术能力之外，行业法律法规、市场

变化情况、行业业务知识同样重要，都需要结合公司及项目组实际情况，加强对相关人员的业务培训。在充分了解客户的业务需求前提下，结合公司自身的技术能力和产品工厂(MpaSs)把客户的点需求拓展到公司技术框架，最终实现保险公司数字化能力的搭建，将相关系统开发和实施所需专业保险、开发、平台、效率管理等知识分解成培训计划落实到相关人员，这一点将会对于公司业务发展起到极大的推动作用，有助于实现公司战略目标。

通过这次 CMMI5 级复评估识别的改进建议，后续会召集公司的高层、EPG、QA、CM 以及项目组成员总结分析以及制定后续改进计划。今后我们也需要加强多方面的过程改进意见收集，识别更多可量化指标，增加模型中更加可控的因子，增加模型数据的全面性，增加可信度，使预测更加准确。注重改进过程实施问题，以便及时发现过程改进的不足，及时评估效果，对于好的改进进行大力度的推进，对于改进效果不明显的及时分析原因并进行调整。

我们会持续按照 CMMI 模型指导公司过程改进工作，在改进过程中不断的去实践，不断提升公司的项目管理能力，实现公司的发展目标和市场价值。

天津易商数科科技股份有限公司

发起人:

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Dear Mr. Raghav.

On behalf of all the employees of Tianjin Ebiz-digits Technology Co.,Ltd, I as the company's Sponsor would like to express my gratitude to you once again for leading our CMMI Level 5 Re-appraisal. Due to the epidemic, this appraisal was completed via remote video conference, and I admire your professionalism and dedication in this process.

In this CMMI 2.0 Level 5 reappraisal, the lead appraiser and his team made many good improvement suggestions for our R&D management for all the practice areas. In terms of engineering and other functions, the coverage of the improvement reached over 97%, which is of great significance to the company's technical capability improvement and management capability improvement.

Upon studying the allocation of improvement suggestions, the company plans to implement improvements according to the following priorities:

1. It is recommended to add more business-related factors, such as business complexity, business familiarity, in order to increase the probability of prediction, EPG analysis to reduce the proportion of coding injection defects in the target, the identification of factors including training hours, code reuse ratio.
2. We consider adding new data in the project in order to improve the model in a timely manner and improve performance indicators. The data update is not timely enough.
3. The root cause identified in the root cause analysis report of the project is the lack of training for the framework upgrade, the project manager should identify this problem earlier and solve it earlier.
4. The CAR report, for the validation of the effectiveness of the improvement measures, only validation of effectiveness is done in this project, it is recommended to be extended by EPG to other projects for validation.
5. The system test report defect analysis is not detailed, so it is proposed to Present the quantitative results of test case coverage, defect injection vs. defect

- identification and the expected pass criteria to be achieved.
6. When the company innovates technology, in the coding and integration stages, it is recommended that the organization increase the research of test automation tools and improve the proportion of test automation tools used, such as the introduction of automated testing tools Playwright , Selenium, to improve testing efficiency.
 7. The integration task duration defined in the plan does not define the integration time of each component module. It is recommended to define the time node of each component integration in detail to better control the integration progress and risk.
 8. It is recommended to increase the annual training budget according to the expansion of the company size to meet the needs of business expansion. 9. The enterprise scope improvement solution should be increased by combining market research and professional participation.

The above proposed improvements are of great benefit to the company's R&D management level and reveal our shortcomings, especially two problems: 1. The root cause analysis is not thorough enough and the quantitative index factor is low. If the root cause analysis is not detailed enough, more quantitative indicators cannot be identified, resulting in a larger deviation in model prediction, which may cause the project schedule to be out of control and increase the probability of project delivery failure risk. 2. Business-related training needs to be strengthened. In addition to software technology capabilities, industry laws and regulations, market changes, industry business knowledge is also important, all need to be combined with the actual situation of the company and the project team to strengthen the business training for relevant personnel. Under the premise of fully understanding the business needs of customers, combining the company's own technical capabilities and product plants (MpaSs) to expand the customer's needs to the company's technical framework, and finally realize the construction of digital capabilities of insurance companies, the relevant system development and implementation of the

required professional insurance, development, platform, efficiency management and other knowledge decomposed into training programs to implement the relevant personnel, which in turn will play a significant role in the company's business This will greatly promote the development of the company's business and help achieve the company's strategic target.

The improvement suggestions identified through this CMMI Level 5 appraisal will be summarized and analyzed by the company's senior management, EPG, QA, CM and project team members, and a follow-up improvement plan will be developed. In the future, we also need to strengthen the collection of process improvement suggestions in many aspects, identify more quantifiable indicators, add more controllable factors in the model, increase the comprehensiveness of the model data, increase the credibility, and make the prediction more accurate. We focus on the implementation of the improvement process, so that we can find the shortcomings of the process improvement in time, evaluate the effect in time, promote the good improvement with great efforts, and analyze the reasons and make adjustments for the less effective improvement in time.

We will continue to follow the CMMI model to steer the company's process improvement endeavor and keep practicing to improve our project management capabilities and fulfill the company's development goals and market value.

Tianjin Ebiz-digits Technology Co., Ltd.

Sponsor:

王全刚
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