致 Raghav 先生,

本次评估发现工作发现的问题,反映了公司目前软件工程实践 80%的状态。公司目前处于快速发展阶段,由于人员规模的快速扩大、业务规模的成倍增长,要求我们开展更加深入的管理实践。目前在培训、项目团队能力提升、高效率开发等方面还没有实现最佳的管理效果。通过这次学习和发现,使我们清晰的认识到了我们管理上存在的不足。

(1)针对项目人员相关技能的培训有所不足,还需要根据员工知识技能与岗位要求差距进行针对性的培训,提高员工的工作能力。

(2)项目人员在需求确认和需求跟踪的执行方面存在不足,在和客户的需求沟通以及需求确认的相关文档都需要做到充足全面的记录,同时利用需求跟踪矩阵实时对于项目需求进行跟踪,才能保证项目需求以及需求变更能够被很好地执行。

(3)开发人员在代码编写和更新过程中没有形成统一的规范,后续对于代码编写、注释、审查等方面需要进行统一的要求,在公司内部建立标准规范,提高代码编写效率和代码编写质量。

(4)项目在进行代码走查前没有很好地确认代码走查时间,在确认 bug 后在 bug 管理表中没有很好地对 bug 进行分类并进行统计分析,这些会影响我们的代码走查评审效率以及 bug 处理效率,还需要加强对于代码走查和 bug 管理的重视,对相关过程进行改进。

(5)系统开发完成后的试运行以及验收阶段要求还不够完善,应当在在运行方案中添加关于试运行启动和结束的条件,在验收方案中添加系统测试环境要求,确保系统试运行和验收阶段文档的完整性,为用户提供更好的服务。

(6)公司在风险评估方面还不够重视,需要在组织过程风险库中添加更多的风险项内容,对于可能存在的风险进行更好的预估;同时在项目上加强项目风险管理意识,提早对项目可能出现的风险项进行识别,对风险影响和解决方案进行评估,才能确保项目更顺利地进行。

(7)在进行项目决策分析和原因分析时可以采用更多的分析方法,综合运用以提高分析的科学性和结论的合理性,同时可以组织项目人员进行决策分析方法

和原因分析方法的学习，协助项目经理来完成决策分析和原因分析。

(8)目前发现在组织管理和项目执行过程中过程文档太多，而且部分文档模板存在缺陷，后续工作中需要组织相关人员定期对于组织过程资产库中的文档进行评估，对于多余的文档进行清理，对于过期的文档进行更新，从而提高管理效率和文档利用率。

(9)在公司商业目标制定和 QPPO 分析过程中要做好度量数据的收集，尽可能准确、及时的收集到度量数据，充分考虑到项目目标和组织目标实现的关键点，在模型建立时要更加谨慎，选择正确的关键数据便于公司后续的性能改进。

公司在快速发展阶段需要借助外部专业机构帮助我们发现组织管理上的不足，指导我们发现改进方向和改进措施。这次学习，我意识到我们在组织目标制定、项目过程管理、项目资源配置、组织和项目人员培训等方面的不足，确实需要采取进一步、更加深入、细致的目标分解和管理推动，这样才能在未来实现组织效率和研发能力的提升。同时也发现组织 EPG 管理能力、项目经理对项目的管理能力、开发人员、测试人员等效率提升方面还有很大空间，公司后期也将针对各个岗位人员业务能力提升，制定针对性专业培训计划并实施专项培训来帮助各个岗位人员提高工作能力。我相信这次评估工作将会帮助企业从根本上进一步提升组织管理水平和人员技术能力，对组织发展、组织战略目标实现具有推动作用。

针对本次发现工作，公司将从如下三个方面推动组织的改进：

(1)赋予更多资源加强组织内的培训工作。根据不同业务领域针对性的制定专项培训计划，帮助员工提高职业技能和解决问题的能力。

(2)推动 CMMI2.0 在公司与管理和项目实施的深入融合，用 CMMI2.0 体系指导公司开展实践工作，从实践中发现改进方向和改进目标，实施改进并推广。

(3)高层经理参与组织战略目标和项目目标制定、评审、发现、解决等工作中，并为整个工作的开展提供帮助和资源支持。

发起人：_Jinshuang Peng_

总经理

奥格科技股份有限公司 Augur Intelligence Technology Ltd.

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Dear Raghav,

The improvement opportunities identified in this benchmark appraisal reflected 80% of the current state of the company's software engineering practices. We are currently in a phase of rapid development. Due to the rapid expansion of the scale of personnel and the exponential growth of business scale, we are required to carry out better management practices. At present, the best management effect has not been achieved in terms of training, project team ability improvement, and high-efficiency development. Through this study and appraisal discovery, we have clearly realized the deficiencies in our process.

The benchmark appraisal delivered from January 4th, 2022 to January 11th, 2022 for our organization offered us these key lessons as take-aways.

1. The training of relevant skills of project personnel is insufficient, and it is necessary to carry out targeted training according to the gap between employees' knowledge and skills and job requirements to improve employees' working ability.

2. The project personnel have deficiencies in the implementation of requirement confirmation and requirement tracking. They need to make sufficient and comprehensive records in the communication with customers and related documents of requirement confirmation. At the same time, the requirement traceability matrix is used to track the project requirements in real time to ensure that project requirements and requirements changes can be well implemented.

3. Developers did not use a unified specification in the process of code writing and updating. In the future, unified standard for coding, commenting, review, etc. need to be established, and standard specifications should be established within the company to improve coding efficiency and coding quality.

4. The practices for the product pilot and acceptance phase after the system development are not perfect. The criteria for the start and end of the product pilot should be added to the product pilot plan, and the system test environment requirements should be added to the acceptance plan to ensure the system product pilot and acceptance activities. We shall ensure the integrity of the documentation in the product pilot and acceptance phase to provide better services to users.

5. The project did not confirm the code walk-through time well before the code

walk-through, and after confirming the bugs, the bugs were not well classified and statistically analyzed in the bug management table, which would affect our code walk-through. For review efficiency and bug handling efficiency, it is also necessary to pay more attention to code walkthrough and bug management, and to improve related processes.

6. We has not paid enough attention to risk management. We need to add more risk items to the organizational process risk database to better estimate possible risks. We should better identify the possible risk of the project, and evaluate the risk impact and countermeasure to ensure the project progress.

7. More analysis methods can be used in the project decision analysis and cause analysis. A comprehensive use of that can improve the correctness of the analysis and the rationality of the conclusions. We will assist the project manager to complete decision analysis and cause analysis.

8. Currently it is found that there are too many process documents in the process of organizational management and project execution. Some document templates are defective. In the follow-up work, it is necessary to organize relevant personnel to regularly evaluate the documents in the organizational process asset library and clean up the redundant documents. We aim to update expired documents, thereby improving management efficiency and document utilization.

9. In the process of setting up the company's business objectives and QPPO analysis, it is necessary to do a good job in the collection of measurement data. It is crucial to collect measurement data as accurately and timely as possible. The critical process of project objectives and organizational objectives should be fully consider. We should be more careful and choose the right data to facilitate the company's subsequent performance improvement.

At a high level, based on these key lessons learned, the organization will pursue follow up process improvements as follows:

In the phase of rapid development, we need to continuously rely on external professional organizations to help us discover deficiencies in organizational management and guide us to find improvement directions and measures. During this study, I realized that we are insufficient in the formulation of organizational objectives, project process management, project resource allocation, organizational

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and project personnel training, etc. We really need to take further, more in-depth and detailed objectives derivation and manager promotion, so that we can realize the improvement of organizational efficiency and R&D capabilities in the future. At the same time, it is also found that there is still a lot of room for efficiency improvement in terms of organizational EPG management capabilities, project managers' management capabilities for projects, developers, and testers. We will implement specific training to help personnel in various occupations improve their competitiveness. I believe that this appraisal will help us improve our organizational management level and personnel technical capabilities fundamentally, and will also promote organization progress and the realization of organizational strategic objectives.

In response to this appraisal, we will drive organizational improvements in the following three areas primarily:

1. Allocate more resources to strengthen training within the organization. Specialized training plans are going to be formulated according to different business fields to help employees improve their professional skills and problem-solving abilities.

2. We will promote the in-depth integration of CMMI2.0 with management and project implementation in the company. Use the CMMI2.0 system to guide the company to carry out practical work, discover improvement directions and improvement objectives from practice.

3. Senior managers participate in the creation, review, discovery, and resolution of organizational strategic objectives and project objectives to provide assistance and resource support for the entire work.

Yours sincerely,

Sponsor: Jinshuang Peng

General Manager (总经理)

Augur Intelligence Technology Ltd. (奥格科技股份有限公司)