

# Study on Project Portfolio Management Organization Maturity for Major Construction Enterprise

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**Abstract.** There are many different kinds of projects in major construction enterprises, thus, it is very important to well manage the whole project portfolios. However, not all the construction enterprises can easily and expertly manage these complex project portfolios. Project portfolio management organization maturity can be a good tool for these enterprises to know what the situation of the project portfolio management and how to get to the higher level of the project portfolio management. This paper firstly introduces the current situation of the construction market and several maturity models, and then proposed a project portfolio management organization maturity model.

## Introduction

The ideal situation of the project portfolio management of an enterprise is that its project portfolio contains all the projects and/or programs of the enterprise. In such situation, to the utmost extent, the project portfolio can keep in accordance with the enterprise strategy and the limited enterprise resources can be most efficiently used. However, due to the risks and uncertainties, it is not easy to get to such level for any enterprise<sup>[1]</sup>. Special skills, experiences and knowledge accumulation are required.

The maturity of an organization can measure the project portfolio management ability of or the level of a construction enterprise and hence it will help to consistently improve the project portfolio management organization ability and techniques. Since project portfolio management is a higher level of project management. The project management maturity can act as a good reference of the project portfolio management portfolio.

## Project Management Maturity

Project management maturity refers to the ability owned by an organization to perform a project successfully and smoothly, according to the pre-set target and limited conditions. Strictly speaking, project management maturity refers to the maturity of a project management organization to perform the project management. As a new concept, project management maturity provides a path for the construction enterprises to evaluate and improve their project management level. Generally, based on the project management process, project management maturity model has several gradually improving levels from chaos status to the standard status. Each project management level in this model can act as the basement of the next level. Hence, the process of project management maturity improvement is the one of project management level for the construction enterprises.

The project management maturity model can help to easily find the existing defects and identifying the weak points in the project management process. By improving the most important

problems and through the improvement strategy, the project management level of the construction enterprise will be improved steadily, as well as its project management ability.

There are many types of project management maturity models, such as the CMM model developed by the SEI, OPM3 (Organization Project Management Maturity Model) proposed by the PMI (Project Management Institute)<sup>[2]</sup>, K-PMMM model proposed by Dr. Harold Kerzner<sup>[3]</sup>, and FMS-PMMM model developed by FM solution.

### OPM3 model

The PMI (Project Management Institute), started the plan of OPM3 (Organization Project Management Maturity Model) in 1998, and wished that this model can be a standard model in the market. John Schlichter acted in charge of the OPM3 plan, and recruited over 800 professionals from different walks of over 35 countries for this plan. The OPM3 was promoted to the market in 2003, and attracted a lot of enterprises.

According to PMI, the OPM3 model can not only evaluate the ability of an organization to implement its strategy through managing single project and/or project portfolio, but also help to improve the competency in market. OPM3 model provides much plenty of knowledge and self-evaluated standard, to assess the current status of the organization, and offer the relevant improvement schedule.

There are three dimensions for OPM3 of PMI. The first dimension contains four levels of the maturity. The second dimension contains nine fields and five basic process of project management. The third dimension includes three domains. As for the first dimension, the relevant four levels are: standardizing, measuring, controlling and continuously improving. By comparing the current status of the organization with these four levels, the construction enterprise can find which practices have the closed relationship with the project management maturity, and which level its organization stays on.

The nine fields of project management are: integrity management, scope management, time management, cost management, quality management, human resources management, communication management, risk management and procurement management.

The five basic process of project management are: initiating processes, planning processes, executing processes, controlling processes and closing processes. Three domains of organization project management are: project management, program management and project portfolio management.

The OPM3 model has shown many good characteristics after being applied in different industries:

- (1) Credible – the OPM3 model was developed by the result of widely, deeply and efficiently pre-test and researches;
- (2) Practical – this model offers a framework of improving ability and accomplishing results, and providing methods for project management basic facilities and ability improvement needed by investment;
- (3) Easy to use – people with different education background can understand and use the OPM3 model after studying; the users can self-evaluation and get the result without certain technique and knowledge;
- (4) Stable and efficiency – the OPM3 model can provide a stable and efficient guide from one to next evaluation;

- (5) Accuracy – the OPM3 model can find evidence and evaluating organization ability and result by using stable and repeatable methods. It can also confirm the certain level of the organization in the project management maturity model.

## K-PMMM

K-PMMM is short for Kerzner-project management maturity model. K-PMMM was proposed by Dr. Harold Kerzner in the article “Strategic Planning for Project Management Using a Project Management Maturity Model”. Focusing on the enterprise project management strategic planning, K-PMMM has five levels (refer to figure 1).

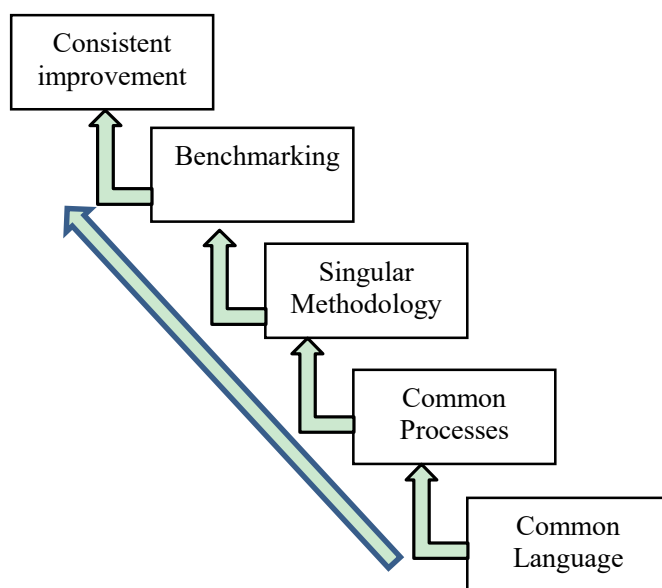


Figure 1 Five Levels of K-PMMM

According to Dr. Harold Kerzner, there are five levels of the project maturity model<sup>[3]</sup>: common language, common processes, singular methodology, benchmarking, and continuous improvement. This model employs a method of questionnaire to confirm the maturity of a certain organization. Several levels of objective self-assessment questions are adopted. The first level contains 80 multiple choice questions like PMP; the 2nd, 3rd, 4th, 5th level has 20, 42, 24 and 16 questions respectively. Organizations can analyze, settle and find the problems in project management by answering these questions, which can be the basis for improving the project management level for the organizations.

Currently, OPM3 model has been accepted and adopted in China. There some certification authorities and advisory bodies and many organizations have gotten the certification of the OPM3. Contrarily, no information indicates that K-MMM model has been accepted and used in China. Construction organizations in China focus on the scale, business duration, number of engineers and the completed projects, and neglect the soft indicators like communication ability, risk management ability, etc.. As to the maturity level, most of the domestic construction organizations are in the position of level one or level two. There is big rise space for them. However, they seem to pay less attention on the project management maturity. Although they know that their organizations have problems, they have no idea the details of the problems and how to improve them.

## PPM Maturity for Major Construction Enterprise

Compared with software development industry and new product development industry, construction industry has its special characteristics, such as long period of a project, more complicated, risky and stakeholders than development projects. Hence, construction enterprise needs more mature organization to project implement portfolio management. Based on the literature study and referring to the practical situation of the major construction enterprise, a new project portfolio management organization maturity for major construction company was proposed.

Based on the practical situation of the major construction enterprise and reviewed literatures<sup>[4]</sup>, a five-level project portfolio management maturity model was proposed as follows (refer to figure 2):

Level 1—The budding stage: a unit of project portfolio management was set in the construction management enterprise. It is not complicated and only focus on simple basic things like project portfolio selection and/or construction project performance evaluation;

Level 2—The formation stage: this unit of project portfolio management was able to develop a certain project portfolio management standardization process and put into practice. This unit can deal with its project portfolio priority problems and try to promote it to the whole enterprise;

Level 3—The developing stage: the project portfolio management unit can develop a whole set of project portfolio management method for the whole enterprise and can monitor its application, and it can also undertake the task of professional training;

Level 4—The strategic stage: project portfolio management become a part of the strategic process of the enterprise;

Level 5—The mature stage: the project portfolio management unit can deal with all the project portfolios of the enterprise (e.g., selection, management and monitor), and can continue improve the project portfolios, evaluation index, and process.

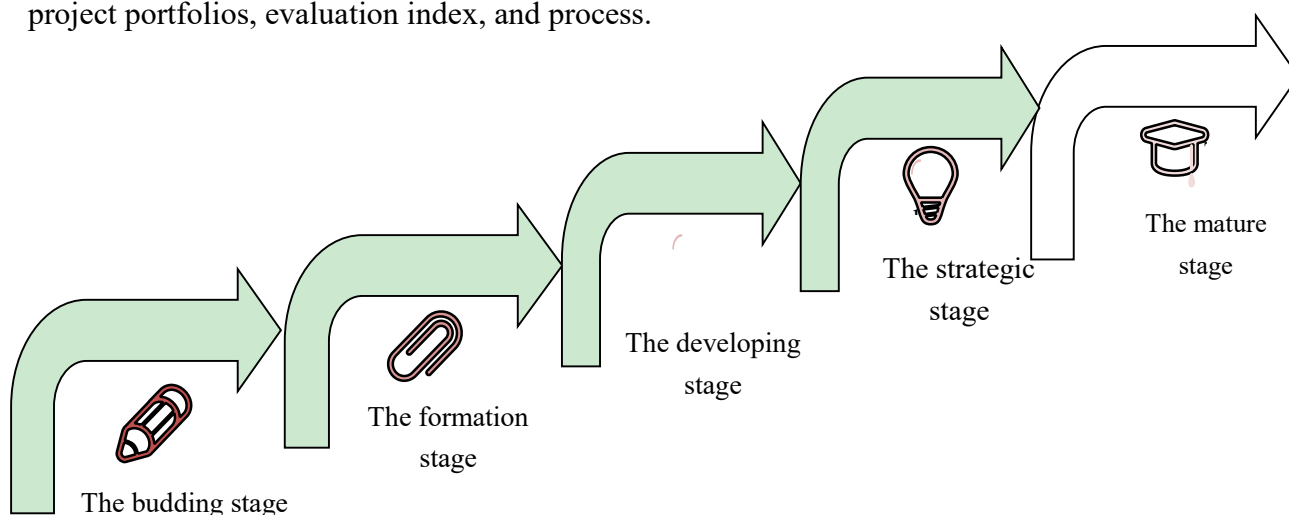


Figure 2 PPM maturity model for MCE

## Conclusion

It is necessary to apply project portfolio management in the major construction enterprise, due to the benefits it can bring<sup>[5]</sup>. In order to help the major construction enterprises to well manage to use the project portfolio management, it is important to develop a maturity model for them so that they can learn what the current situation is and what else they need to do. Based on the literature review, and considering the practical situation of the construction enterprises, a five-stage maturity model was proposed. In such situation, the project portfolio management can perform well and plays the best role for the major construction enterprises in mainland China.

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