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Project management maturity assessment of Construction Company by Using OPM3(Organizational Project Management Maturity Model)

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Abstract — In organizations, maturity refers to a state that provides perfect condition to achieve organization's objectives. Project management maturity provides a path and framework which enable firms to achieve excellence in project management. Project management maturity has direct impact on project performance. Maturity Models are one of the tool for measurement and improvement of the project performance and capability of an organization. Literature states that formation of every Maturity Models contain different five Maturity levels define with corresponding maturity score. Similarly, Construction Organization has different twelve key process areas. The comparative study of different existing maturity models helps to find out suitable maturity model for construction organization. Survey questionnaires were used to perform project management maturity assessment of the selected construction industry by the OPM3 standard questionnaire. The results of case indicate that project management maturity has a direct impact on project performance. A high value of project management maturity ensures high performance for delivering projects whereas project performance will be low for less mature project management processes. These factors include project management team competency, organizational structure, culture and organization support to project management. If company is found to have average project management maturity then improvements can still be implemented to further increase project management maturity. Thus, from literature survey OPM3 model is concluded best and survey had carried out in an one construction Industry and maturity level had been assess through OPM3 assessment.

Keywords- *Maturity model, OPM3, Project Management, Construction Industry.*

I. INTRODUCTION

Construction plays a major role in both economic and social development. However, one major problem in the construction industry is its high investment and large scale which is in sharp contrast with the low benefit and inferior management. As a result, project managers are seeking ways to improve the organizational management level to implement and control the construction projects efficiently. The dynamic condition of the Construction industry increases the competition among organizations and thereby increases more challenges for any organization to sustain and obtain its strategic objectives. Therefore, it is essential for organizations to adopt project management concepts as a strategic tool to achieve its objectives. The roots of modern project management were recognized in the Second World War. Project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. Measure of project management maturity enables organizations to identify on how to improve project performance suggested that to deliver project with effectiveness and increased performance, it is important that organizations continuously evaluate their projects results for finding areas of improvement to increase project management maturity. These improvement efforts for delivering projects must have purposeful approach. This is done by measuring where organization stands for its project management and where it wants to go. Project management maturity assessment enables organization to further improve its project management structure. Project Management Maturity Models (PMMs) provide structured framework for measuring, benchmarking and strategy to improve project management practices. Most of researchers identified that use of project management maturity assessment is related to project performance. For successful outcomes from the change management processes, organizations should implement its strategy successfully, consistently, and predictably, and one of the best ways to achieve this goal is to adopt an appropriate standard/model, such as Organizational Project Management Maturity Model (OPM3).

II. LITERATURE REVIEW

The following are the review on previous research papers of Maturity Model:

Organizational Project Management Maturity from the Construction Practitioner Point of View. by **SEPIDEH MOTAMEDPOOYA and EHSAN ASNAASHARI**. It aims to implement project management principles into project-based organizations. In fact, OPM3 by focusing on organizational level, can help construction companies to integrate

their various activities and follow their goals strategically. **Zhai Fengyong, Liu Renhui** developed Project Management Maturity Model (PMMM, or PM3) has been attracting more and more attentions in the field of project management, which aims to improve 'process maturity' of a project. However, there are hardly applications or researches of PM3 in construction industries, of which project managements are essential characters. **Nydia, Franck Marle and Jean Claude Bocquet** showed A great number of organizations have been working on the problem and have developed different kinds of Project Management Maturity Models. In this paper, author present research on project maturity. The purpose is to understand and explain the importance of using a maturity model in organizations as a key factor of project success. The purpose of the study is to measure the maturity in order to have best project control and monitoring. **Farrokh J. and Azhar K. Mansur** described critical evaluation of some of the leading PMMMs against OPM3® in a multitude of ways to look at which PMMM is the most comprehensive model - which could assess most aspects of organizations and also help the organizations in gaining competitive advantage over competitors. After a detailed morphological analysis of the models, it is concluded that OPM3® is the most promising maturity model that can really provide a competitive advantage to the organizations due to its unique approach of assessment and improvement strategies. As nearly all the contemporary PMMMs are based on capability maturity model (CMM), therefore instead of contrasting all the models with OPM3, we contrasted various morphological traits of CMM with OPM3 to determine which of them is better at predicting successful completion of projects, and, provide competitive advantage to the organizations.

III. RESEARCH OBJECTIVES

1. Study of different Project management maturity models
2. To suggest improvements based on measured maturity level for better and efficient projects delivery.
3. To know where organization is and how it can improve its capacity of management.
4. To identify the defects in construction organization in Project Management.

IV. STUDY OF DIFFERENT MATURITY MODEL

Many maturity models are available. The following subsections provide description of some of the prominent maturity models.

- 1) **Capability Maturity Model Integration (CMMI)**
Capability Maturity Model (CMM) was first presented by Software Engineering Institute (SEI) division of Carnegie Mellon University in 1991. This model targeted at software organizations. CMM does not explain steps on how to improve rather it helps in determining and analyzing current level of process maturity which identifies the issue to overcome for achieving maturity.
- 2) **Kerzner Project Management Maturity Model (K-PMMM)**
Kerzner put-forth his Project Management Maturity model in 2002 based on knowledge areas of PMBOK. K-PMMM assesses Project Management Maturity of organization using PMBOK guide and provides five levels of maturity.
- 3) **Portfolio, Programme and Project Management Maturity Model (P3M3)**
In 2003, OGC released their first draft of a Portfolio, Programme and Project Management Maturity Model (P3M3). The P3M3 describes the portfolio, programme and project-related activities within process areas that contribute to achieving a successful project outcome. The levels described within the P3M3 indicate how key process areas can be structured hierarchically to define a progression of capability which an organization can use to set goals and plan their improvement journey. P3M3 aims to provide an assessment and measurement score for the portfolio, programme and project-related activities within process areas that contribute to achieving a successful project outcome.
- 4) **MINCE**
Maturity Increments in Controlled Environments Model (MINCE) was presented by MINCE2 Foundation in 2007. The focus of this model is towards organization's ability to adapt to environmental and market changes. The use of this model provides following insights in organization: Maturity of organization, Skill levels of organization's staff, Effectiveness of organization's projects, Ability to adapt to change
- 5) **Organizational Project Management Maturity Model**
Organizational Project Management Maturity Model (OPM3) was first defined by PMI (Project Management Institute) in 1998. Since 1998 OPM3 has evolved over time. Organizational project management provides a framework that integrates project, program and portfolio management of organization for all the best practices. Organizations may have high maturity level for project management practices but does not necessarily have to excel in portfolio or program management as well. The maturity of portfolio and program is measured against portfolio

and program management practices. OPM3 provides flexibility in terms of organization's size and type, size and complexity of projects and geographical locations of projects.

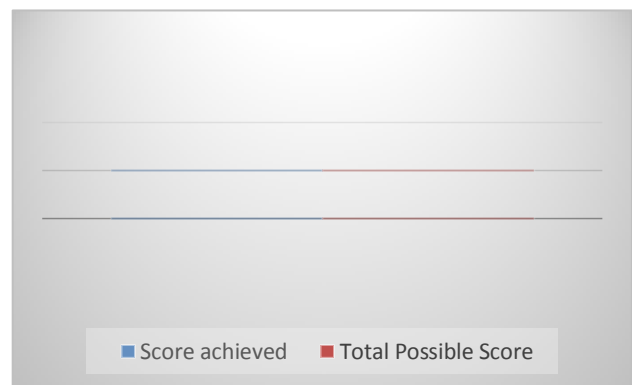
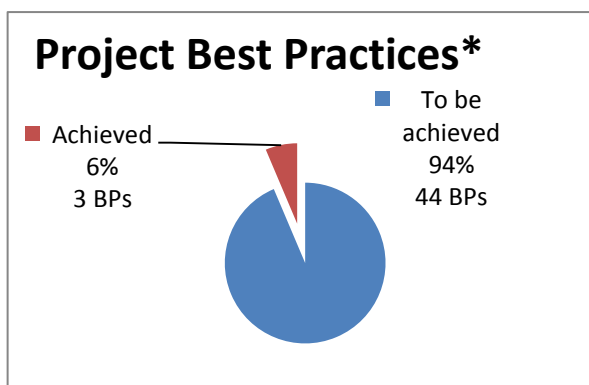
V.COMPARATIVE STUDY OF DIFFERENT MODELS

Maturity Model	Structure		Multi-dimensional	Theoretical base	Ideology
	Staged	Continuous			
OPM3	No	Yes	Yes	Yes	PMI-PMBOK
CMM	Yes	Yes	No	No	CMM
K-PM3	Yes	No	No	Yes	PMI-PMBOK
P3M3	Yes	No	Yes, but limited	No	CMM
MINCE	Yes	No	No	No	EFQM

VI.OPM3 RESULTS AND DISCUSSION

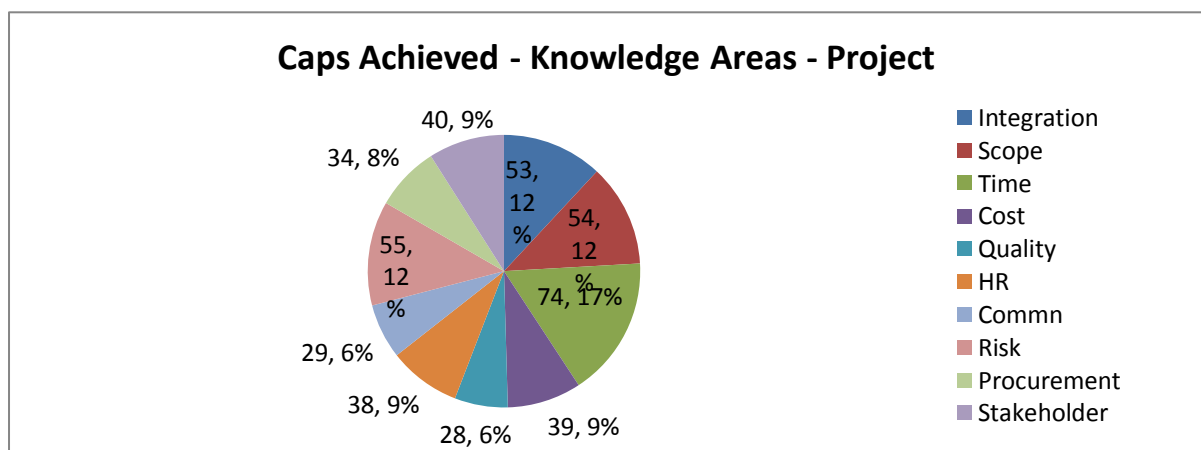
In this study, OPM3 model assessment has been carried out in one construction industry by personal interview. And Maturity level has been assessed of the construction industry. We had derived graphs in three different categories as follows: 1 Graphs showing companies best practices achieved 2. Graphs showing 10 management areas progress 3. Graphs showing the different phases of the project.

- 1) Graphs Showing Best Practices Achieved and Capabilities achieved.



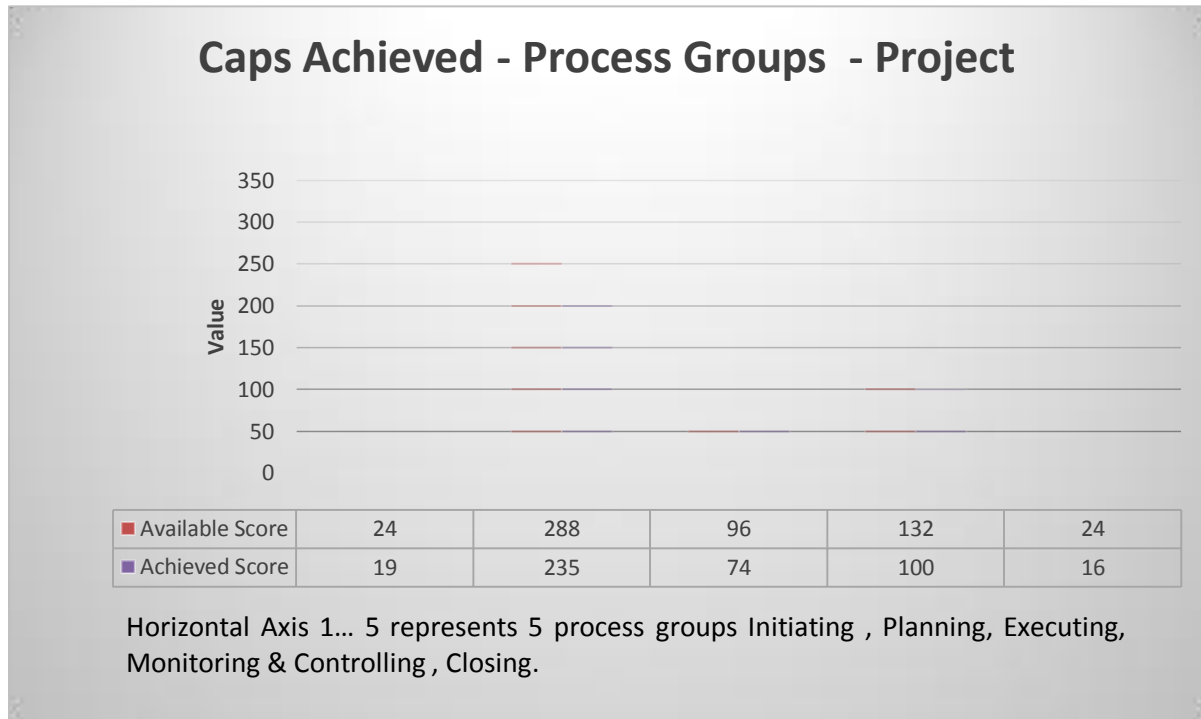
The Above graphs shows that the construction industry had achieved only 6% of best practices, which means that only in 3 capabilities the construction industry is doing best and still need improve in other 44 areas. Thus 94% of the industry need to be improved to archive the goal of construction industry.

- 2) Graphs Showing Construction Industries Maturity Level by 10 knowledge areas.



The above graph is showing the 10 different knowledge areas of the management. In this graph, we can see that company need to improve in Communication Management and in Quality Management, as because they have least capability achieved. And, company need some improvement in all areas from as shown in chart.

3) Graphs showing Construction Industry by Processed groups of Managements:



The construction industry is divided based on the 5 processed groups as shown in graph, in which we can say company is focusing on each processed group equally but didn't achieved the full score. Thus, in each processed group company need an improvement.

VII. CONCLUSION & FUTURE SCOPE

1. It is being concluded that OPM3 model for the assessment of the maturity of any construction firm is best by comparing different models available
2. Performing assessment of OPM3 in one construction industry, name is not disclosed due to confidentiality and results were obtained as shown above.
3. From the results, we can conclude for the construction industry that this firm is doing well in processed groups but didn't achieved 100%.
4. Also, there is need to improve in communication management and quality management and other knowledge areas are scoring average thus need improvement in all other areas a little bit.
5. But company had achieved only 6% of best practices therefore company still need to achieve 94% to have 100% in best practices.

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