The new Project Management Maturity Mixed Model (P4M) and the OPM3: Case of a PMO implementation

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Abstract

The maturity model developed in the present study, called "P4M: Project Management Maturity Mixed Model", has a hierarchical character and can be integrated, if necessary, with the OPM3 process-oriented model. This gives it flexibility and adaptability with the different categories of business and standards used. In this research, we take a particular case of implementation of an improvement action according to the cycle of OPM3, namely the implementation of a PMO according to the framework presented in a previous research (H.Tahri, 2013) and taking into account the "P4M" model (H.Tahri2015). This model can be used regularly by the same entity (Enterprise PMO: EPMO) or an external entity, to evaluate project management maturity in the organization and evaluate the maturity of the operational PMOs if they exist, as well as initiating roadmap for improvement and change through the same model. The approach used to initiate change or improvement actions perfectly matches the OPM3 cycle (acquiring knowledge, conducting evaluation, and managing improvements). The capabilities used in the PM4 evaluation matrix can be enhanced by other capabilities derived from the company's proprietary model or existing standards.

Keywords
P4M (Project Management Maturity Mixed Model), OPM3 cycle, PMO implementation (Project/Program/Portfolio Management Office), PMMM (Project Management Maturity Model).

1. Introduction

The Project Management Maturity Model measures the capacity of the organization as a whole in practices related to the management of projects, programs or portfolios.

In the hierarchical maturity model, such as the Gartner PPM and SEI-CMMI, the maturity level is characterized by a number of capacities and the progression is sequential.

The process-oriented model or organized-by-step model, such as OPM3 (Organizational Project Management Maturity Model) and P3M3 (**Portfolio, Program and Project Management, Maturity Model**), assumes that several processes deserve a high level of maturity and greater importance.

However, it is possible to combine the two types of models mentioned above according to the need for analysis. The maturity model developed in the present study, called "P4M: **Project Management Maturity Mixed Model**", has a hierarchical character and can be integrated, if necessary, with the OPM3 process-oriented model. This gives it flexibility and adaptability with the different categories of business and standards used.

In this research, we take a particular case of implementation of an improvement action according to the cycle of OPM3, namely the implementation of a PMO according to the framework presented in a previous research (H.Tahri, 2013) and taking into account the "P4M" model (H.Tahri, 2015).

This paper is organized in three sections. The first one will present a literature review on maturity models, their interest and types of project management maturity models. The second section will present a comparison between the OPM3 model (process-oriented model) and the new model P4M (mixed model) via the case of PMO implementation. And the last section will present the main results obtained concerning the compatibility and the integrability of the P4M with the OPM3 model.

2. Literature revue
1.1. Project Management Maturity Model-PMMM

There is no generally agreed definition of what a mature project based organization looks like (Cooke-Davies, T. J., 2004b). Thereby, there is a growing number of "maturity models" being provided to organizations, either directly or indirectly, to assist with the assessment of how "mature" an organization is (Cooke-Davies, T.J., 2004a). This is because a maturity model allows an organization to assess and compare its own practices against best practices or those employed by competitors, with the intention to map out a structured path to improvement (Pennypacker et al., 2003). An organization in the context of project management maturity models does not necessarily refer to an entire company. A maturity model can also be applied to a business unit, functional groups or departments (TJ Man, 2007). Implementing a PPM Maturity Model over existing project management practice create an opportunity to see the relationship between the Business Process Life Cycle with the maturing project management practices (Tim Cermak, al., 2011) and to "measure" project performance, particularly on the part of those concerned with governance, portfolio management, and enterprise-wide project management. Basically, a maturity model is a framework describing the ideal progression toward desired improvement using several successive stages or levels (TJ Man, 2007).

The Project Management Maturity Model (PMMM) has several advantages. It is an important part of strategic planning for the company as it provides a methodology and a roadmap for identifying and reducing quality and resource gaps (Kerzner, 2005). The adoption of a project management maturity model allows the company to evaluate its criteria for measuring objectives and their strong repetitiveness (Ben Voivedich, 2001). A project management maturity model (PMMM) can also minimize the negative effects of poorly executed projects by providing an organization roadmap,

It can contribute to Maximizing organizational and cultural positive changes by facilitating the adoption and implementation of the new process methodology (Tim Cermak, al., 2011).

Americo Pinto (2010) distinguishes two types of maturity: PMO maturity and the organization's processes maturity. This distinction, he said, are very interesting initiatives to encourage the PMO evolution. In the same way, the implementation of the maturity model on existing practices of project management creates the opportunity to see the relationship between the life cycle of the company's business processes and the project management practices (Tim Cermak, 2011). PMMM also makes it possible to "measure" the performance of the project, particularly in the areas of corporate governance, portfolio management and project management.

Project management maturity model is thus used to assess the level of maturity of the organization. It provides an overview of current project management capabilities, identifies gaps and reveals potential for improvement in project management.

1.2. PMMM types

Models of maturity differ from one another in the concepts they embody and suggestions on how maturity path looks (Johnson, J. al., 2001). The most important Models use two different types of graduation; Hierarchical and process-oriented.

Hierarchical model:
In the hierarchical model, such as the maturity model of Gartner PPM and SEI-CMMI, the maturity level is characterized by a number of capacities and the progression is sequential. In this type of model, maturity is defined as "the ability of the organization as a whole to adopt practices such as project or portfolio management, at what level of complexity and with what level of effort". Gartner, 2012).

Process-oriented model:
The process-oriented, such as OPM3 and P3M3, assumes that many processes deserve a high level of maturity and greater importance. This type is also called, organized by stages (Schlichter, 1999). In this model, the maturity level of each process is shown in a profile, which measures capacity and improvement through the implementation of indicator improvement programs. Progression is not necessarily sequential. According to research by Beverly L. Pasian, al. (2011), the current generation of project management maturity models is dominated by process-oriented factors.

The example of OPM3 model:
The OPM3 model is based on four pillars of maturity measurement: standardize, measure, monitor and improve. It is based on the following iterative cycle:
- Acquire information or knowledge,
- Perform assessment,
- Manage improvement :
  - Plan for improvements
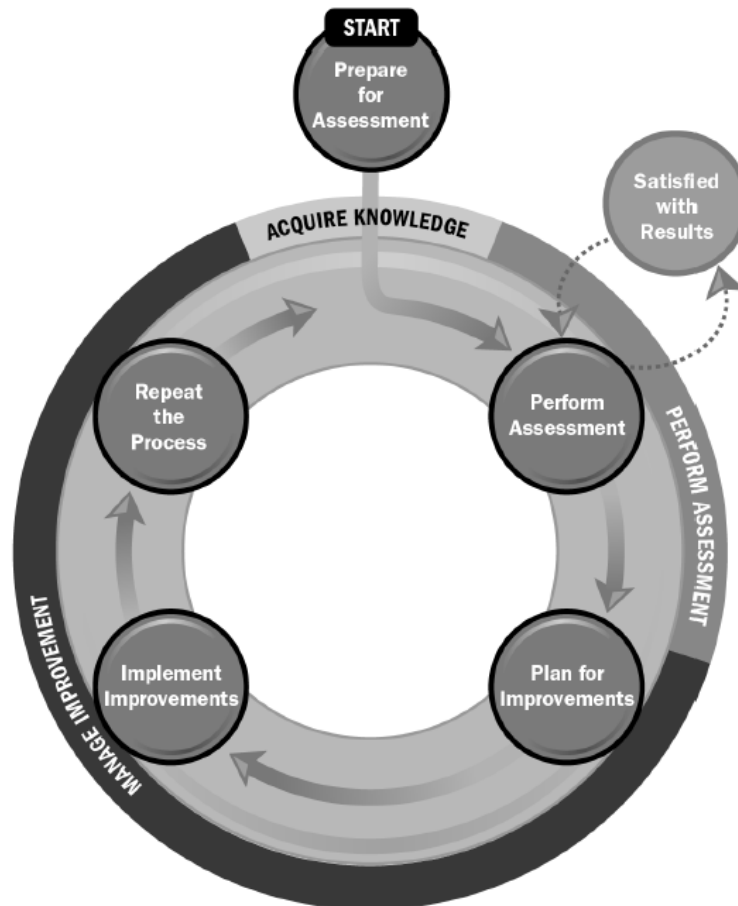 - Implement improvements
  - Repeat the process

Figure 1. The OPM3 Cycle (PMI, 2013)

This cycle of continuous improvement offers the organization the opportunity to improve its capabilities on portfolio, program and project management through which its strategy is realized (OPM3, 2013).

3. OPM3 vs P4M
1.1. The « P4M » model description:

The project management maturity mixed model (H.Tahri, 2015) is a mixed model that associates the advantages of the sequential model that is easy to implement and understand, with those of the process-oriented model that most represents the company process.

- Seen by dimension, this maturity model is sequential and consists of a number of capacities characterizing the domain.
- Used for the evaluation of the whole organization in all domains, this model is of the "process-oriented" type, if it all processes deserve a high level of maturity and are of equal importance.

The proposed Framework is recalled on the following steps:

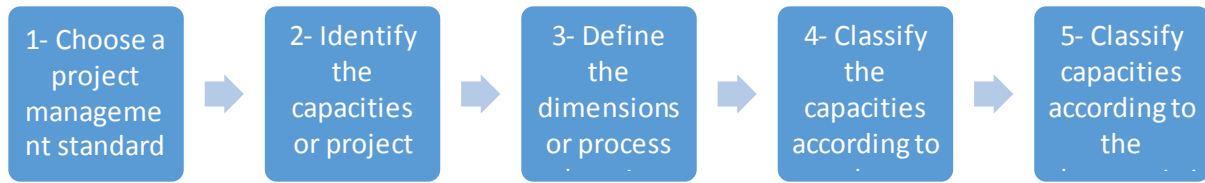| 1- Choose a project management standard | 2- Identify the capacities or project | 3- Define the dimensions or process | 4- Classify the capacities according to | 5- Classify capacities according to the |

Figure 2. The P4M steps

- The maturity levels considered are 1-Reactive, 2-Disciplined, 3-Adjusted, 4-Effective and 5-Optimized.
- The P4M dimensions are Methodology, IT Resources, Managerial Skills, Relationships and Communication.
- The « P4M » Framework is shown as below: (The list of capacities (Cijk) is presented in Annex).

	Reactive	Disciplined	Ajusted	Effective	Optimized
Methodology	C111 :	C121 :	C131 :	C141 :	C151 :
		C122 :	C132 :	C142 :	C152 :
		C123 :	C133 :	C143 :	C153 :
		C124 :	C134 :	C144 :	C154 :
				C145 :	C155 :
IT Ressources	C211 :	C221 :	C231 :	C241 :	C251 :
			C232 :	C242 :	C252 :
			C233 :		
Managérial skills	C311 :	C321 :	C331 :	C341 :	C351 :
	C312 :	C322 :	C332 :	C342 :	C352 :
		C323 :	C333 :	C343 :	C353 :
			C334 :		
Relationship	C411 :	C421 :	C431 :	C441 :	C451 :
Communication	C511 :	C521 :	C531 :	C541 :	C551 :

Table 1. The « P4M » Framework

This classification and evaluation method can be applied to the capacities defined by the OPM3 and thus constitute a significant input element of the "P4M" model.

1.2. Case of a PMO implementation

The case of the Implementation Framework of a PMO (H.Tahri, 2013), is a special case of implementation of an improvement action according to the OPM3 cycle.
The stages of implementation of a PMO, as defined and presented in a previous work (H.Tahri, 2013), are recalled hereafter:

1- Defining the organizational assets of the company (PPM tool, referential, procedures ...),

2- Defining the PMO action scope (Directorate General, ISD, Functional Structure),

3- Defining the maturity model adapted to the context studied (application dimensions, evaluation criteria, etc.) in order to gradually measure maturity according to "P4M",

4- Assessing the maturity of the perimeter chosen according to the "P4M",

5- Choosing the PMO functions adapted to the company according to the degree of maturity measured (Strategic/Operational, Support/Control function ...),

6- Planning the PMO implementation,

7- Planning Change Management: It a cross-cutting step that begins from initiation and continues after the PMO implementation project.

1.3. OPM3 vs PMO Implementation under « P4M »

	OPM3 Process Cycle	PMO implementation steps
Acquire knowledge	Understanding the organizational model	Define the maturity model adapted to the context studied according to the P4M
	Understanding the organization	Defining the organizational assets of the company (PPM tool, referential, procedures ...),
	Assessing Change Preparedness	Planning Change Management: A cross-sectional step that begins from start-up and continues after the PMO implementation project.
Perform assessment	Establishing the plan	Plan the 5 evaluation steps (defined in the P4M)
	Defining the scope	Define the scope of action of the PMO (Directorate General, ISD, Functional Structure)
	Conducting assessment	Assess the maturity of the selected perimeter (using the P4M model)
	Initiating change	Planning Change Management.
Manage improvement	Measuring results	Plan the implementation of the PMO.
	Creating recommendations	Recommendations are direct results of the application of the proposed mixed model "P4M" for the maturity evaluation. Since capacities are classified by maturity level.
	Selecting the initiatives	Choose the PMO adapted to the company according to its degree of maturity (Strategic/operational, Support/control ...).
	Implementing improvements	Implementing the PMO
	Managing change	Planning Change Management.

Table 2. OPM3 & PMO implementation Framework/P4M

The table above highlights the compatibility of PMO implementation framework with OPM3 processes cycle; This Framework follows one iteration of the OPM3 cycle. The iterations of the latter remain quite possible on the implemented PMO; it enables its continuous improvement, and thus contributes to projects, programs and portfolios management improvement in the company.

4. Results

This model can be used for the implementation of a PMO (H.Tahri, 2013). It can be used regularly by the same entity (Enterprise PMO: EPMO) or an external entity, to evaluate the maturity of project management in the organization (Company or Business Unit or Dimension or Domain), and evaluate the maturity of the operational PMOs if they exist, as well as initiating the Improvement and change through the same model. The approach used to initiate change or improvement actions perfectly matches the OPM3 cycle (acquiring knowledge, conducting evaluation, and managing improvements).

The main results obtained are as follows:

- The implementation of a PMO is a particular case of an improvement action.
- The P4M integrates with the PMO implementation process, in the stage "evaluation of the maturity", respecting the OPM3 cycle.
- The "P4M" model (H.Tahri, 2015) and OPM3 Can be used together: The evaluated capacities can be either those proposed in the P4M, OPM3, or a combination of both.
- The P4M allows a partial/on demand evaluation: on a domain (project, program, portfolio) and / or on a dimension (Methodology, IT resources, managerial skills, relations and communication).
- The results of the maturity evaluation by "P4M" give us information on two important elements:
    o The maturity level of evaluated scope (Business Unit or Dimension or Domain or entire Company),
    o The actions required for the maturity progressive improvement in this scope (recommendations and improvement initiatives).

5. Conclusion and perspectives:

This article presents the relevance of the P4M model, which has been the subject of another publication in 2015, and shows its adaptability and its integration with the enterprise proprietary or standard methods Such as the OPM3; The P4M maturity model is a mixed model that combines the advantages of both sequential and process-oriented model types. It will serve the internal or external EPMO to measure and improve not only the project management maturity, but also to measure the Operational PMOs maturity, if they exist.

Although the integration of P4M into OPM3 arouses a complementary important work, Its implementation makes it possible to have a reactive dashboard illustrating a continuous measurement of project management maturity and giving gradually and in time, improvement actions.

In addition," P4M" is adaptable, not only with OPM3, but also with other standards and/or Project Management Maturity Models. The P4M capabilities enrichment and customization remains conceivable according to the need and the specificity of each project and/or company.

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Biography

Houda Tahri is an IT engineer from Mohammadia School of Engineers (EMI) with a long experience in IT project management. She held the position of Head of IT department at ISCAE (the Higher Institute of Commerce and Business Administration) where she participated in the QMS certification workshops, awareness and training of ISCAE staff. Later, she held the position of Head of Engineering Department at ONEE (National Electricity and Water Company) where she developed a rich experience in project management with different types of stakeholders. She has maintained her skills through advanced training, active and renewed PMP certification (PMP #1315392), and doctoral studies in project management. As a PhD candidate at IMOSYS Research team (Engineering, management and optimization of systems) at EMI (Mohammadia School of Engineers), she has presented and published several research papers, in Morocco and internationally. Its areas of research mainly concern IT Project Management, Project Management Maturity, Mathematical optimization methods in project portfolio management, Design of an integrated systemfor project management, and project management maturity of Moroccan organizations (Survey).

Annex:

The 53 capacities, presented below, are inspired from the Garthner, P3M3, CMMI and OPM3 models.
D1: Methodology (19)
- C111: Use of Project Management Processes for Priority Projects
- C121: Implemented PMO (coordinating role between project managers)
- C122: work processes are defined
- C123: Programs are managed internally
- C124: Establishment of resource allocation management
- C131: Appearance of Project Portfolio Manager Function
- C132: Prioritization of projects by the PMO (role of Coordination, Support and Coaching of project managers)
- C133: Trend towards Specialization
- C134: Involvement of the company's architecture functions
- C141: Existence of a Network of Project Portfolio Managers
- C142: similar projects are managed as programs
- C143: the entire company is managed in federated mode
- C144: Several PMOs (coordination, assistance and coaching role for project portfolio managers)
- C145: excellence centers for better workload management
- C151: project portfolio managers exist in all areas of the company's business
- C152: The chosen specializations are performing well
- C153: PMO global or EPMO (Enterprise PMO) and several PMOs (coordinating role between project portfolio managers and PMOs supervisory role)
- C154: Pipeline managed in real time
- C155: Continuous Process Improvement
D2: IT resources (9)
- C211: Project Planning Tools for Schedule
- C221: project planning tools for budgeting
- C231: adoption of a portfolio management tool for projects
- C232: reporting dashboard
- C233: Training and skills development
- C241: Workflow tool
- C242: Business users are familiar with project management tools
- C251: A single, integrated system that supports reporting, collaboration and analysis
- C252: Portfolio extended beyond the information system.
D3: Management Skills: (15)
- C311: Allocation of resources for priority projects
- C312: Budget estimates
- C321: Salary costs are calculated
- C322: Estimated Project Benefits
- C323: Risk Analysis
- C331: Costs and budgets are seized
- C332: profits are identified in the portfolio of projects
- C333: management of shared resources
- C334: static portfolio dashboards
- C341: Resource Capacity Planning
- C342: Integrated Project Management
- C343: Monitoring of real performance
- C351: The portfolio is modeled and optimized appropriately, taking into account the risks
- C352: Programs have their own financial resources
- C353: Profit monitoring
D4: Relationship (5)
- C411: Collaboration between DSI and business departments
- C421: Relationship manager profile
- C431: Relationship manager is considered a trusted advisor

- C441: Relationship manager acts as consultant to the company
- C451: Wider impacts are considered (social responsibility, supply chain ...)
D5: Communication (5)
- C511: Schedule Reporting
- C521: Reporting of Costs and Risks
- C531: ROI Reporting and Benefits
- C541: Reporting of Actual Performance
- C551: Reporting and collaboration through a single integrated system