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Designing a Portfolio management maturity model (Elena)

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Abstract

Various maturity models have been proposed to determine how well organizations are doing in order to improve their performance. Most of them are at the project management level and miss the other macro levels like portfolio management. Assessing maturity in organizations that have implemented portfolio management is a rather recent topic and has not been academically discussed in depth; therefore, there aren't ample maturity models in this level. The purpose of this study is to present a portfolio management maturity model called ELENA. Through literature review we tried to build up a model which keeps the advantages of previous models in addition to fixing their problems and improve them. This model assesses the maturity of portfolio management through three dimensions and offers four ways for assessment.

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1. Introduction

The term maturity can be interpreted as a complete – or in perfect conditions – development; also, provides visibility of how success occurs and what approaches should be taken to correct or to prevent occurring problems (Berssanete, Carvalho, Lopes & Muscat, 2008). A maturity model is a framework describing the ideal progression toward desired improvement using several successive stages or levels (TJ Man, 2007). There is a need to look at an

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organization's "complete" picture of effectiveness; therefore, maturity models have become increasingly prevalent (Backlund, Chron er & Sundqvist, 2014). A maturity model allows organizations to assess and compare its own practices against best practices with the intention to map out a structured path to improvement (Penny packer and Grant, 2003). Maturity models are seen as models that reflect certain aspects of reality, often called capabilities, and define qualitative attributes which are used to classify a competence object into one of several clearly defined areas. These classes are typically brought into a sequential order (Kohlegger, Maier & Thalmann, 2009). The adoption of a project management maturity model allows the company to evaluate its objective measurement criteria and its high degree of repeatability (Voivedich, 2001). The consideration of maturity models provides an approach to continuous improvement in many areas of business. Duffy (2001) specifically identifies the application to strategy development and formulating responses to change, suggesting "the value of a maturity model lies in its use as an analysis and positioning tool". Maturity models are proving to be useful because they allow individuals and organizations to assess the maturity of various aspects of their performance against benchmarks and prioritize improvement actions. A mature organization can be seen as one that is competent in meeting its needs by using standardized approaches (including continuous reviewing of performance) while an immature organization lacks the implementation of these processes (OGC, 2010). Research indicates that organizations with higher maturity levels are expected to be successful in terms of effectiveness and efficiency; thus they have a competitive advantage in the marketplace (Backlund, Chron er & Sundqvist, 2014). Research by the SEI has shown significant improvements in the return on investment rate in organizations adopting a maturity model approach. More mature organizations have experienced an 85% reduction in defects and a 75% reduction in cost (OGC, 2010).

Subject of success and its importance in organizations brings us to the discussion about the necessity of maturity models in macro level such as portfolio. Various maturity models have been proposed to determine how well organizations are doing in order to improve their performance. Most of these models are at project management level and miss the other levels such as portfolio management. Literature review on the existing maturity models shows the neglect of organizational context in the project success scrutiny. As a consequence, the objective of this research is to assess the project performance in a broader domain perceiving organizational considerations. In this case, providing an integrated maturity model in form of portfolio maturity model is increasingly important. Different maturity models were studied and investigated to present this portfolio management maturity model which keeps the advantages of previous models in addition to fixing their problems and improve them. This paper will establish a new kind of portfolio Maturity Model called ELENA which has main distinguishing attributes, Compared to the previous maturity models.

2. Literature review

During these last years, several researchers (Crawford, 2002 - Kerzner, 2004 - Ibbs & Kwak, 2000 - Cooke & Davies, 2004 and others) and institutions (PMI-OPM3, SEI-CMMI-PPMMM Gartner, OGC-P3M3 and others) addressed the topic of maturity in project management and have developed models for evaluating the maturity of project management based on best practices in order to structure the working methods and to promote the continuous improvement. In the first step, to know the advantages and disadvantages of the existing maturity models they were compared with each other through some criteria. In this comparison criteria are as shown in Table 1.

Table 1. Criteria for comparison the maturity models

Maturity models Comparison criteria	
Targeted field	Continuous assessment
Maturity levels	Difficulty of assessors education
Kind of output (discrete or continuous)	Flexibility
Citation to a standard and methodology	Operating
A proper definition of maturity	Commitment to sustainable improvement
Attention to organization strategy	Offering Solution for improvement
Collectivity of assessment	Solution prioritize

Difficulty of assessment	Acceptability of the model
The cost of assessment	Simplicity and being understandable
Tangibility of results	

Then to simplify the evaluation and comparison of the models the aforesaid criteria were categorized in the following groups:

- Generic feature of the models
- Strength of the models supporter theory
- Evaluation the effectiveness of the organization
- Existing the assessment in the models
- Flexibility
- Sustainable improvement
- Simplicity of the models

Comparative investigating results provided common features of models which are actually perceived as model's advantages, designing approaches and structures. These common features are summarized as bellow:

- Defining mature and immature organization in most of these models
- Models have five levels of maturity
- The output of most of these models is discrete (staged) and in some few cases it is continuous
- Implementing a project management standard is the goal of most of them
- There are tools to determine current situation

Also, the shortcomings of models, that are actually the disadvantages and deficiencies of them, were identified as followings:

- A weak supporter theory or no citation to any standard
- Appropriation the model to an especial industry and inflexibility of the model
- Complexity of the model
- Weakness in sustainable improvement
- Lack of a simultaneous continuous and discrete (staged) result of assessment
- Lack of evaluation of tacit knowledge and organization intangible asset

3. Designing the model

Based on the above findings, we tried to build up a model keeping the advantages of the existing ones and having the maximum desirable features, so we considered the following factors as critical success factors and requirements of designing the model which are the characters distinguish this model from the others.

- Having both continuous and discrete (staged) approach for assessing the maturity
- The capability of tailoring
- Its simplicity of concept and practice
- Assessing three dimension of maturity including processes, concepts and documents of organizations
- General usage and capability of being applied to all kinds of organizations and industries in different environment

4. Elena portfolio maturity model

4.1. Elena portfolio management guidance

In the first step, we introduce the supporter methodology. ELENA is a kind of structured approach that can manage all levels of organization (Project, Program and Portfolio) effectively. Elena portfolio guidance uses a five faces system to manage portfolio, including:

- Principles
- Concepts
- Process
- Tools
- Tailoring

The first face Principles are the context of forming concepts, process, tools and tailoring. In fact, these principles are general, public and common foundations and best practices between all portfolios which are not peculiar to any special organization or portfolio. Elena octet principles include: alignment with organization strategy, portfolio governance, accountability, knowledge optimization, profit leading and managing, leading and managing the road map phases, leading and managing the events and being programmable.

The second face concepts are the elements of leading and managing portfolio. Same as principles; concepts are octet, too containing organizing, planning, balancing, risk, event, communication, financing and governance.

The third face process, is the steps of concepts utilization including: portfolio leading, portfolio policy codification, planning portfolio, planning the phase of road map, definition of portfolio component, selection of portfolio component, balancing of portfolio component and program/project management .

The fourth face are tools which are used appropriate with portfolio properties and contents. The last face tailoring offers a framework containing people, concepts, tools and process that makes possible an easy clipped and flexible management approach for different kinds of portfolios or organizations. In this guidance, input and output documents, used through process and concepts, are defined.

4.2. Elena portfolio maturity model structure

Structure of Elena maturity model has three important dimensions, including:

- Maturity dimensions
- Maturity levels
- Attributes

4.2.1. Maturity dimensions

According to research done by Pasion, (2011) the current generation of management maturity models are dominated by process-oriented factors, since most of them are based on process-oriented methodologies (Tahri & Kiatouni, 2015). Consequently, just process maturity is measured through these models, but also in this model not only the process maturity is measured but also the two other maturity dimensions are measured, as well. ELENA maturity model assess the portfolio maturity through three dimensions including:

- Conceptual maturity
- Process maturity
- Documentary maturity

In fact, portfolio maturity is evaluated through three dimensions based on ELENA portfolio guidance concepts, process and documentation. As the model is entirely based on the portfolio management of ELENA, maturity

dimensions are due to multi faced approach of ELENA portfolio management guidance. Since there is the requirement of principles and tools utilization through concepts and process, maturity dimensions are defined based on: concepts, process and documentation. The conceptual and process maturity of all organizations can be evaluated through this model and it is not unique to those using ELENA portfolio guidance as portfolio management methodology, on the contrary documentary maturity evaluation is peculiar just to those organizations using ELENA portfolio guidance as portfolio management methodology. The flexibility of ELENA maturity model allows organizations to evaluate either all three maturity dimensions, or just one or two of them.

4.2.2. Maturity levels

The processes of attaining maturity are not a one-time event, nor it is a quick fix for immediate tactical problems rather, it is a consciously planned and properly managed continuous improvement effort (Yimam, 2011). Continuous process improvement is based on many small, evolutionary steps, rather than revolutionary measures (Sarshar et al., 2000). Basically, a maturity model is a framework describing the ideal progression toward desired improvement using several successive stages or levels (Tahri & Kiatouni, 2015). A maturity level is a well-defined evolutionary plateau toward achieving a mature process (Paulk et al., 1993). Models look similar at the first sight because most of them are using the basic 5 maturity stages (Supic, 2005). This model divides the portfolio management maturity in to 5 levels too:

- Level1- Recognition
- Level2- Forming
- Level3- Dynamism
- Level4- Wisdom
- Level5- Property

In this model a portfolio that can't use all of its present capacities and capabilities is called an immature portfolio; on the other hand, a mature portfolio is one using all its potential capacities to achieve the strategic objectives and success. Portfolios in the first two levels, meaning level1 and level2, are known as immature portfolios and those in level3 to level5 are known as mature ones. Each level is described in table 2.

Table 2. Maturity levels

Level	Maturity	Description
1	Mature	Recognition There are not any signs of concept, process and documentation existence in the portfolio and organizations just have perceived the importance of them, So they try to recognize the foundation of knowledge, concepts, process, tools and portfolio management documentation.
2		Forming Concepts, documentation and portfolio management process are defined and documented. Organization focus on defining than implementation to create a common definition and language throughout portfolio. However, this definition has a symbolic aspect and not functional.
3	Immature	Dynamism The documented concepts, process and documentation are ideally implemented and portfolio tries to establish stability and constancy in all dimensions.
4		Wisdom Reaching to a suitable vision about concepts, documentation and portfolio management process is known as portfolio knowledge. Concepts, process and documentation are assessed and controlled and their lesson learned adds to portfolio knowledge base.
5		Property Concepts, process and documentation have continuous optimization and improvement and portfolio knowledge changes to portfolio property.

4.2.3 Attributes

ELENA has proposed a number of attributes divided in two groups as a mechanism to assess the maturity of portfolio in implementing each dimension including:

- Generic attributes
- Specific attributes

Generic Attributes are common to all octet items of each dimension at a given Maturity Level. Specific Attributes only relate to a particular item of each dimension octet items (octet concepts, octet process and octet documentation).

4.3. Assessment mechanism

The assessment provides an initial awareness for the status of management in the organization, and at the same time helps set the stage for making it better (Demir & Kocabas, 2010). In this model, the highest maturity score a portfolio would gain equals 120. The resulting number (120) is calculated as follow:

Octet concepts, process and documentation have been defined and five levels of maturity are achievable for each of them; accordingly, the maximum score that portfolio would gain equals 120 ($8*3*5=120$); therefore, the mature and immature portfolios and their maturity levels are recognizable. With this method comparison between the maturity estates of several portfolios is possible because based on the resulting score relative maturity estates of portfolios are compared. Division of portfolio maturity levels based on gained scores corresponds to Table 3.

Table 3. Scores of portfolio maturity level

Mature portfolio			Immature portfolio	
Level 5	Level 4	Level 3	Level 2	Level 1
Score 97-120	Score 73-96	Score 49-72	Score 25-48	Score 1-24

Consequently, the maximum score of each maturity dimension will be equal to 40 ($8*5=40$) Similarly the mature and immature portfolios and their maturity levels from the aspect of maturity dimensions (concepts, process, and documentation) are recognizable and comparison between the triple dimensions maturity estates of several portfolios is possible; also, the division of triple dimensions maturity levels based on gained scores are shown in Table 4.

Table 4. Scores of triple dimensions maturity level

Mature portfolio			Immature portfolio	
Level 5	Level 4	Level 3	Level 2	Level 1
Score 97-120	Score 73-96	Score 49-72	Score 25-48	Score 1-24

Four different ways in different precision rate have been proposed to assess the maturity of portfolio; assessment based on:

- Attributes
- Self-assessment
- Detailed assessment
- Assessment by assessor

The first method is suitable for high level portfolio managers who intend to evaluate general maturity of their organizations.

In the second method the user can choose considered maturity level for each of the concepts, process and documentation through questionnaires. Assessor or user score on each of the maturity dimension item standing between 1 and 5; then all scores of each item are added up to determine the maturity level of portfolio.

The third method makes possible a more precise evaluation through a detailed questionnaire; for this mean, in addition to attributes some indexes are considered too. The result of this questionnaire specifies the different of maturity in each level ;thus ,both continues and staged approaches are satisfied meaning the rate of maturity in each level is determined in continues format; besides, specifying maturity level of portfolio in staged way, as well. According to mentioned indexes in Table 5, the questions of maturity evaluation of maturity dimension items are codified.

Table 5. Maturity levels attainment indexes

Attainment indexes	Maturity level
Familiarity with concepts Preliminary definition	Level 1- recognition
Unit definition documentation	Level 2- forming
Continues implementation informing Tailoring	Level 3- dynamism
Assessment, analysis, measurement Control Recording in portfolio knowledge base	Level 4- wisdom
Benchmarking, regular revision to improve Recognizing the reason of weak performance Supplying improvement plan Using improved experience & lesson learned	Level 5- property

According to the equal weight of attainment indexes in each level and their numbers, continues percent of maturity in each level is specified. For example, two indexes have been identified in level 2; therefore, weigh of each index equals 50% and achieving one of them means achieving half of the considered level.

5. Conclusion

As organizations continue to grow and develop and as the knowledge of Portfolio Management continues to develop, more and more organizations are going to want to know where they are on their own learning curve and what they should take to improve their performance on portfolios. The portfolio management maturity assesses organization's probability of successfully achieving strategic objectives and gives them competitive advantage in the marketplace. Despite the significant role of portfolio management, there is not an integrated model evaluating different dimensions of portfolio maturity, and few present models have many drawbacks. This paper has established a five-level portfolio management maturity model called ELENA which is based on the structural portfolio management of ELENA guidance approach. This model includes all the necessary concepts, processes and documentations for the portfolio management. It can be applied to various portfolios in any environment. This model establishes both qualitative and quantitative evaluation system of portfolio management maturity which provides both continues and staged output, and this property is exclusively unique to this model. Compared to the previous models it has many other noticeable attributes such as the capability of tailoring, its simplicity of concept and practice, general usage, assessing three dimension of maturity including processes, concepts and documents of

organization and etc. It is a fact that the whole of our society will benefit from more effective Portfolio Management, and the highest benefit will be achieved by achieving maturity.

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