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OPM3® Portugal Project: Analysis of Preliminary Results

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Abstract

Project Management (PM) has emerged as a crucial factor that determines the success of an organization. In this sense, there is a growing concern for organizations to assess their PM maturity. This paper presents the PM maturity results for 19 organizations, using Organizational Project Management Maturity Model (OPM3®) emerging from OPM3® Portugal Project research, that is presently in progress.

All aspects of OPM3® Portugal Project are explained in detail, and a brief descriptive analysis of the 19 organizations assessed is presented. The preliminary results were obtained using two scoring methods, and are presented in tables organized by PM processes, Portfolio Management processes and Organizational Enablers areas. No other similar studies were found, thus it was not possible to compare the preliminary Portuguese results with other results.

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Keywords: OPM3®; Maturity Models; Best Practices; Organizational Enablers; Project Management Processes

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1. Introduction

The value of Project Management (PM) is a function of what is implemented and how well it fits the organizational context. Cooke-Davies et al. [1] argue that PM value is created or destroyed depending on the extent of 'fit' or 'misfit' between the organization's strategic drivers and the characteristics of its PM system. Other authors as Ibbs and Reginato [2] and Dooley, Subra and Anderson [3] found that on average, higher levels of PM maturity are associated with better cost and schedule results.

More and more organizations, from the largest to the smallest, are organizing goal-oriented work in such a way that they can produce results in the first opportunity, in other words, they are getting mature. But, are they really getting mature? [4] Improving organizational PM maturity is a concern for organizations, whose main objective is to acquire knowledge regarding the current level of performance. However, evaluating the current performance, skills and capabilities of an organization is easier to be said than to be done. In fact, it is so complicated to be done, that it is necessary to use models that would simplify our interpretation of the entire organization [4].

The definition of maturity when applied to an organization 'might refer to a state where the organization is in a perfect condition to achieve its objectives. Project maturity would then mean that the organization is perfectly conditioned to deal with its projects.' [5] (p.457). However, in real world, there are no organizations fully matured: none has reached the maximum level of development and no one will achieve. So, it makes sense to speak of maturity degrees and make an effort to measure the maturity of an organization [5]. The organization's maturity degrees might be considered as a ladder of three steps: the most basic is PM, related to the management of individual projects that an organization has to carry out; the next level is Program Management, which includes a set of related projects with a common goal; at the highest level is Portfolio Management with respect to the management of projects and programs that do not necessarily have a common goal, but undertaken simultaneously [6]. According to Andersen & Jessen [5], in an organizational context, the maturity is best explained as the sum of three dimensions: action (ability to act and decide), attitude (willingness to be involved) and knowledge (understanding of the impact of willingness and action).

In order to evaluate the state of Portuguese Industry with regard to maturity degree in the adoption of projects, programs and portfolios management methodology, Portuguese research and development organization Ambithus, designed the OPM3® Portugal Project, based on Project Management Institute (PMI) 'The Organizational Project Management Maturity Model (OPM3®)' standard.

This paper presents the results of 19 organizations that have been assessed in OPM3® Portugal Project, and makes a brief description of the project features. Its main objective is to share preliminary overall maturity level in PM, and provide an initial analysis of Portuguese Industry positioning, taking into account the way these organizations are managing their projects. It is structured in four sections: first, literature review of maturity models, in particular OPM3®; second, explanation of the objectives and important characteristics related to OPM3® Portugal project; third, presentation and analysis of OPM3® Portugal Project preliminary results; finally, conclusions of the study and future work.

2. Organizational Maturity Models and OPM3®

Maturity models became 'an essential tool in assessing organization's current capabilities and helping them to implement change and improvements in a structured way' [7] (p. 834). There is a growing interest in organizational maturity models because, directly or indirectly, they help to assess and improve PM organizational maturity [8].

The maturity models had their origin in Total Quality Management (TQM) area. On this philosophy the strategy is driven in a continuous improvement perspective, being necessary a thorough understanding of organization's current position and where it aims to be in the future. The first maturity model was developed in the United States of America, more specifically in Software Engineering Institute (SEI) at Carnegie Mellon University, to be used for software development. It resulted in the publication of the Capability Maturity Model (CMM), in 1991, with a classification in 5 maturity levels (Initial, Repeatable, Definition, Management and Optimization). Due to its success in the area of Software Engineering, CMM was applied in other areas [9]. After that, the model has evolved to a more comprehensive one, called CMMI (Capability Maturity Model Integration),

which can be applied to enterprises of any sector, not being restricted only to IT (Information Technology) organizations [10]. Even more recently, the model has evolved to the CMMI for Development, specific to development systems (products, hardware, or software) [11]. The successful application of CMM inspired the experts from PM area for the research and development of the maturity evaluation models in PM [12].

An important model developed from PM area is the Project Management Maturity Model (PMMM), using as reference the main areas of expertise and processes in PM addressed by PMBOK®, beyond the concept of maturity levels of CMM [10, 13]. Developed by Prof. Harold Kerzner, this model is structured in five levels representing a different degree of maturity in PM:

- Level 1 – Common Language, the organization recognizes the importance of a good understanding of the basic knowledge of PM and its terminology;
- Level 2 – Common Processes, the organization recognizes that must develop and define common processes in managing their projects (i.e. implement PM methodologies effectively);
- Level 3 – Singular Methodology, the organization starts to recognize that will benefit from synergetic effects of combining all corporate methodologies into a singular methodology centered on PM;
- Level 4 – Benchmarking, the organization recognizes the necessity to maintain their competitive advantage on a continuous basis, deciding what to benchmark and how to benchmark;
- Level 5 – Continuous Improvement, the organization evaluates the information obtained through benchmarking, using it to improve processes [14].

For each one of these levels of maturity, a particular assessment questionnaire is proposed. For level 1, a questionnaire with 80 questions, covering all main knowledge areas of PMBOK®, is applied, enabling the organization to get a picture of their level of maturity, regarding the common language for managing projects. Level 2 identifies a life cycle in PM that can be unfolded in five phases: embryonic, executive management acceptance, line management acceptance, growth and maturity. A questionnaire with 20 questions provides an overview of the life cycle profile of PM. At level 3, 42 questions are proposed to assess six characteristics of the so-called hexagon of excellence: integrated processes, culture, management support, training and education, informal PM and behavioral excellence. The level 4 seeks to assess, through 25 questions, the extent to which an organization makes use of benchmarking processes and practices to improve its PM. Finally, level 5 examines, through a questionnaire with 16 questions, the processes and practices adopted by the organization to protect, consolidate, enhance and disseminate lessons and accumulated learning, with the execution of PM in the organization [13].

Other maturity model applied to PM is the Project Framework, launched by ESI International. Its main goal is to continuous improve PM in organizations, by integrating people, processes and technology [11]. This model proposes to support organizations, identifying strengths and weaknesses in the PM process, establishing a reference in PM training, becoming oriented to projects with more predictable results, launching a continuous improvement program, and integrating principles and procedures for effective PM in structure and in organizational processes [11].

The Berkeley Project Management Maturity Model, developed by Kwak & Ibbs [15], is a maturity model to measure, locate, and compare an organization's current PM level. This model uses five maturity levels (Level 1: Initial (ad hoc); Level 2: Repeatable (abbreviated, planned); Level 3: Refined (organised, managed); Level 4: Managed (integrated); Level 5: Optimised (adaptive, sustained)) to demonstrate sequential steps that map an organization's incremental approach to improve its PM process [2, 15]. One of the benefits of using this model 'is that the applicable disciplines includes any organizations who are implementing PM practices and processes, while other maturity models have specific audiences like software development or new product development.' [15] (p.2).

In 2003, the Project Management Institute (PMI) proposed the OPM3® (Organizational Project Management Maturity Model), a generic maturity model. This model assists organizations to develop the capability to support the macro-business process in managing all projects, connecting them with the business strategy [10], and provides a systematic evaluation and improvement method for the organization from a single project to a portfolio of projects [12].

OPM3® first edition consisted in an assessment questionnaire. In 2008 it was published the second edition. The main alteration from the first to the second edition was that the latter also assesses the organizational enabling criteria (structural, cultural, technological and of human resources), as well as its suitability to the PMI portfolio

standard launched in 2006 [10]. The latest edition was launched in 2013. The most important restructuring issue of this third edition was the harmonization with the structure of other PMI standards, as PMBOK (Project Management Body of Knowledge) Guide® (5th edition), and the 3rd edition of 'The Standard of Program Management' and 'The Standard for Portfolio Management' beyond 'Lexicon of Project Management Terms', to ensure that all basic concepts are described in the same way [16].

This model includes tools and methods that allow the continuous assessment, diagnostic techniques that identify potential problems and deficiencies within the projects as well as the detailed design of the improvements to be implemented. The OPM3® is organized as a book, with explanatory information, a master list of project practices (considered the best in Management), a means of assessing the state of Organizational Project and a glossary containing the detailed cataloguing of capabilities, the best practices and all the information necessary to help the Project Manager to develop an improvement plan for organizations [17].

OPM3® compares the organizational activities with the Best Practices (BP), assessing them in project, program and portfolio management by analysing Capabilities (presence of specific organizational activities that have been identified as parts of a best practice and Outcomes (the beneficial results that organizations obtain from performance of those activities) [18].

'Organizations can then be classified into 4 stages of development in each process area at the project, program, and portfolio levels:

- Standardize: Structured processes are adopted;
- Measure: Data is used to evaluate process performance;
- Control: Control plan developed for measures;
- Continuously Improve: Processes are optimized.' [18] (p. 5).

Beyond the SMCI (Standardize, Measure, Control, and continuously Improve) there is another category of OPM3® best practice, the Organizational Enablers best practices (structural, cultural, technological, and human resource) that underpin the implementation of SMCI best practices[16].

In the assessments that the OPM3® performs and offers, the OPM3® consultants have a database with more than 600 best practices that allow to compare and evaluate organizational maturity. The improvements implemented in accordance with OPM3® are also based in the best practices collected and analysed in project, program, portfolio management and organizational enablers. Unlike most PM maturity models, OPM3® assesses organizations with a 0 -100% scoring.

Summarizing OPM3® is a tool produced and directed to organizations of any size, geographical location or practice area, which aims to identify the level of maturity of their projects and the practices established by their Project Managers, having best practices as basis for comparison, recognized and accepted worldwide that require the implementation of appropriate practices to strategy and mission of the organization.

3. OPM3® Portugal Project

The OPM3® Portugal Project was chartered based on the need that Ambithus, that leads the project, and other project initiators and mentors found to improve the way Portuguese Industry initiate, choose, manage, control, and close their projects, regarding the degree of maturity in the adoption of project, program, and portfolio management methodologies. The project integrates participation of a range of knowledge and reputed partners with origins in the scientific and technological organizations, including Portuguese universities [19].

The objective of this project is to assess 100 organizations, from various activity sectors, and perform an analysis of their organizational PM maturity, presenting an improvement plan to each of them. Furthermore, it intends to develop a sectorial-level and a country-level assessment of project practices.

The project intends to follow a four-level approach. The first level is Planning and Organizing. In this level were defined all generic procedures and structured management and control of the project, as well as more detailed planning activities and processes. A cross-functional team was formed to manage project delivery. Particular attention was on the documentation of lessons learned, identifying areas of good practice, and possible ways to improve future projects. A management information system, designed by Ambithus researchers, was created for company assessments and a website was created for registration and online management of all research. This system is complementary to Product Suite® (information processing system on assessment results, that produces

certified OPM3® reports and improvement plans from PMI®), and was necessary to be able to properly structure and organize research, increasing the efficiency of the more than 20 researchers directly involved [18]. This system overcomes some of the limitations of Product Suite®, such as can only be used by PMI® certified consultants in OPM3®, only allow the introduction of the final result for each OPM3® question, and the fact of not being designed to support the process of collecting information.

The second level is Company Assessments. The process of OPM3® assessments begins with the signature of a cooperation protocol, which specifies the name of the internal promoter (project manager) within the organization to be assessed and the entity name of the organization from the scientific and technological system that participates as a partner, and the name of the OPM3® consultant appointed by Ambithus. Senior consultants started to assess the current capabilities of the organizations. The initial process of the intervention includes meetings with: managers and the project sponsor; top management; program manager (or whoever defines the strategy); portfolio manager (or whoever decides to devote resources); manager of the PMO (Project Management Office) (or whoever appoints the project managers); other organizational enablers (e.g., commercial managers, financial managers, marketing managers, and others); project managers; and team members [18].

In the intervention process sequence, it was guaranteed the elimination of interviewer bias by establishing quality control process, which will work preventively by assuring that all collected data in the interviews are properly recorded in the information system. 'Following this fieldwork, a status report for the OPM3® maturity will be generated and shall be present to directors and top managers. This presentation of the report will be the working basis for the design of the improvement plan, which will be presented and delivered to the company management.' [18] (p. 8). The improvement plan's purpose is to help the organization to increase the link between strategic planning and execution and to give to the organization the steps necessary to achieve the desired performance.

Once company level assessments are completed, the project passes to the third level, the Industry Sectorial Assessments. The findings of the different organization assessments are summarized to create industry sector level measures of PM capability by industry. Following the analysis and validation of the results achieved, an industry sector improvement plan will be presented and discussed.

On completion of the industry sector assessments and improvement plans, the final level is the Country Assessment. Findings from sectorial level will be compared to identify areas of strengths and weakness, and will also be synthesized to create an overall measure of country PM capability.

In summary, this project will create multiple benefits to Portuguese organizations, such as 'improve the relationship between strategic planning and execution, extending the results of projects, making them more predictable, reliable, and consistent, (…) identification of best practices that can support organizational strategy for implementing successful projects and the identification of specific skills that the organization has and which can be best practices.' [18] (p. 9).

4. Preliminary Results

While carrying out the OPM3® assessments, Ambithus is also developing a model to group organizations, and to select and identify the best practices in PM that are associated with specific sectors of activity. This model is currently in its development phase, and, at this stage, it is interesting, from a perspective of knowing what PM areas organizations are best managing, to share the preliminary results of organizations that have been assessed in OPM3® Portugal Project.

To date, OPM3® Portugal Project, has already secured about 65 of the 100 organizations that are planned to be evaluated, of which 19 have already fully completed the process, with their improvement plans already submitted and validated. Making a descriptive analysis of these organizations, there are some interesting aspects:

- The organizations assessed are spread throughout the country; 8 in the north, 2 in the centre and 9 from the southern area of Portugal;
- The majority of organizations assessed are from the IT Industry, a total of 12. The remaining organizations are from different types of industries like Business Services, Education, Government or Media and Publishing;

- According to some contextual variables collected during the assessment, we can verify that the average number of employees is 230, the minimum is 12 and the maximum is 2000. Regarding to annual revenue of these organizations, the average is 34.921.828 United States Dollar (USD) per year, being the minimum 300.000 USD per year and the maximum 204.000.000 USD per year.

Based on European Commission recommendations [20] for the size of firms, we can do a simple dimensional classification of the organizations assessed. Thus, from the 19 organizations, 2 are considered micro, 10 small, 3 medium size and 3 are considered large, giving us a range of organizations of virtually all dimensions. It was not possible to obtain the annual revenue from one of the organizations, so it was not included in this classification.

4.1. Scoring methods

OPM3® Portugal Project assessments use two different scoring methods that were assigned to the answers given by respondents:

- OPM3® Scoring;
- ProductSuite® Scoring.

The OPM3® scoring is based on the percentage of 'Best Practices', 'Capabilities' and 'Outcomes' which have been fully achieved, relative to the total, of each, assessed. Therefore, if any Outcome is not present - for instance, if a process is absent or its implementation incomplete - the score contribution of that Outcome is zero and the achievement of any Capability or best practices dependent on that Outcome is also scored as zero, even if almost everybody is using the process or if the process is applied in almost any case. This means that in this rate, only fully detailed, documented, explained, used and applied process count.

ProductSuite® scoring provides a more quantitative assessment of maturity by measuring the extent to which Capabilities are present in the organization. Each question assessed relates to an Outcome and has a score type. Yes/No-type questions are given full score or no score. Degree-type questions have an incremental score related to the degree of achievement, with a full score awarded for full achievement, a zero score for no achievement and intermediate scores for partial and near full achievement. The ProductSuite® percentage score is the total score achieved as a proportion of the total score available.

It should also be noted that Program Management processes were not evaluated in these 19 organizations, because none of them have different process for programs than those they have for projects. For the same reason, 4 organizations were not evaluated for Portfolio Management processes. The questions to be asked in the assessments are chosen taking into account the position of the respondent within the organization. This means that not all organizations have the same number of interviews, since they also do not necessarily have the same number of respondents.

4.2. Results

The overall results of the 19 organizations assessments are shown in the following Tables. The results are organized by 'PM Processes' (Table 1), 'Portfolio Management Processes' (Table 2) and 'Organizational Enablers Areas' (Table 3), using ProductSuite® Scoring method, and indicating best practices achieved.

For all these three Tables, the first column represents the processes of PM (Table 1), Portfolio Management (Table 2), or the areas of Organizational Enablers (Table 3). The second column (N) represents the number of organizations that were assessed in each case. The third and fourth columns show, respectively, the minimum and the maximum percentage obtained by an organization. The fifth column presents the average result for each process/area of all organizations, and the sixth column presents the standard deviation of the results. Finally, column seven gives the sum of best practices achieved by all the organizations and column eight gives, in average, the number of best practices achieved by the organizations. The last line of each Table presents the average of the results above in the column.

Table 1. Project Management Process (ProductSuite® Score and Best Practices Achieved).

Project Management Process	N	Minimum (%)	Maximum (%)	Average (%)	Std. Deviation	BP Sum	BP Average
Process Ownership	19	0	100	62.63	45.644	1	0.05
Develop Project Charter	19	0	100	39.26	36.934	12	0.63
Identify Stakeholders	19	0	74	19.68	21.779	0	0.00
Develop Project Management Plan	19	0	100	31.21	34.102	8	0.42
Collect Requirements	19	2	100	50.74	32.204	12	0.63
Define Scope	19	0	100	47.47	38.432	19	1.00
Create Work Breakdown Structure	19	0	100	26.42	37.162	9	0.47
Define Activities	19	0	100	44.89	41.212	16	0.84
Sequence Activities	19	0	100	40.32	39.165	12	0.63
Estimate Activity Resources	19	0	100	37.26	37.855	10	0.53
Estimate Activity Durations	19	0	100	37.37	39.840	14	0.74
Develop Schedule	19	0	100	37.58	41.090	15	0.79
Estimate Costs	19	0	100	39.89	37.563	12	0.63
Determine Budget	19	0	100	28.00	36.116	11	0.58
Plan Quality	19	0	100	12.16	27.879	5	0.26
Develop Human Resource Plan	19	0	71	12.95	21.178	1	0.05
Plan Communications	19	0	95	14.32	25.078	3	0.16
Plan Risk Management	19	0	100	8.47	23.446	4	0.21
Identify Risks	19	0	100	11.37	23.975	4	0.21
Perform Qualitative Risk Analysis	19	0	100	6.26	22.910	4	0.21
Perform Quantitative Risk Analysis	19	0	100	5.37	22.921	4	0.21
Plan Risk Responses	19	0	40	3.00	9.214	1	0.05
Plan Procurements	19	0	100	36.68	38.427	17	0.89
Direct and Manage Project Execution	19	0	100	34.68	36.364	13	0.68
Perform Quality Assurance	19	0	100	10.89	24.147	4	0.21
Acquire Project Team	19	0	100	22.32	31.814	4	0.21
Develop Project Team	19	0	93	13.00	25.281	1	0.05
Manage Project Team	19	0	98	13.47	28.155	3	0.16
Distribute Information	19	0	100	43.74	39.461	15	0.79
Manage Stakeholder Expectations	19	0	83	11.21	24.963	1	0.05
Conduct Procurements	19	0	100	63.84	42.993	37	1.95
Monitor and Control Project Work	19	0	100	49.47	46.660	29	1.53
Perform Integrated Change Control	19	0	100	31.63	41.950	14	0.74
Verify Scope	19	0	100	26.11	37.906	11	0.58
Control Scope	19	0	100	21.42	35.417	10	0.53
Control Schedule	19	0	100	31.16	38.219	10	0.53
Control Costs	19	0	100	38.32	38.635	16	0.84
Perform Quality Control	19	0	98	17.37	30.442	3	0.16
Report Performance	19	0	100	25.74	37.260	9	0.47
Monitor and Control Risks	19	0	71	5.84	16.678	2	0.11
Administer Procurements	19	0	100	54.21	41.866	27	1.42
Close Project or Phase	19	0	100	33.05	40.177	16	0.84
Close Procurements	19	0	100	51.89	47.049	31	1.63
Averages		**0.05**	**95.88**	**29.13**	**33.478**	**10.50**	**0.55**

Table 4 indicates the 'Overall Maturity' average results of the 19 organizations, using OPM3® scoring method. One more time, the second column (N) represents the number of organizations that were assessed. The third and fourth columns show, respectively, the minimum and the maximum overall maturity percentage obtained by an organization. The fifth column presents the average overall maturity for the 19 organizations, and finally the sixth column presents the standard deviation of the results.

Table 2. Portfolio Management Process (ProductSuite® Score and Best Practices Achieved).

Portfolio Management Process	N	Minimum (%)	Maximum (%)	Average (%)	Std. Deviation	BP Sum	BP Average
Process Ownership	15	0	100	48.07	48.157	0	0.00
Identify Components	15	0	98	12.60	25.201	3	0.20
Categorize Components	15	0	98	10.47	24.784	3	0.20
Evaluate Components	15	0	36	8.07	11.859	0	0.00
Select Components	15	0	36	5.60	10.521	0	0.00
Prioritize Components	15	0	83	14.60	25.878	0	0.00
Balance Portfolio	15	0	26	5.53	9.133	0	0.00
Communicate Portfolio Adjustment	15	0	36	3.80	9.283	0	0.00
Authorize Components	15	0	100	16.87	34.305	7	0.47
Identify Portfolio Risks	15	0	2	0.13	0.516	0	0.00
Analyze Portfolio Risks	15	0	2	0.27	0.704	0	0.00
Develop Portfolio Risk Responses	15	0	7	0.60	1.844	0	0.00
Review and Report Portfolio Performance	15	0	100	13.47	34.178	5	0.33
Monitor Business Strategy Changes	15	0	33	6.07	9.932	0	0.00
Monitor and Control Portfolio Risks	15	0	7	0.60	1.844	0	0.00
Averages		**0.00**	**50.93**	**9.78**	**16.543**	**1.20**	**0.08**

Table 3. Organizational Enablers Area (ProductSuite® Score and Best Practices Achieved).

Organizational Enablers Area	N	Minimum (%)	Maximum (%)	Average (%)	Std. Deviation	BP Sum	BP Average
Organizational Project Management Policy & Vision	19	14	82	44.58	20.710	19	1.00
Strategic Alignment	19	5	100	49.00	30.806	7	0.37
Resource Allocation	19	11	72	44.47	17.949	0	0.00
Management Systems	19	0	94	36.53	37.307	6	0.32
Sponsorship	19	19	95	58.79	20.327	1	0.05
Organizational Structures	19	0	96	36.47	28.660	9	0.47
Competency Management	19	0	85	30.32	27.863	38	2.00
Individual Performance Appraisals	19	0	100	38.11	30.701	1	0.05
Project Management Training	19	0	100	39.16	39.955	11	0.58
Organizational Project Management Communities	19	0	67	18.89	24.828	0	0.00
Organizational Project Management Practices	19	0	100	38.21	34.224	9	0.47
Organizational Project Management Methodology	19	0	100	26.26	39.610	7	0.37
Organizational Project Management Techniques	19	0	85	35.42	27.911	11	0.58
Project Management Metrics	19	0	89	23.47	30.034	6	0.32
Project Success Criteria	19	0	83	22.74	28.713	5	0.26
Benchmarking	19	0	100	24.26	31.455	1	0.05
Knowledge Management and PMIS	19	0	93	24.53	27.079	1	0.05
Averages		**2.88**	**90.65**	**34.78**	**29.302**	**7.77**	**0.41**

Table 4. Overall Maturity (OPM3® Score).

	N	Minimum (%)	Maximum (%)	Average (%)	Std. Deviation
Overall Maturity	19	0.0	31.0	6.32	8.4265

4.3. Result analysis

Considering the results presented in previous sub-section, we can divide the analysis according to the two scoring methods. Starting with ProductSuite® Scoring, Tables 1, 2 and 3 show that:

- In general, the results for PM processes are better than for Portfolio Management. The average of PM processes averages is 29.13%, approximately three times the average of averages for Portfolio Management processes. This is an expected result, because to do Portfolio Management is necessary to do first PM, so it is normal that PM maturity results exceeds Portfolio Management maturity results;
- For PM, only five processes are considered to be implemented at least in half of the organizations: 'Process Ownership', 'Collect Requirements', 'Conduct Procurements', 'Administer Procurements' and 'Close Procurements'. With most of the organizations of this research from IT industry, this is an expected result, since procurement expenditures represents about 50%-80% of the total budget of IT project, being one of the key factors to project success [21]. The lower score was to 'Plan Risk Responses' (3%) followed closely by 'Perform Quantitative Risk Analysis' and 'Monitor and Control Risks'. This results contradicts, a recently worldwide survey study from 2013, conducted by Fernandes, Ward and Araújo [22], found that from the 68 surveyed project management tools and techniques, the areas of knowledge: risk, scope, time, communication and integration assume a high relevance amongst the most useful PM practices, each with at least three PM practices on the top 20 of the list. Regarding to the best practices achieved, 'Conduct Procurements' obtained the higher sum (37 best practices) and average (1.95 best practices achieved by organization); None of the organizations has implemented any of the best practices of the process 'Identify Stakeholders'. This may be due to the fact that this process normally is conducted informally and not formally;
- None of the Portfolio Management processes achieve 50%. 'Process Ownership' obtained the best result (48.07%), while the worst result (0.13%) was 'Identify Portfolio Risks', but three more processes related with risk management had lower results. 'Authorize Components' and 'Review and Report Portfolio Performance' are the processes with more best practices achieved, with 7 and 5, respectively. Most of processes did not even obtain a single best practice;
- For Organizational Enablers there is a greater uniformity of results. The average of averages is almost 35%, being the best result 58.79% for 'Sponsorship' and the worst result 18.89% for 'Organizational Project Management Communities'. Concerning to best practices achieved, we can see that the sum of the 19 organizations already assessed, obtained, in average 7.77 best practices per area. 'Competency Management' obtained the higher sum, 38 best practices achieved in the 19 organizations, while 'Resource Allocation' and 'Organizational Project Management Communities' did not get any.

Regarding the Overall Maturity results in Table 4, obtained with OPM3® Score, we can see that the average of the 19 organizations was 6.32%. The 'most mature' of the organizations evaluated until now, presents a percentage of 31%, and unfortunately, there are organizations whose PM maturity is virtually non-existent, since their overall maturity percentage is 0%. It should be noted that OPM3® Score method is very strict, because, as has been pointed, if an outcome is not present, the achievement of the dependent best practice on that Outcome is scored as zero.

5. Conclusion

OPM3® Portugal Project is a great opportunity for Portuguese Industry. For the first time, it is provided the access to data from real companies of all sizes, all industry types and across the country. The main purpose of this paper is to make known the preliminary results of organizations that have been assessed, up to the present moment, in OPM3® Portugal Project. At this point there were assessed 19 organizations.

From the analysis of these results the first conclusion to be drawn is that organizations manage best their projects than their portfolio, which is an expected result. It is interesting to notice that, in PM, 3 of the 5 processes that obtained best averages are related to Procurement Management, one of ten areas of knowledge from PMBOK®, which means that Portuguese companies are managing well the processes of buying or purchasing products or services, especially IT companies that obtained the best maturity results in this area. On the other hand,

all the processes that had the lower score for PM, are related with Risk Management.

Concerning to best practices achieved for Portfolio Management, it should be noted that 11 of 15 processes do not achieve at least one best practice. This means that from 19 organizations, none of them has implemented a best practice for 11 Portfolio Management processes, representing a poor result. The more homogeneous results belong to Organizational Enablers areas with an average of averages of almost 35%, being the best results for 'Sponsorship' (58.79%), and 'Strategic Alignment' (49.00%).

Being a pioneering study in this area, becomes difficult to compare results or to state if these results are good or bad, from a country perspective. The results also show that there is ample space for improvements. In fact, improvement plans were made for these 19 organizations with a wide list of improvements to be implemented.

For future work, a clustering analysis to group organizations involved in OPM3® Portugal Project will be conducted. This analysis will consist firstly in using the method Fuzzy C-Means clustering to identify groups of organizations assessed, and then create a computer model that simplifies the selection of priority practices, with a focus on critical aspects for each sector of activity, based on the results obtained in OPM3® assessments. The objective is to be used in future as benchmarking instrument between Portuguese firms in the same sector of activity.

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