

THE LEVEL OF ROMANIAN COMPANIES TO THE PROJECT MANAGEMENT MATURITY MODEL (P3M)

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Abstract.

Nothing accommodates to the human life to accomplish and plan. Since the dawn of history, project has represented all the fascinated building, industries and infrastructures in the world.

For this, in recent years, project management has shown great vitality in the field of management over the world due to its flexibility and feasibility.

The current development of project management takes place in various professional and academic contexts and diversified through the multitude of interventions of professionals and researchers.

The degree or extent of capability or competency regarding project management is referred to as "maturity.

Due to the importance of the project management nowadays, this paper is meant to reveal these initiatives in this field, the different models, methods, techniques and tools used for this, and what is the Romanian organization's capability or competency in managing projects?

Keywords: *Project management, models, techniques, tools and methods, project management maturity model.*

1. Introduction

The race towards the development of the concept project management was clear and blatant. Depending on the years of the evolution of this concept, there has been an

intervention by several categories of people: professionals, academic researchers, computer scientists, sociologists, leaders and mathematicians who have contributed to this paradigm richness and diversity on different plans: knowledge, practice and perspectives.

Over the past 20 years there has been an improvement in the quality and rigour of project management research. In the 1970s research in project management was dominated by practitioners, who set the research agenda and style. Then in the 1980s, it was dominated by the professional associations, all of whom wanted to develop their bodies of knowledge as the basis of their certification programs. The result of this study (Turner et al., 2011) was that research in project management was very practitioner oriented. However, over the past 20 years, there has been a substantial improvement in the quality and rigour of research in project management, particularly: a) it is based on recent theory development; b) it contributes to a wider range of other disciplines; and c) it is appreciated outside the field; d) it contains a wider range of available methods for the successful delivery of projects.

2. Literature review

2.1. Project management paradigm

So if the project management's field is to progress, explicit understanding of the theoretical basis of project management is necessary, as it provides the opportunity to understand the assumptions, which underpin practice, to question their appropriateness, and then consciously choose an alternative, when it is appropriate to do so. In an article (Pollack, 2007), the author highlights the relationship between the notion of paradigm and PM, which he concluded that the range of theoretical frameworks being applied in PM research and practice appears to be expanding, and the field shows a significant level of plurality.

Increasing diversity of theoretical frameworks in the field of Information Systems has been heralded as a healthy sign for research progress and a sign of maturation of a discipline.

An increase in theoretical diversity can be taken as a health sign for the field of PM as well. Specially, a strong emphasis on the hard paradigm can also be seen in how the tools and techniques commonly associated with PM have developed.

In fact (Kerzner, 2009), the PM approach is relatively modern. It is characterized by methods of restructuring management and adapting special management techniques, with the purpose of obtaining better control and use of existing resources.

2.2. Project management model

Several project management models have developed over the years.

The majority of these epistemological postures are positivism since guidelines, tools, techniques and sometimes skills are established at a general level to be applied in specific projects.

The discipline of project management has its concepts, but their implementations vary from one model to another.

If in theory there is a diversity of models and visions in the discipline of project management, it must be recognized that in practice all these conceptual differences overlap.

PMBok (Smyth and Morris, no date) Guide is the formal model of project management for a very great many people and enterprises. It is the most simplistic, with a primary focus upon task execution and fails to refer to the management of frontend issues, exogenous factors, strategy or human factors.

PMBOK is epistemologically closely associated with positivism, seeking general explanations and solutions for practice, tending to disregard context.

The IPMA Competency Baseline and APM Body of Knowledge reflect the functionalist framework.

The Japanese BOK is more eclectic, not quite reflecting any of these paradigms. For ISO 21500 (Stellingwerf and Zandhuis, 2013), it is referred to as an informative standard; a guideline that can be defined as a basic conceptual structure to allow homogeneous handling of different business processes grouped together and increases management discipline. Being a basic reference ISO 21500 is a guideline rather than a method or methodology.

2.3. Project management tools and techniques

A strong emphasis (Pollack, 2007) on the hard paradigm can also be seen in how the tools and techniques commonly associated with PM have developed. PM tools and techniques are predominantly quantitative. For instance, Söderlund identifies "... that 'traditional' project management research is classifiable either as one of 'optimization' or as 'critical success factor' research ..." where the former primarily involves reductionist breakdown techniques, and the latter favors quantitative analysis of large surveys.

Moreover, as the project (Lock, 2016) means doing something new, possibly even something risky or adventurous, which in the business world this usually means creating something that someone else wants and is prepared to pay for. Most projects have targets, which means they have to be built right, within a cost budget, and finished by a certain date. In this case, Project management is simply making sure that all these targets are met, with appropriate tools and quantitative techniques.

Project management tools and techniques have been practiced since early civilization.

However, it was not until the 1950s that organizations started to apply project management tools and techniques to complex engineering projects systematically.

Great many research has been provided on project management tools and techniques, however, the vast majority of which focuses on particular project management tools or specific project management practice. One of these studies (Besner and Hobbs, 2008) tended to identify general use and usefulness of project management practices. The paper was based on a large-scale survey of 750 experienced project management practitioners. A part of the questionnaire was composed of a series of questions designed to investigate the 70 tools and techniques drawn from the PMBok (2004) guide and completed with definitions by the authors.

But between 2004 and 2012, many improvements have been made. For PMBok (2012) (Project Management Institute, 2013), other tools were added and others improved or modified, which made the PMI enriched this fifth edition through the criticisms of researchers and the experience of professionals.

2.4. Project management maturity model

The project management methodology (Nicholas and Steyn, 2008) provides a framework and set of structured tasks, tools, and techniques to conceive, define, plan, schedule, budget, track, control, and close out projects. It is the means by which all projects in an organization are managed and performed in a standardized, disciplined, and systematic manner, using recognized best practices.

The degree or extent of capability or competency regarding project management is referred to as "maturity". The Oxford Advanced Learner's Dictionary (Pretorius, Steyn and Jordaan, 2012) defines 'maturity' as "the state of being fully grown or developed". When this concept is applied to a project, it could imply a situation where an organisation has

standards and procedures in place that would assist it in reaching its objectives. An organisation is mature when it is in a position to deal perfectly with its projects.

The concept (Cooke-Davies and Arzymanow, 2003) of process maturity was born in the Total Quality Management movement, where the application of statistical process control techniques showed that improving the maturity of any technical process leads to two things: a reduction in the variability inherent in the process, and an improvement in the mean performance of the process.

Project management maturity (Nicholas and Steyn, 2008) refers to an organization's capability or competency in managing projects, and includes the extent to which it employs a methodology and formalized methods for project planning and control, multi-project integration, and continuous improvement. Maturity can be formally measured and assessed using maturity models; a high rating on these models indicates that an organization has achieved a high level of standardization in its project management practices and processes.

Because of many different maturity models, one research (Simangunsong and Da Silva, 2013) is focused on four models for general industry and commonly used: a) Capability Maturity Model (CMM) developed by Carnegie Mellon University and the Software Engineering Institute in 1993; b) PM Solutions Project Management Maturity Model (PMMM) adapted from the CMM and the nine knowledge areas of PMI; c) Project Management Process Maturity (PM) Model developed by Kwak and Ibbs in 2002; d) Project Management Maturity Model (ProMMM) proposed by PM Profesional Solutions Limited. And also the Organizational Project Management Maturity Model (OPM3) (Institute, 2013) developed in 1998 and proposed by the Project Management Institute (PMI). Having achieved a high rating according to a standard maturity model, a company can potentially use that rating to its advantage.

Any model selected (Crawford, 2014) to measure project management maturity must point out a logical path for progressive development. In effect, a good model for the measurement of project management maturity creates a strategic plan for moving project management forward in an organization. In this case, the results of the qualitative content analysis (Albrecht and Spang, 2016) made the differences between some project management maturity models based on multiple criteria.

3. Empirical research

In the context of the development of Romania and the diversity of projects undertaken in different sectors, awareness of the concept of project management is essential for maintaining this progress trajectory effectively and efficiently because it is the only tool for organizing projects in a rapidly expanding country.

Today, Romania is in full structural development and economic effervescence in view of the regional operational program POR funded by the European funding-based projects, which encompasses several projects in different economic and social sectors. Given its importance for this country, this paper tries to highlight the concept of project management maturity during this decade 2007-2017. Completion is crucial and essential for the growth of organizations and their future reputation.

The purpose of POR (Nistor and Zăgan-Zelter, 2012) is to support a balanced growth of all country areas through ensuring that all areas have a minimum level of business, social and human capital infrastructure, which would allow for economic growth.

The evolution of projects within the framework of the POR program is schematized along different axes and regions. This chronology of the different stages of projects, submitted,

approved or rejected, contracted to finalized, was established according to information reported by Romanian institutions.

POR implementation development projects are shown in graph 1. They reflect the cumulative years of ROP implementation steps (for example, the number of projects approved in 2016 phase includes the number of projects approved during of previous years). During this implementation, the graph reflects the passage of projects from the submission stage to the rejection stage or the contract commitment.

It is noted that the cumulative number of projects contracted increases from 1090 to 4560 projects. Graph 2 illustrates the evolution of the success rate in the commitment of the submitted projects, which reached 45.65%, and the rate of rejection of the submitted projects. What is important is that, between 2013 and 2015, the success rate was greater than the rejection rate.

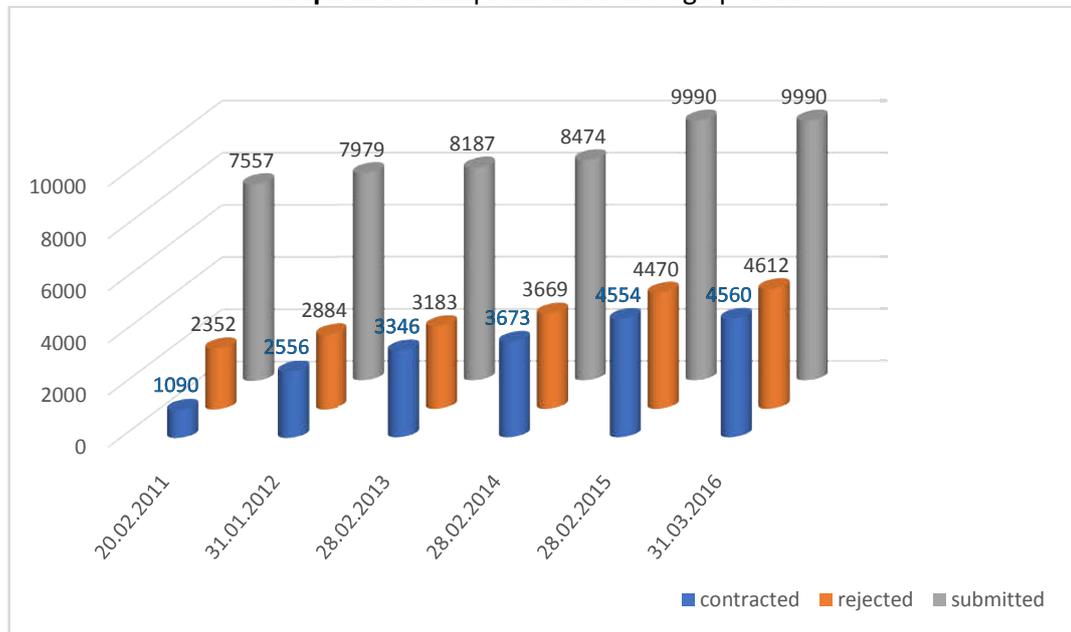
For more details, graph 3 reflects this analysis in a given period (31.03.2016) according to the regions. There is a difference between the cumulative number of projects submitted, rejected and contracted in each region where the highest cumulative projects are south of 762.

For success and rejection rates, graph 4 illustrates the success rate, which is 53.7% in the same southern region.

It is clear that implementation capacities were strengthened and the monitoring skills were developed at all levels due to the fact that the actors involved had to carefully follow the implementation of projects / programs.

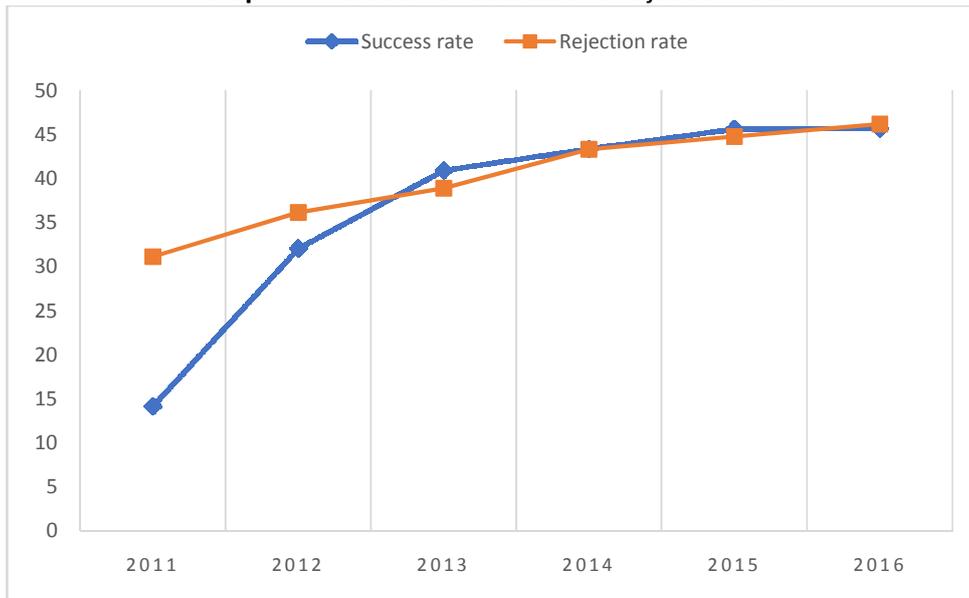
Thus, the multi-annual programming('ROP Final Version.pdf', no date) Phare ESC 2004-2006 Programme facilitated an efficient planning and correlation of the activities regarding the launching, contracting and project implementation, as well as an efficient planning of resources, being a useful exercise for the management of the Structural Funds.

Graph 1: POR implementation stage per date



Source : www.inforegio.ro(AdminHolisun, no date)

Graph 2: Evolution of success and rejection rate



Source: Authors by www.inforegio.ro (AdminHolisun, no date)

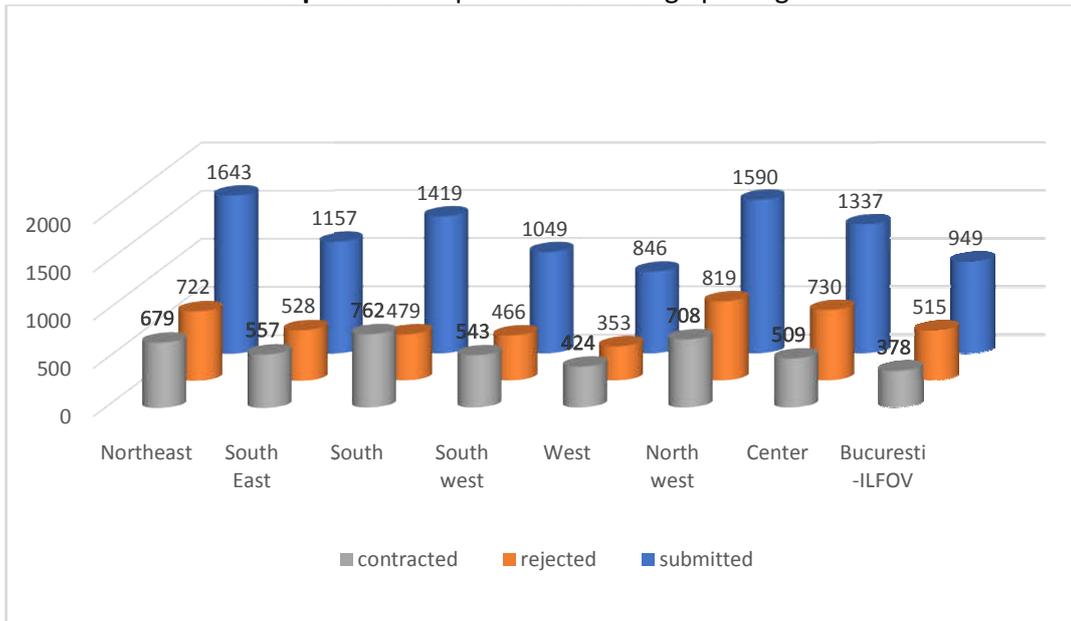
The beneficiaries learned to identify non-reimbursable financing sources and to design projects, being aware of the availability of important amounts, contributing thus to the overall social and economic development.

For graph 5, it represents the cumulative projects of the six priority axes of the POR program by adding the most important phase, which is the finalization of projects until 31.05.2015. The cumulative finalized

projects indicate an increase in the realization of the contracted projects. There are 1812 projects finalized in the business climate, which is a very essential factor to ensure a security for the commitment of the organizations in the realization of this POR development project. It is noteworthy that the 76 projects submitted were contracted from the AT axis and 53 of them were finalized, which is a high rate of 70%.

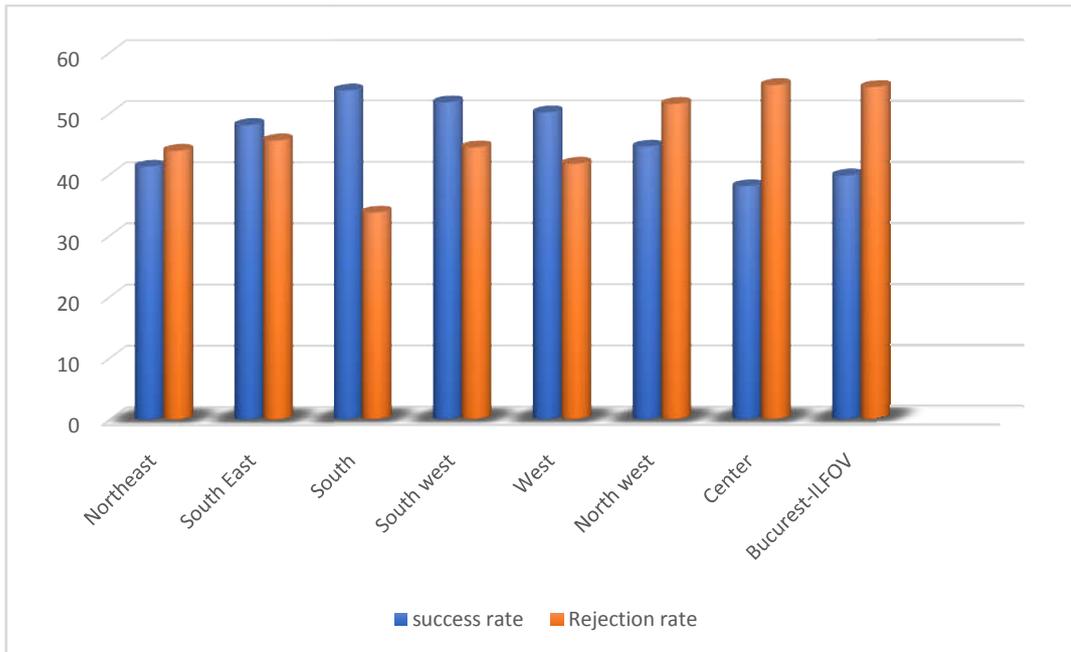
For more details, graph 6 shows the evolution of the rate of finalization of the projects contracted from the different priority axes from 2012 to 2015. It is noted that the rate of finalization of the projects of the business climate axis rose from 31.39 To 80.86%. For the AT axis, projects contracted in 2012 were finalized at a rate of 94.54% in 2013 only, which means that the methods of selecting stakeholders are effective; and the stakeholders have the appropriate tools and techniques for the management of these projects.

Graph 3: POR implementation stage per region



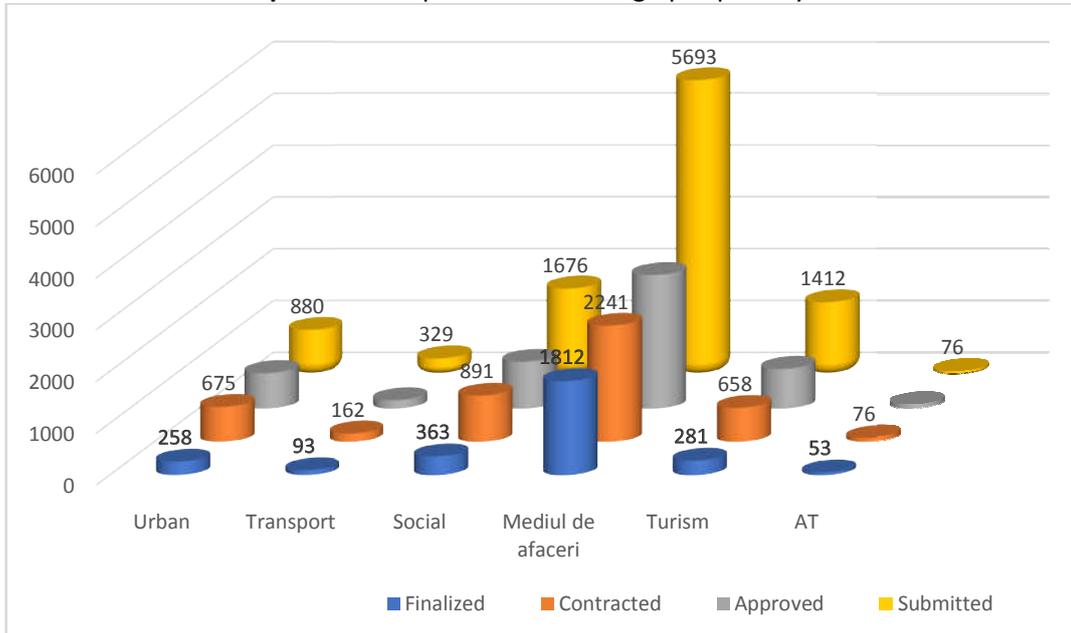
Source: www.inforegio.ro

Graph 4: comparison between success and rejection rate in different regions



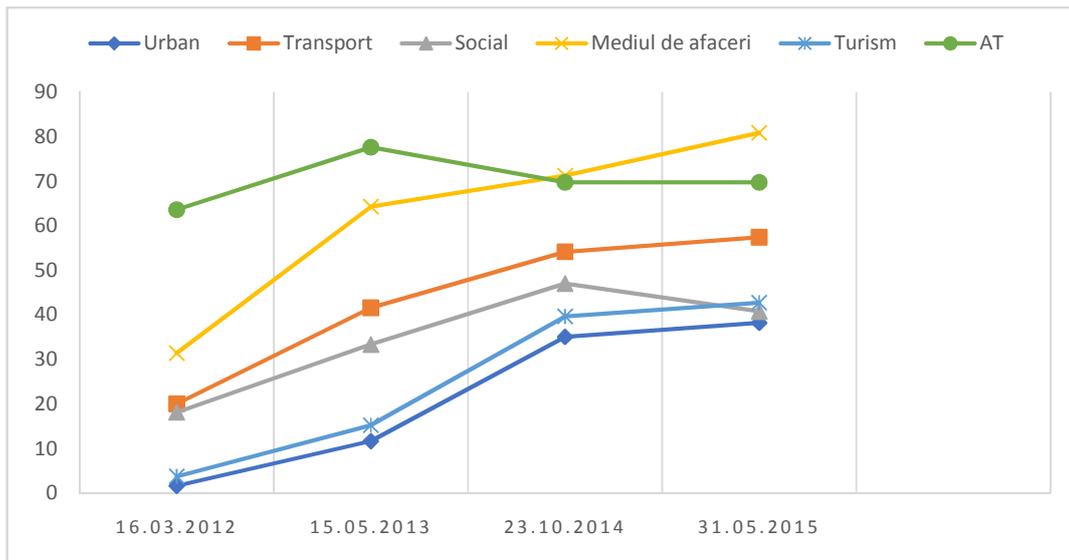
Source: Authors www.inforegio.ro

Graph 5: POR implementation stage per priority axis



Source: www.inforegio.ro

Graph 6: Evolution of finalization rate of projects contracted from different priority axes



Source: Authors: www.inforegio.ro

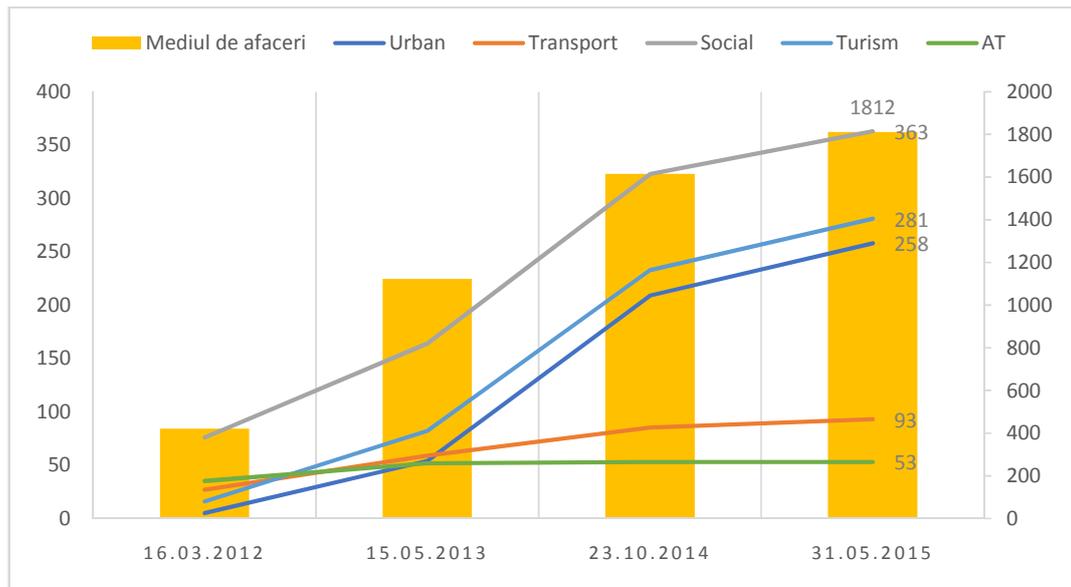
It is also possible to highlight the increase in the cumulative number of projects finalized from 2012 to 2015.

Graph 7 clearly reflects this evolution along the different axes. Certainly in the case of the business climate, it is the most dominant axis in creating a favorable and adequate environment for investments. For the progress of the social axis, it is noted that it is the highest cumulative of the finalized projects, 363 projects. It is a very essential factor for the development and the gain of trust of the society.

It is clear that the implementation of the POR projects in the framework of submission, approval, contractual commitment or finalization takes into consideration several techniques:

- The introduction of the evaluation of the technical projects into the evaluation and selection stage, performed by independent specialized evaluators;
- The support to beneficiaries in the implementation on projects through pre-financing mechanism;
- The amendment of the national legislation in constructions – civil engineering;
- The organization of active training sessions for beneficiaries in order to develop mature and viable projects.

Graph 7: Evolution of finalization rate along the different priority axes



Source: Authorswww.inforegio.ro

From all these details, one notices that the notion of project management good practices exists, whether it is in public organizations when approving projects or in the implementing organizations. For the latter, completion of a project is only a sign of maturity at least at the first level, since the selected model contains certain indicators drawn from the implementation of the 2004-2006 program (according to the 2007 final study report).

This is the evolution of the projects of the ROP program 2007-2013. In addition, this is only a proof of the experience accumulated in the maturity of project management practice whether for public, private or international organizations.

4. Conclusion

According to these results, there is a very good indicator of maturity that must be studied closely in the organizations that have assumed responsibility for carrying out the projects in the framework of the development of Romania.

This study is only preliminary to further studies because it is noted that much research has been concerned with the financial analysis of projects and the absorption rate of the European aid fund forgotten the management maturity side of the project.

Certainly, according to a study carried out in the construction sector('RAPORT-SAR-2016_capitolul-3.pdf', no date), a number of Top 55 organizations have had the opportunity to acquire investments subsidized by the European Union, but a considerable number of Romanian organizations have had this Privilege and participated in this development that must be studied closely.

Finally, this study aims to encourage other researchers to focus on this aspect in order to highlight the level of maturity of these Romanian organizations and to participate in their evolution, which has a crucial impact on the future regional operational program POR 2014-202 and the full integration of Romania into the European Union.

At the end, it is important to realize that all these aspects initiated or described in this paper should be taken into consideration in order to go efficiently and effectively towards evolution, development and integration in contemporary society.

References

1. AdminHolisun (no date) *Stadiul contractării*. Available at: <http://www.inforegio.ro/ro/domenii-de-finantare/stadiul-contractarii.html> (Accessed: 15 May 2017).
2. Albrecht, J. C. and Spang, K. (2016) 'Disassembling and Reassembling Project Management Maturity', *Project Management Journal*, 47(5), pp. 18–35.
3. Besner, C. and Hobbs, B. (2008) 'Project management practice, generic or contextual: A reality check', *Project Management Journal*, 39(1), pp. 16–33.
4. Cooke-Davies, T. J. and Arzymanow, A. (2003) 'The maturity of project management in different industries: An investigation into variations between project management models', *International Journal of Project Management*. Held in Renesse, Seeland, The Netherlands, 28-31 May 2002., 21(6), pp. 471–478.
5. Crawford, J. K. (2014) *Project Management Maturity Model, Third Edition*. CRC Press.
6. Institute, P. M. (2013) *Organizational Project Management Maturity Model (OPM3®) Knowledge Foundation*. Project Management Institute.
7. Kerzner, H. R. (2009) *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*. Wiley.
8. Lock, D. (2016) *Project Management in Construction*. CRC Press.
9. Nicholas, J. M. and Steyn, H. (2008) *Project management for business, engineering, and technology : principles and practice*. 3rd ed. Elsevier Butterworth Heinemann.
10. Nistor, R. and Zăgan-Zelter, D. (2012) 'RISK MANAGEMENT OF EUROPEAN PROJECTS. CASE STUDY: P.O.R.', *Managerial Challenges of the Contemporary Society*, (4), pp. 67–72.
11. Pollack, J. (2007) 'The changing paradigms of project management', *International Journal of Project Management*, 25(3), pp. 266–274.
12. Pretorius, S., Steyn, H. and Jordaan, J. C. (2012) 'Project management maturity and project management success in the engineering and construction industries in Southern Africa', *South African Journal of Industrial Engineering*, 23(3), pp. 1–12.
13. Project Management Institute (ed.) (2013) *A guide to the project management body of knowledge: (PMBOK® guide) ; an American National Standard ANSI-PMI 99-001-2013*. 5. ed. Newtown Square, Pa: PMI (Global standard).
14. 'RAPORT-SAR-2016_capitolul-3.pdf' (no date). Available at: http://sar.org.ro/wp-content/uploads/2016/02/RAPORT-SAR-2016_capitolul-3.pdf (Accessed: 15 May 2017).
15. 'ROP Final Version.pdf' (no date). Available at: http://www.mdrl.ro/_documente/POR/ROP%20Final%20Version.pdf (Accessed: 15 May 2017).
16. Simangunsong, E. and Da Silva, E. N. (2013) 'Analyzing Project Management Maturity Level in Indonesia', *The South East Asian Journal of Management*.
17. Smyth, H. J. and Morris, P. W. G. (no date) 'An epistemological evaluation of research into projects and their management: Methodological issues', *International Journal of Project Management*, 25, pp. 423–436.
18. Stellingwerf, R. and Zandhuis, A. (2013) *ISO 21500 Guidance on project management - A Pocket Guide*. Van Haren.
19. Turner, R., Pinto, J. and Bredillet, C. (2011) 'The Evolution of Project Management Research: The Evidence from the Journals', *The Oxford Handbook of Project Management*.