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PROJECT SUCCESS

KEYWORDS
• Success • Project management • Success management • Project success • Project management success
• Process • Process model.

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A NEW PROCESS FOR SUCCESS MANAGEMENT

bringing order to a typically ad-hoc area

• ABSTRACT •

It is a fact that an organization's success is closely linked with its projects' success. Although there are many studies in literature that focus on different aspects of project success like, for instance, the success factors or the criteria for success assessment, there are only few studies that mention the processes required for success evaluation. Guides and standards, such as PMBOK 5 or ISO 21500:2012, are not exceptions. Given the high importance and complexity of the evaluation of the projects' success, in this article is presented a systematic process model for success management, customizable both for waterfall and agile methodologies.

1. INTRODUCTION

Project Management (PM) as a discipline has gained a remarkable recognition in the last decades. This is clearly reflected by the high number and size of projects that are being carried out in organizations in various industries and areas of business. In fact, nowadays it is difficult to find an organization that does not develop projects or that does not turn to PM as a way to structure and manage its investments.

Ever since PM began to take shape as a body of knowledge in the mid-twentieth century, many processes, techniques and tools have been developed. They cover various aspects of the entire lifecycle of projects and have made possible for PM to increase its efficiency and effectiveness, thus contributing to an increased project success rate (Varajão, 2016).

Nevertheless, there are still many challenges facing PM and it is not uncommon that projects present problems. Mir and Pinnington (2014) argue that, despite the advancement in PM processes and tools, in recent years project success has not significantly improved. In fact, projects still fail to live up to the expectations of stakeholders as they continue to be disappointed by projects' results (Cooke-Davies, 2002; Varajão, Domingues, Ribeiro, & Paiva, 2014; Whitty, 2005).

Although there are many studies that focus on various aspects of project success as, for example, the success factors (v.g. (Belassi & Tukel, 1996; Belout & Gauvreau, 2004; Cooke-Davies, 2002; Khang & Moe, 2008)) or the success criteria (v.g. (Abe, Mizuno, Kikuno, Kikuchi, & Hirayama, 2006; Atkinson, 1999; Khang & Moe, 2008; Lim & Mohamed, 1999)), there are only few studies that focus on the evaluation process (v.g. (Varajão, 2016; Varajão & Trigo, 2016)). In other words, there is a great concern in trying to understand what contributes to the success of a project, or the criteria that are (or should be) used (Ika, 2009); however, there are several topics that have not been addressed such as (Varajão, 2016; Varajão & Trigo, 2016): "How should the evaluation process be structured?"; "When should the evaluation process be defined?"; "Who should take part in this process?"; "When should the evaluation actions take place?"; "What criteria should be used (in each project phase)?"; "Should the evaluation criteria be the same for all projects or should it be differentiated?"; "How should the information for evaluation be collected?"; among other relevant questions. Guides and standards, such as the PMBOK 5 (PMI, 2013) or ISO 21500:2012 (ISO, 2012), are not exceptions to this fact, since they do not address in a systematic way the processes required for success evaluation.

Given the undeniable importance of the evaluation of projects' success (Arviansyah, Spil, & Hillegersberg, 2015) and the absence of well-defined processes in the scientific literature and PM guides, it is proposed in this article a process model for Success Management. This study aims to contribute for the organization and formalization of the project success evaluation processes.

This paper is organized as follows. Section 2 presents a brief literature review on project success and on PM knowledge areas. Then, in Section 3 it is presented the related work. In section 4 is presented the research methodology. Section 5 presents a new process model for success management, being followed by Section 6, which presents the complete workflow. Finally, we conclude with some final remarks and with some highlights for further research.

2. BACKGROUND

2.1. Project success

PM is essential for the development of successful projects, being transversal and having applications in many industries. This is particularly true in large projects, where the need for a competent PM structure becomes more evident and truly indubitable due to the complexity involved (Varajão & Cruz-Cunha, 2013).

Nevertheless, despite the attention that in recent years has been devoted to PM, in many cases the projects are still not providing the expected success. For instance, in the particular case of information technology (IT) the projects continue to show lower levels of success (Liberato, Varajão, & Martins, 2015; Ribeiro, Paiva, Varajão, & Dominguez, 2013; Varajão, Domingues, et al., 2014; Varajão, Dominguez, Ribeiro, & Paiva, 2014). In fact, the success of projects is still far from the desirable and the establishment of effective and efficient PM practices still remains a challenge (Liberato et al., 2015).

There are two distinct components of project success (Collins & Baccarini, 2004): PM success; and the success of the deliverables of the project. The two components are distinguished as follows. PM success focuses on the management process and mainly on the successful realization of the project regarding scope, time and cost. These three dimensions indicate the degree of the efficiency and effectiveness of project execution. The success of deliverables focus mainly on the effects of the project's resulting products and/or services in the post-project stage. In the context of our article, the evaluation is focused on the success of PM.

The complexity and ambiguity surrounding this issue in terms of definition and measurement (Collins & Baccarini, 2004; Fowler & Walsh, 1999; Hyvari, 2006; Ika, 2009; Jugdev & Muller, 2005; Murphy & Cormican, 2015; G. Thomas & Fernández, 2008) have been recognized as a problem since the awareness of success of PM has evolved (Jugdev & Muller, 2005). This reality has attracted the attention of the scientific community, which in recent years has focused its research efforts to better understand the phenomenon (Agarwal & Rathod, 2006; Ika, 2009; Lyytinen & Hirschheim, 1988; Pinto & Prescott, 1988; Pinto & Slevin, 1988).

Some aspects of project success have been the focus of numerous studies over the last years. Several examples of these studies are related to: causes of project failure (v.g. (Ahonen & Savolainen, 2010; Cerpa & Verner, 2009; Huysegoms, Snoeck, Dedene, Goderis, & Stumpe, 2013; Linberg, 1999; Tsirakidis, Ko, x, bler, & Krcmar, 2009; Yeo, 2002)); concepts of project success (v.g. (Agarwal & Rathod, 2006; L. McLeod, Doolin, & MacDonell, 2012; Papke-Shields, Beise, & Quan, 2010; Shenhar, Dvir, Levy, & Maltz, 2001; Van Der Westhuizen & Fitzgerald, 2005)); success factors (v.g. (Belassi & Tukel, 1996; Biehl, 2007; Clarke & O'Connor, 2012; Cooke-Davies, 2002; Davis, 2014; Khan, Niazi, & Ahmad, 2009; Khang & Moe, 2008; Laurie McLeod & MacDonell, 2011; Meskendahl, 2010; Milis & Mercken, 2002; Yalaho & Nahar, 2010)); success perspectives (v.g. (Davis, 2014; L. McLeod et al., 2012; Savolainen, Ahonen, & Richardson, 2012)); success achieved in projects (v.g. (Eveleens & Verhoef, 2010; Glass, 2005; Jørgensen & Moløkken-Østvold, 2006; Marnewick, 2012; StandishGroup, 1995, 2010; van Hillegersberg & Koenen, 2016)); and the criteria used in evaluation (v.g. (Atkinson, 1999; Khang & Moe, 2008; Lim & Mohamed, 1999; Marques, Gourc, & Lauras, 2011; Paiva, Varajao, Dominguez, & Ribeiro, 2011; Pankratz & Basten, 2014; Wateridge, 1998)).

From the literature review, it is evident the high occurrence of the aforementioned topics. However, there are only a few academic studies that address the evaluation process (v.g. (Varajão, 2016; Varajão & Trigo, 2016)).

2.2. PM Standarts and Guides

PM practices contribute to the improvement of project success. Several inputs can be used to guide an organization in improving PM by selecting the most appropriate processes and techniques in a given context, including the various bodies of knowledge (BoKs). The PM body of knowledge is the sum of knowledge within the profession of PM. The complete PM body of knowledge includes proven traditional practices that are widely applied, as well as innovative practices that are emerging in the profession (Sydow, Lindkvist, & DeFillippi, 2004). The attempts by the BoKs to systematize the knowledge required to manage projects are largely based on the underlying assumption that there are identifiable patterns and generalizations, from which rules, controls and guidelines for 'best practice' can be established that are replicable, even if not on absolutely every circumstance (Martinsuo, Hensman, Artto, Kujal, & Jaafari, 2006).

Over the past decades, many guides of good practices and comprising processes and techniques, have been developed, covering several aspects of project lifecycle (White & Fortune, 2002). The proper implementation of PM processes best practices should improve PM performance, thus improving success (Milosevic & Patanakul, 2005). Several standards and guides can be used by organizations in selecting the most appropriate processes and techniques in a given context, being ISO 21500:2012 and PMBoK® from PM Institute (PMI), some of the most influential publications (Morris, 1997).

ISO 21500:2012 provides guidance on concepts and processes of PM that are important for, and have impact on, the performance of projects. It provides high-level descriptions of concepts and processes that are considered to form good practice in PM. Projects are placed in the context of programmes and project portfolios, however, this international standard does not provide detailed guidance on the management of programmes and project portfolios. Topics pertaining to general management are addressed only within the context of PM (ISO, 2012). ISO 21500:2012 identifies the following process groups: initiating; planning; implementing; controlling; and closing. It also identifies ten "subjects" for organizing processes: integration; stakeholder; scope; resource; time; cost; risk; quality; procurement; and communication. It can be used by any type of organization, including public, private or community organizations, and for any type of project, irrespective of complexity, size or duration. ISO 21500:2012 is aligned with PMBoK 5.

PMBoK 5 (A Guide to the PM Body of Knowledge – 5th Edition) provides guidelines for managing individual projects and defines PM related concepts. It also describes the PM life cycle and its related processes, as well as the project life cycle. The PMBoK is a globally recognized standard and guide for the PM profession. As with other professions, the knowledge contained in this standard has evolved from the recognized good practices of PM practitioners, who have contributed to the development of this standard (PMI, 2013). PMBoK 5 has the following process groups: initiating; planning; executing; monitoring and controlling; and closing. It identifies ten "knowledge areas" for organizing processes: integration; stakeholder; scope; human resources; time; cost; risk; quality; procurement; and communication.

Organizations have several benefits using an internationally-recognized BoK/standard to guide them in the development of the organization's PM methodology (Haji-Kazemi & Bakhshehsi, 2009; McHugh & Hogan, 2011).

While analyzing the various PM guides, it is possible to identify many references to project success. This is not surprising, since the main objective of the guides is precisely to improve success in PM. Nevertheless, that concern is not translated into systematic processes. In other others words, even though the main concern is success, we cannot find processes directly related to success management in the guides (for instance, "define success criteria"), in the same way as it happens in the case of processes of areas such as communication, risk, stakeholders, etc. (Varajão, 2016), denoting an area that needs more contributions.

3. RELATED WORK

As the literature review shows, the debate on project success and criteria to be used in its evaluation or on the success factors, is already long. Despite this being a much-discussed topic, the fact is that the problems continue to occur in projects and there has not been a significant evolution in terms of approaches to manage success, with the focus many times being only on identifying the success factors.

Varajão in his article "Success Management as a PM knowledge area – work-in-progress" (Varajão, 2016), aiming to overcome some of the difficulties experienced by organizations with regard to the formalization of the evaluation of success, proposes the Success Management as a new PM area of knowledge (**Figure 1**), together with a set of processes to be performed in its scope: Plan Success Management; Identify Success Factors; Define Success Criteria; Perform Success Evaluation; Validate and Report Project Success.

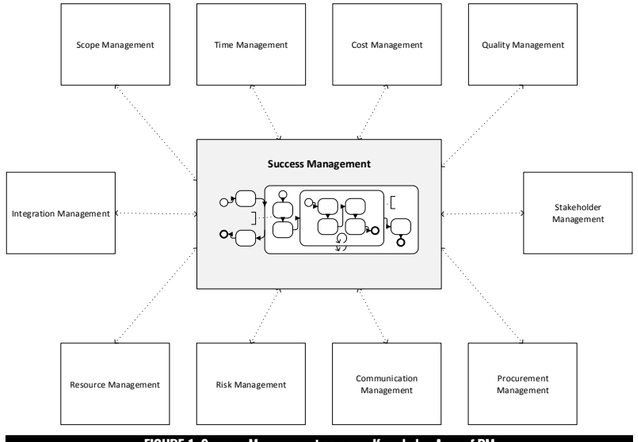

FIGURE 1· Success Management as a new Knowledge Area of PM

However, as it is a work-in-progress (mostly a position paper), the author only presents a preliminary set of general processes, and do not define guidelines to operationalizing it in practice. Our paper expands Varajão's (Varajão, 2016) preliminary work, by presenting a process model (workflow) that can be used as a framework for research in PM success and, particularly, as a guideline for organizations implement and formalize success management in their projects.

4. METHODOLOGY

In this research was adopted as methodology the Design Science Research (DSR), following Kuechler and Vaishnavi (2008) work, as presented in **Figure 2**. The result of design-science research is, by definition, a purposeful artifact created to address an important organizational problem. It must be described effectively, enabling its implementation and application in an appropriate domain (Hevner, Salvatore, Jinsoo, & Sudha, 2004).

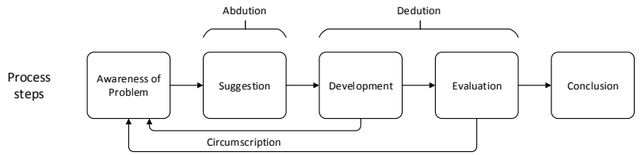

FIGURE 2· Research methodology. Adapted from Kuechler and Vaishnavi (2008).

Following, the methodology steps are briefly described as it were applied in our study.

According to Hevner et al. (2004) a DSR project seeks a solution to a real-world problem of interest to practice. Our research project originated in an academic-industry project. Aiming to implement a systematic process for evaluating the project performance and results, first were reviewed several PM standards (including (PMI, 2013), (OGC, 2009) and (ISO, 2012)) looking for guidelines. Since were not found the needed guidelines, then was carried out an academic literature review, leading to the conclusion that there is a lack of studies that address the evaluation process. As a result of the awareness of the problem (first step), it was defined a new research project aiming to define a process for evaluating project success.

The second step, suggestion, was closely linked to the awareness of the problem. In this step were studied various approaches to the problem, informed by the literature review and by prior research on related issues. The main result was the proposal of Success Management as a new PM knowledge area. It was also designed a first version of a process model (using a simple notation flowchart) for evaluation success.

At the development step, the artifacts that emerged from the suggestion step (success management framework and process model) were made concrete through construction and iterative refinement (in this article is only reported the process model). During this phase it was concluded that initial design of the process model (artifact) was of limited usefulness and it would need more detail so it can be used in practice. Was then created a second version of the process model using Unified Modeling Language (UML) (OMG, 2015), namely it was created an Activity Diagram.

In a DSR project, the research process frequently iterates between development and evaluation phases rather than flowing in Waterfall fashion from one step into the next. Hevner et al. (2004) term this iteration the 'generate/test' cycle (Kuechler & Vaishnavi, 2008). In step 4, the evaluation of our artifact took the form of an experiment. The process model was first implemented in the project that originated it. Several issues were then identified: difficulty to explain to some stakeholders what was expected from this new "success management area"; the difficulty to define success criteria beside the obvious "Iron triangle"; some resistance to add new processes to the PM processes already implemented (additional work); some initial suspicion from the executing team, because they felt that it could be a new way of controlling their actions; the lack of techniques and tools for supporting the new processes. One major issue that was identified was related to the fact that the process was too rigid and "Waterfall-oriented". Then it was decided to create a new improved version of the process model, suitable both for Waterfall and Agile projects, which required the use of a new language due to the limited notation of UML's Activity Diagrams. A new process model was then created using Business Process Model and Notation (BPMN) (ISO, 2013). During the project the process model was "fine-tuned", and after some interactions, it was well accepted. At the end, all stakeholders have agreed that a systematic process, promoting a continuous evaluation and accommodating the perspectives of the involved stakeholders, contributes for a better monitoring and performance of the project. Stakeholder also have agreeded that the process is more suitable for large projects.

In the step 5, conclusion, the obtained results were consolidated and presented.

5. PROCESS FOR SUCCESS MANAGEMENT

The subject of success in the context of projects and PM is complex due to the diverse insights on success (which depend on, for example, the stakeholders), to the characteristics of the project (for example, project size), to the circumstantial factors of the projects (for example, offshore outsourcing), and to many other aspects that need to be managed throughout the project life cycle (for example, the interdependence of projects (Bathallath, Smedberg, & Kjellin, 2016)). Therefore, there are many questions that should be answered in a success management process, as depicted in **Figure 3**. And we can add to it another very important question: "How much it will cost?". This last question has important implications for practice: the process should be adapted according to the project's characteristics and it is not something to be done in all projects.

The process model was specified using BPMN. According ISO (2013, p. xviii) "The primary goal of BPMN is to provide a notation that is readily understandable by all business users, from the business analysts that create the initial drafts of the processes, to the technical developers responsible for implementing the technology that will perform those processes, and finally, to the business people who will manage and monitor those processes. Thus, BPMN creates a standardized bridge for the gap between the business process design and process implementation". In **Figure 5** is presented a brief explanation of the used symbols for a better understanding of the model.

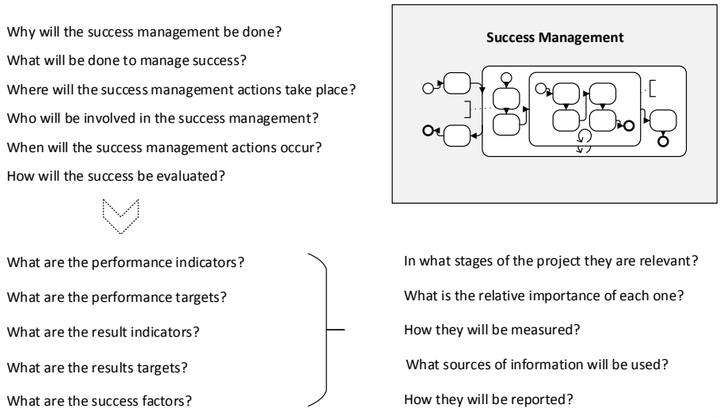

FIGURE 3· Questions to be answered in a Success Management process model

Following, the tasks identified for Success Management are briefly described. These include tasks that goes from the definition of the evaluation process, to the evaluation reporting and the registration of learned lessons. The workflow is described in detail in section 6.

SM1. Plan Project Success Management

SM1. Plan Success Management is the task responsible for defining the various aspects of PM related to the assessment, monitoring and reporting of project success. It should take place during the project initiation/planning. It should include the discussion and the approval of the various defined aspects by the key stakeholders.

SM2. Plan Phase Success Management

SM2. Plan Success Management is similar to SM1, but focused on a project phase. It should take place during each project phase initiation/planning.

SM3. Identify Success Factors and Define Performance and Result Indicators

Success factors are aspects that influence the likelihood of success. Performance indicators are the measures used to monitor the project success. And result indicators measure the achieved project success.

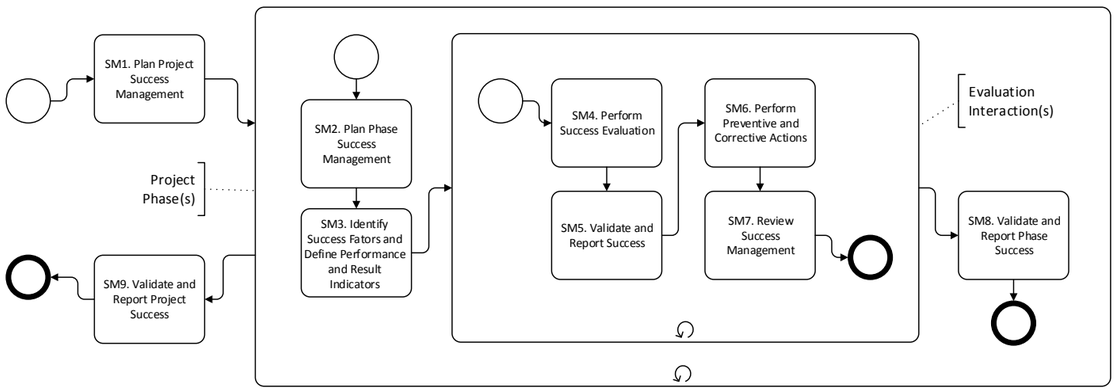

FIGURE 4· Process model for Success Management

SM3. Identify Success Factors and Define Performance and Result Indicators is the task responsible for the identification and description of the project's success factors, performance indicators and result indicators. This task should include the key stakeholders when discussing and approving the identified factors/indicators. It should take place during each project/phase planning (even though a preliminary identification would be useful at the initiation).

The result indicators (success criteria) should be agreed with the stakeholders before the start of the project, and repeatedly at configuration review points throughout the project (Turner, 2004).

SM4. Perform Success Evaluation

SM4. Perform Success Evaluation is responsible for collecting and analyzing the information for success assessment. In addition to monitoring and measuring the success of the project, the monitoring of the success factors should also be done.

SM5. Validate and Report Success

SM5. Validate and Report Success is the task where the indicators measured in SM4 are reviewed and reported to the different stakeholders

SM6. Perform Preventive and Corrective Actions

SM4 and SM5 tasks' results many times will show deviations from the originally planned. Based on that results, task SM6. Perform Preventive and Corrective Actions will be responsible not only for correcting the identified deviations, but also for preventing expected future deviations.

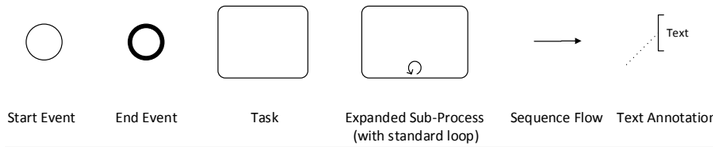

FIGURE 5· BPMN symbols used in the model

SM7. Review Success Management

As in the cases of other PM processes, success management processes should not be seemed as static process. In other words, during the project, the success management aspects (mostly defined in tasks SM1, SM2 and SM3), should be scrutinized aiming to identify continuous improvement opportunities. SM7. Review Success Management is the task responsible for it. For instance, during the project, new success factors may arise or some previously identified success factors may stop being relevant due to the progress of the project. This process should include the key stakeholders when discussing changes.

SM8. Validate and Report Phase Success

SM8. Validate and Report Phase Success should take place at each phase closing. This process is responsible for reviewing the different aspects of the project's success for the project phase evaluation, as well as for reporting the success to the different stakeholders. The record of lessons learned should also be ensured (lessons learned is a knowledge management mechanism defined as knowledge acquired by both positive and negative experiences, and is therefore a guide to a better performance (Chaves et al., 2016; Secchi, Ciaschi, & Spence, 1999)).

SM9. Validate and Report Project Success

SM9. Validate and Report Project Success is similar to SM8, but focused on the project as a whole. It should take place at the project closing, since it is responsible for the final evaluation of the project, as well as for reporting the success to the different stakeholders.

6. WORKFLOW DESCRIPTION

6.1. Project flow

The workflow starts with task SM1. Plan Success Management. Typically this task will occur only once in the project initiation phase, seeking to address the following questions: "Why will the success management be done in the project?"; "What will be done to manage success in the project?"; "Where will the success management actions take place in the project?"; "Who will be involved in the success management in the project?"; "When will the success management actions occur in the project?"; "How will the success be evaluated in the project?"; "Who much it will cost?". In other words, is the task where the Success Management will be designed and defined globally for the project.

The following tasks are SM2 to SM8. Will be in the context of these tasks that will be set the performance and result indicators, and evaluated, monitored and reported the success throughout the project. These tasks are described in detail in section 6.2.

Finishing the workflow, task SM9. Validate and Report Project Success is responsible for reviewing the different aspects of the project's success for the final evaluation of the project, as well as for reporting the success rate to the different stakeholders. The record of lessons learned should also be done.

6.2. Phase Flow

Tasks SM2 to SM8 will occur one or more times, according to the number of phases defined for the project. For example, in a Waterfall project with a single phase, the tasks SM2, SM3 and SM8 will occur only once. In a project with two phases, they will occur twice, and so on.

In the case of task SM2. Plan Phase Success Management, the questions to be answered are very similar to the ones of SM1, however the focus is different (project phase): "Why will the success management be done in the project phase?"; "What will be done to manage success in the project phase?"; "Where will the success management actions take place in the project phase?"; "Who will be involved in the success management in the project phase?"; "When will the success management actions occur in the project phase?"; "How will the success be evaluated in the project phase?". In a project of only one phase, it probably will not be necessary to carry out this task, since the aim will be the same as SM1. In projects with several phases, the major effort in this task will be at the first time that it will be carried out in the project, i.e., in the first phase. In next phases many of the times will involve only a review/customization of what was defined in the first phase. The same happens in the case of SM3.

SM3. Identify Success Factors and Define Performance and Result Indicators aims to answer to the questions: "What are the performance indicators?"; "What are the performance targets?"; "What are the result indicators?"; "What are the results targets?"; "What are the success factors?". As well as to the related questions: "In what stages of the project they are relevant?"; "What is the relative importance of each one for the stakeholders?"; "How they will be measured?"; "What is each criterion's contribution when assessing the project's overall success?"; "What sources of information will be used?"; "How they will be reported?". In a project with only one phase, this task will be carry only once. However, if the project has many phases, it will be useful to execute it in the initiation/planning of each phase since there might be important differences such as the participant stakeholders.

Will be in the context of tasks SM4 to SM7 that will be performed the success evaluation actions. These tasks are described in detail in next section.

Finishing the phase workflow is task SM8. Validate and Report Phase Success, which is similar to SM9 but focused on the project phase. Like the case of SM2 regarding SM1, in a project of only one phase, it probably will not be necessary to carry out this task, since the aim will be the same as SM9.

6.3. BPMN symbols used in the model

Tasks SM4 to SM7, will occur, within each phase,

as times as defined in task SM2. These are the tasks responsible for the evaluation actions.

SM4. Perform Success Evaluation will gather the information needed for the evaluation and measure the performance and result indicators defined in SM3. Following, SM5. Validate and Report Success will check if the indicators are correct and report it to the stakeholders defined in SM1/SM2. Then, using the obtained results, task SM6. Perform Preventive and Corrective Actions is responsible for implementing measures to correct deviations and to prevent deviations in the future. Finally, SM7. Review Success Management should check if the success management aspects defined for the project/phases are in line with the project goals and, if not, to implement corrective measures, ensuring a continuous improvement of the process along the project.

7. CONCLUSION

Improving PM can result in a number of business outcomes (Thomas & Mullaly, 2007). For example, organizations that do projects for clients, may improve customer satisfaction and their organization's ability to attract new customers through reputation effects. Organizations that do projects primarily for internal purposes, such as organizational change projects, can benefit from increased ability to achieve project goals.

The present work has important implications for practice, education and research, since it proposes improvements in PM practices by presenting a systematic process model for Success Management, customizable and suitable to Waterfall and Agile projects. The first practical implementation of the process showed some obstacles that we had to overcome: the difficulty to define success criteria beside the obvious "Iron triangle", in the case of some stakeholders; some initial suspicion from the executing team, that it could be a "Big Brother" to control their actions; some resistance from the PM team due to the "new bureaucracy"; the difficulty of defining what information (indicators) should be in the reports for the different stakeholders and how they should be presented; some misunderstanding/overlapping between success factors and risk factors in their definition; the lacking of supporting techniques/tools. Nevertheless, during the project the process was "fine-tuned", and after some interactions, it was well accepted. At the end, all stakeholders have agreed that a systematic process, promoting a continuous evaluation and accommodating the perspectives of the involved stakeholders, contributes for a better monitoring and performance of the project.

All DRS guidelines enumerated by Hevner et al. (2004, p. 82) were fulfilled in this research: Guideline 1 – "(DSR) requires the creation of an innovative, purposeful artifact" [it was presented a new process model for success management]; Guideline 2 – "(…) for a specified problem domain" [PM success evaluation]; Guideline 3 – "(the artifact) must yield utility for the specified problem (…) hence, thorough evaluation of the artifact is crucial" [the process model was evaluated in an experiment, showing utility]; Guideline 4 – "(…) the artifact must be innovative, solving a heretofore unsolved problem or solving a known problem in a more effective or efficient manner" [the presented process model enables to systematize the evaluation of success in projects]; Guideline 5 – "(…) The artifact itself must be rigorously defined, formally represented, coherent, and internally consistent [the process model was presented using BPMN]; Guideline 6 – "The process by which it is created, and often the artifact itself, incorporates or enables a search process whereby a problem space is constructed and a mechanism posed or enacted to find an effective solution" [the research process was intrinsically iterative]; Guideline 7 – "the results of the design-science research must be communicated effectively (…) both to a technical audience (researchers who will extend them and practitioners who will implement them) and to a managerial audience (researchers who will study them in context and practitioners who will decide if they should be implemented within their organizations) [by describing in detail the research methodology and by using BPMN, both audiences will be able to understand the presented process model].

A limited view on project success or the lack of well-defined processes for the assessment of success can turn projects to be managed according to a misfit and incomplete set of success objectives, later causing stakeholders' dissatisfaction (Varajão, 2016). The present proposal is expected to contribute to overcome some of the difficulties experienced by organizations with regard to the formalization of the evaluation of success and to promote a close involvement of the various stakeholders in the evaluation process.

Notwithstanding the contribution, this work has some limitations that lead the way for future studies. One avenue for future research would be to examine and describe in detail each task of the process model, which was not possible to do in this paper due to size restrictions. It would be also interesting to study the process model in contexts of program and portfolio management. Another prospective study involves case studies of the implementation of the presented model (in Waterfall projects with one phase, in Waterfall projects with multiple phases, in Agile projects with Scrum, among others). ◆

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