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ANALYSIS OF THE POSSIBILITY FOR ESTABLISHING PROJECT MANAGEMENT OFFICE (PMO) IN COMPANIES IN SERBIA

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Abstract: *Project Management Office (PMO) is an organizational unit established to help project managers, project teams and the various levels of management in carrying out the principles of project management. The research was carried out in Serbia, in 2011, with the aim to establish which methodologies and techniques are used for project management, and which of them are used the most frequently. Furthermore, the need for establishment of PMOs in Serbia is discussed. These offices should help in establishing a standardized methodology (at the organization level) and thus overcome the obvious poor use of any project management methodology at all.*

Keywords: *project management; project management methodologies; project management office*

1. INTRODUCTION

For almost thirty years, project management was solely related to the particular types of industry, such as aircraft, defense or construction industries. Although these industries were often project - oriented, project management was used only to respond to the customer needs. Project management was considered as something nice but not necessary. As a result, best practices in project management were not considered essential. In the last two decades, project management has evolved in the management process, which is mandatory for the sake of long-term survival of companies. Project management is now a necessity rather than luxury, and permeates all aspects of business. As companies begin to realize all good aspects that project management has on profitability, the focus is shift on achieving professionalism in project management. The way to achieve this was through the establishment of project management offices.

Project Management Office (PMO) is an organizational unit that is established to help project managers, project teams as well as different levels of management in carrying out the principles of project management. PMO coordinates and manages all projects in the company and it is engaged in the collection of best practices for project management, selection of methodologies for project management and selection of tools and techniques used in project management.

Beginnings of PMO is set in the second half of the twentieth century, when the defense industry had to coordinate large, complex contracts, which contained a lot of projects for a large customer [8]. Systematic study of the PMO begins to receive attention in the literature related to project management only in the last decade [4, 7].

The primary objective of the PMO is to ensure compliance with policies, standards and methodologies for project management. Over time, the PMOs are becoming a source of guidance, documentation and metrics related to the practice of conducting projects in the organization. The office is involved in tasks related to projects,

and monitor project activities from start to finish. PMO is able to report to the top-management of the project activities, problems and requirements, and can be a strategic tool for making decisions that are in line with business objectives [1].

Establishing a PMO contributes to increasing the effectiveness of project management by enabling the collection of knowledge from previous projects, both successful and unsuccessful, and learning from mistakes or justification for use of successful methods. It also enables a broad level of support, not only for projects but also for different levels of management. A study of best practice in project management in large functional organizations has strengthen the idea that there is a need to establish, exist and use PMOs [4, 7].

Although the theory and practice still disagree on the basic characteristics, structure and responsibilities for PMOs, however, some basic functions and responsibilities this office should have stand out, in order to justify their existence [4, 7]:

-Develop and maintain standards and methodologies for project management - PMO can develop and maintain a project management methodology. The methodology includes processes, procedures, models, best practices, standards, guidelines, policies and all other elements used to conduct managerial and technological activities. The methodology represents the base for project management. Additionally, as new technologies and methods to improve project management are being developed, methodology should follow these improvements and developments [9]. The methodology for project management should be viewed as a product of the PMO. Processes, models, training and all that constitutes the methodology are some of the specific results that are part of the PMO. The methodology should also be sufficiently detailed to provide leadership, but not too detailed to inhibit creativity. PMO, as well as ensuring development and maintenance of methodology, must ensure its implementation, too.

-Developing and maintaining projects historical archives - PMO can provide a central archive in which knowledge related to projects, such as lessons learned and some templates, would be systematically collected and the stored. One of the fundamental values that are obtained by developing project management processes is the ability to reuse processes, procedures, templates, forms, etc... This reuse can be extended to such an extent that it is possible to repeatedly use certain documentation from previous projects. However, this option does not come by itself. If the project manager wants to see if there is some previously used material that can be reused, one cannot expect him to contact all other project managers with specific requirements for documentation. To facilitate the process of re-use documentation, PMO must establish and manage a unique archive of documents. This archive can contain reports on project status, analysis of changes in the project, the list of risk for different types of projects,

-Provide different types of training for project managers - Organizations that choose to conduct their business activities through projects have a growing need for training of project managers. In many PMOs, providing training for project managers is the basic role of the office. Training must be viewed holistically, in accordance with the functions of the company and other services offered by the PMO. Of course, training related to project management is not organized exclusively for the project managers, but also for project teams or certain levels of management in the organization, if there is a need for it. If an organization is using a software tool for project management, PMO is then responsible for this type of training, too.

-Provide consulting and mentoring for project managers - As organizations become increasingly sophisticated in managing projects, the clearer is the need to move from ad hoc to a strategic approach to this matter. PMO can contribute to the following areas of consulting and mentoring: help in applying the methodology for managing projects, responding to the risks, mentoring for unique measures that must be implemented in order to achieve the success of the project, advising employees on best practices, Coaching differs from training in way that training requires formal teacher-pupil relationship and the use of formalised training materials. Coaching is less structured and usually involves a discussion of critical situations which affect a person in question, or a demonstration of project management processes.

-The results of project management measurements -PMO in practice can gather data on measured

sizes showing how the office was effective in providing services and to what extent the organization accepts the new project processes. PMO may also collect results that show what organization has received from services provided by the office. If the PMO does not collect quantitative data on the actual benefits, the organization will not know what is exactly gained from the activities of the office. In general, the results that come from the practice of project management are also an indirect indicator of the value added by the PMO. If the value of project management was unknown, then the value acquired by the office remains unknown. On the other hand, if the contribution of effective project management can be proven over time, then the value of PMO (which is the basis for development of project management in the organization) can be both demonstrated and measured.

One of the main reasons for project failure is poor management of knowledge: the lack of efficient evaluation of the project as a whole and of the project budget, poor of communication and sharing of information, inadequate use of past experiences and lessons learned... Another typical reason is the lack of formal training and lack of functional involvement of the participants. This results in cost or time overruns, or even in abandonment of the project before it is finished. Establishing a PMO is one strategy that can be used to solve these persistent problems - because the office is a source of integration and centre of stored knowledge that can be used to manage projects more effectively. Well established PMO can resolve many challenges of project management, because it 'captures' and transfer knowledge, maximizes the power of multifunctional teams, governing the requirements for integrated technologies, and ensures ownership and responsibility for all activities. Moreover, it can fully assess the impact of risk and change and provide that projects are managed by best practices and standards. In recent years, many organizations have implemented the PMOs to reduce the risks typically faced by projects.

The survey which covered 450 managers revealed that 67% of their organization has a PMO. The same survey found that the longer the PMO exists, the greater is its impact on the advancement of projects. The results indicate that the PMO can instill the discipline of project management in the organization's strategic objectives [5]. And the more complex projects in business world are the bigger is the need for PMO existence [10].

2. PROJECT MANAGEMENT OFFICE – GOOD AND BAD SIDES

After defining the concept and the main role of PMOs, it is important to analyze the real need for it. This question is often encountered in the scientific-research forums and occupies the full attention of scientists. There are two "feuding" parties:

- one considers that the PMO is necessary for the normal functioning of the modern project-oriented organization because it increases knowledge and awareness of participants in the project, increases the effectiveness of project implementation and develop a clear organizational and managerial structure, which facilitates communication, establishes a clear system of responsibility and increases the confidence of users, partners and other stakeholders,
- other party considers that such an organization inhibits creativity and individuality of project managers and increases project costs without significant benefits.

The importance and even the existence of the PMO in recent years were questioned in as much as 42% of the studied 1400 systems [12]. Establishing a PMO, just because it was generally popular, did not mean that the projects in that organization would be successful. PMO should be the organization's response to internal needs and the needs of the environment. The structure of the office should correspond to only one purpose - that, by all means, supports the projects. Therefore it is unrealistic to expect that all functions office should have can be accurately classified. The similarities between the organizations involved in the different jobs are very rare. Relevant questions to be answered during the formation of such offices are:

- What is the nature of business of the observed organization?
- What is the role of projects and programs in the realization of business goals of the

organization?

- What level of maturity is reached by the organization and its staff?
- What the organization wants to achieve by creating a PMO?

On these questions there are no real or easy answers. Every organization, after a thorough review should have its vision, taking into account the practical application and context of its PMO.

An example of PMO implementation which failed is AMR company, the famous producer and processor chips, which are sub-contractors for world-famous names such as Nokia, Acer, HTC, etc... This company first created and then abandoned the concept of PMO, but left the possibility of reactivating it, in one of the following life cycle phases to meet the emerging, new requirements [12]. Supporters of the thesis that PMOs are unusable use this example to confirm their position. Some of the negative characteristics associated with PMO function are:

Average life cycle for PMO lasts three to four years, and therefore PMO as a concept is unprofitable because of rapid birth and death:

- Creating a PMO takes a significant percentage of autonomy from project managers and sponsors, as well as a certain amount of power from line managers, due to centralize decision-making
- Project managers are usually individuals who highly appreciate their autonomy at work and are not "fans" of standardization. In the case of PMO implementation, rebellion can be expected, together with problems with discipline as well as intentional work-interference.
- In most cases, improvements and savings that PMO brings are not financially viable.
- Due to the revocation of autonomy, creativity loss can occur, as well as aggressiveness and sharpness of project managers.

An example of successfully created, implemented and functional PMO gives the pharmaceutical company GlaxoSmithKline R & D [12]. The positive side of the PMO that they are:

- Reducing the costs of projects administration.
- Increased availability of staff and their mobility.
- Leaving enough space for project managers to deal with problems rather than project management procedures.
- The knowledge collected in previous projects is centralized and available to all potential users.
- Limited resources are used effectively and efficiently through the PMO.
- Data on the performance of each actor in the project team are always available.
- Progress and desire for advancement are encouraged by "healthy" competition.

3. SITUATION IN SERBIA

This research was carried out in Serbia in 2011 with the aim to establish are methodologies and techniques used for project management, and what are the most common. The initial assumption was that standard methodologies and techniques are not used, but that each organization has developed some internal methods. To obtain a more realistic view of used methodologies, methodologies that project managers indicated that they use to manage projects were separately analyzed. Also, the need for establishing of PMO in Serbia was discussed in this paper.

The study was conducted using a questionnaire placed on the Internet, and only fully completed questionnaires were processed, partially filled were not taken into account. To achieve a more complete representation of the sample, the survey was conducted on a stratified random sample that included 407 respondents active in project management. The sample consisted of respondents employed in companies which differ in ownership structure in order to get a more realistic picture of actual conditions. Number of employees from privately owned companies is slightly over 40% (out of which 16.7% from domestic-owned and 24.3% foreign-owned) and 41% from state-owned companies. The rest of the sample consisted from employees from joint stock companies (8.4%), non-governmental organizations (4.9%) and more. Respondents also varied according to the industry type of their companies, so 30 companies from 11 industries were represented in the sample. Most of the respondents (21.6%) come from the IT industry, following by the petroleum, petrochemical and gas industry (17.4%). Sample consisted of respondents employed in education (15.5%), the banking industry (11.1%), food (9.3%) and others. The diversity of the sample by industry type is needed to see if an industry uses certain methodologies and techniques to a greater extent, and which.

When it comes to the hierarchical representation of respondents in the company, the smallest number is of the highest-ranking employees - top management (11.5%), followed by respondents who occupy middle management positions (29%), while more than a half of respondents are direct perpetrators of work (58%), which corresponds to the hierarchical structure of most companies. Such distribution provides the best insight into the actual amount of methodologies and techniques used, because in the sample are represented both ones that should apply the methodologies and techniques, and ones who should oversee the implementation of them. Most respondents are members of project teams (46.4%), but a sufficient number of them are project managers (34.9%). Methodologies and techniques for project management, if used, are used mainly by project managers and members of project teams, so taking into account the aim of this research, this distribution is justified.

The main objective of this study was to review the methodologies and techniques used to manage projects in Serbia. Although the initial assumption was that the standard methodologies and techniques, for which world-recognized certification exists, are not used, the results obtained were disappointing. Most of the respondents do not use any particular methodology or technique (Table 1 and Table 2). Respondents had the possibility to state several different methodologies, if used in their company; therefore the number of respondents is not relevant fact in this case.

Many researchers have emphasized the importance of adopting a methodology for project management, and compliance with the adopted methodology [2, 11]. The methodology establishes the best practices of the organization, improving communication within the organization and minimizes duplication of effort to achieve the same results [3].

The establishment and use of project management methodologies has a positive impact on the organization, since the methodology establishes standards that facilitate the work of the team members and project managers [6]. The most efficient way to implement project management methodology in the organization is through the PMO [6].

Table 1: Project management methodology commonly used in your company

	Percent
don't know (none in particular)	62.4%
intern methodology	18.7%
Agile	11.3%
some other methodology	8.4%
PRINCE (or PRINCE2)	6%
PMI	3.4%

Table 2: Project management technologies commonly used in your company

	Percent
don't know (none in particular)	40.5%
SWOT	26.8%
Ganht-chart	21.1%
intern technology	12.5%
WBS	9.6%
some other technology	4.4%
CFA	3.4%
CPM	3%

Table 3: Project management methodology by industry type

	PRINCE or PRINCE2	**PMI**	**Agile**	**intern**	**some other**	**don't know**
IT	2.5%	0.7%	7.4%	1.2%	2.7%	12%
finance, insurance, banking	-	-	1.5%	7.4%	-	3.7%
health and pharmaceuticals	-	-	-	-	-	6.6%
food industry	1.5%	-	-	-	1.2%	5.9%
education	-	-	-	2%	1.2%	13%
art and culture	-	-	-	1.5%	2.1%	7.4%
petroleum, petrochemical and gas industry	-	-	1.5%	5.6%	1.2%	9.3%
other	2%	2.7%	0.9%	1%	-	4.5%
total	6%	3.4%	11.3%	18.7%	8.4%	62.4%

The analysis of the methodology used by the companies was continued and the responses were analyzed from the point of industry type to which company belongs (Table 3). The assumption was that certain industries still use a project management methodology. Unfortunately, the results show that it is not the case. It turns out that the only exception are companies in finance, banking and insurance industry, which use an internally developed methodology. Companies from this sector are mostly foreign owned, so the assumption is that this is methodology used by their founders.

The situation was not better when methodology usage was analyzed from the standpoint of project managers (Table 4). In most cases, they stated that they are not using any specific methodology, and then that they use internally developed methodology, but with half the percentage.

Table 4: Project management methodologies used by project managers

	Number of respondents	**Percent**
don't know (none in particular)	61	43 %
intern methodology	37	26.1 %
Agile	30	21.1 %
PRINCE (or PRINCE2)	22	15.5 %
PMI	12	8.5 %
some other methodology	8	5.6 %

Lack of project management methodology destroys the very concept of project management, because without any specific methodology there is no manuals, documentation, metrics, lessons learned, or anything based on which project management could be improved and the effectiveness of projects increased.

5. CONCLUSION

As can be seen from the results of this research, methodologies and techniques for project management in Serbia are poorly used. Therefore, level of project success is not satisfactory. The way that this could be overcome is by the establishment of PMOs in companies. One of the basic functions of PMO, as stated in the introduction of this paper, is the implementation of specific project management methodology. The existence of the PMO would result in improving the effectiveness of project management, standardization of methodology, gaining the knowledge from previous both successful and unsuccessful projects and would provide support not only to project managers but also to the management of projects in general [4]. Following the adoption of certain methodologies within an organization, PMO can serve as a kind of 'network' for knowledge that produces, distributes and synthesis ideas, merge the best practices with existing methodology, tools, concepts and techniques from past experience and makes all that available for the next project [13]. In practice, standardized methodologies and techniques amended for particular organization have shown the best results [8, 14]. Organizations that have PMOs have made a lot more in promoting standards and methodologies of project management, archiving, training and mentoring for project management compared to those who do not yet have it [4].

Of course, the introduction of the PMO is not a 'magic wand' that will solve all problems that accompany project management in Serbia, but it will introduce a standardized methodology (at an organization level) and opinion of the authors is that this will greatly facilitate and improve project management in a transition country with such a poor implementation of any project management methodology. Thus, this practice should start as soon as possible, and the way in which PMO can be best implemented in the organization remains as subject for further studies and research.

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