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## CONFLICT FREE IMPLEMENTATION OF STRATEGIC PROJECT MANAGEMENT OFFICE AT THE ENTITIE LEVEL UTILIZING "EVAPORATED CLOUD" DIAGRAM

*Зроблено аналіз звітів останніх досліджень в області застосування офіса управління проектами (ОУП) в організаціях. Виконано порівняння підходів в управлінні проектами на підприємствах з ОУП різних рівнів зрілості та без нього. За допомогою діаграми «Грозава Хмара» із теорії обмеження систем (ТОС) наведено рішення конфлікту прихильників та супротивників імплементації стратегічного ОУП в організаціях.*

**Ключові слова:** управління проектами, офіс управління проектами, діаграма грозова хмара, теорія обмеження систем, підприємство

*Проведен анализ отчетов по последним исследованиям в области применения офиса управления проектами (ОУП) в организациях. Выполнено сравнение подходов в управлении проектами на предприятиях с ОУП разных уровней зрелости и без него. С помощью диаграммы «Грозовая туча» из теории ограничения систем (ТОС) приведено решение конфликта сторонников и противников внедрения стратегического ОУП в организациях.*

**Ключевые слова:** управление проектами, офис управления проектами, диаграмма грозовая туча, теория ограничения систем, предприятие

*The analysis of reports on the last researches in area of project management office (PMO) in the organizations is carried out. Comparison of approaches in project management at the entities with PMO of different levels of a maturity and without it is executed. It is shown that the effectiveness of organizations orientation determined by the level of activity on project approaches, implemented with the help of Project Management Office through continuous improvement of design processes and operations. At the same time plays a decisive role effectiveness and objectivity of the customer feedback to the project office that allows you to get both positive and negative evaluations from all stakeholders for making design decisions. The task of the project office is to broadcast the requirements of the project environment in specific operating procedures by implementing project management processes through the exchange of knowledge and experience of best practice with other organizations. By means of the "Evaporated Cloud" diagram from the theory of constraints the solution of the conflict of supporters and opponents of implementation of strategic PMO in the entities is given.*

**Key words:** project manajement, project management office, evaporated cloud diagram, theory of constraints, Entit

### Introduction

Project Management Institutes (PMI's) PMO Community of Practice (CoP) with Subject Matter Experts (SMEs) identified five PMO Frameworks [1-5]:

1. Organizational Unit PMO/ Business Unit PMO/ Divisional PMO/ Departmental PMO - provides project-

related services to support a business unit or division within an organization including, but not limited to, portfolio management, governance, operational project support and human resources utilization.

2. Project-Specific PMO/ Project Office/ Program Office – provides project-related services as a temporary entity established to support a specific

project or program. It may include supporting data management, coordination of governance, reporting, and administrative activities to support the project or program team.

3. Project Support/ Services/ Controls Office or PMO – enables processes to continuously support management of project, program or portfolio work throughout the organization. Uses the governance, processes, practices, and tools established by the organization and provides administrative support for delivery of the project, program or portfolio work within its domain.

4. Enterprise/ Organization-wide/ Strategic/ Corporate/ Portfolio/ Global PMO – is the highest-level PMO in organizations having one. This PMO is often responsible for alignment of project and program work to corporate strategy, establishing and ensuring appropriate enterprise governance, and performing portfolio management functions to implement strategy alignment and benefits realization.

5. Center of Excellence/Center of Competency - supports project work by equipping the organization with methodologies, standards and tools to empower project managers deliver projects successfully. It increases the capability of the organization through good practices and a central point of contact for project managers. [1]

In our article we try to solve problem for upgrade maturity level of PMO in organizations up to strategic or Enterprise level (EPMO).

### **Problem setting**

When organizations continue getting better at executing their projects and programs, they drive success. But when organization executives undervalue the benefit of effective project, program and portfolio management - strategic initiative management - they put real money at risk, and perhaps more.

All strategic change in an organization happens through projects and programs. When they fail, organizations lose money and marketshare, and they become less likely to execute their strategies and squander competitive advantage. Projects, programs and especially portfolios need to be managed by skilled, trained professionals in a standardized way throughout an organization and align with organizational strategy to ensure success.

Performance in meeting project goals, timelines and budgets significantly impacts an organization's ability to thrive. Organizations with high performance in these three measures risk only US\$20 million per US\$1 billion spent, while their less successful peers jeopardize US\$280 million for the same US\$1 billion spent. This magnitude of difference could make apart organizations sustaining and discontinuing operations. [2]

In 2012, the majority (62%) of organisations have been operating projects within the Level 4 or 5 of maturity. This indicates a significant rise in PM maturity over the last eight years. Without the implementation of these core elements, projects run the risk of not meeting schedule, scope, budget, quality, and business benefits. [3]

### **Analysis of the last publications**

Since 2008, the percentage of projects that project managers say have met their original goals and business intent has declined by 10 percentage points (from 72 percent in 2008 to 62 percent in 2012). Research was conducted in July 2013 among 533 PMO leaders who have final decision-making authority for their PMO. [3]

Project results by established PMOs result in projects with higher quality and business benefits. At the third global PM survey the 1,524 respondents from 38 countries and within 34 industries shared their insights with the PricewaterhouseCoopers (PwC). On the current state of PM respondent feedback indicates a positive relationship between the length of time a PMO has been established and successful project performance. In comparison to organisations which said they do not use a PMO, or have had a PMO in place for less than six years, organisations who establish a PMO for six years or longer reported higher performance in delivering high quality (74%) and achieving the intended business benefits (62%). [4]

The 2011 report by Forrester Research, "Are You Ready to Transform Your PMO?", demonstrates the need for a stronger linkage between the PMO and senior executives: "PMOs that have been able to bring change report directly into senior management. The most successful PMO leaders we interviewed, report to C-level executives, which give the PMO authority to enforce changes as well as accountability for supporting practices that drive company's success." [5]

Staying true to the goals of a project or program has always been a key element of success, but creeping scope and new priorities not aligned to strategic goals can skew projects off-course. It is therefore important for PMOs to evaluate performance, be self-critical and assess work in the context of the organization's overall success. This consequently reinforces the business value of the PMO and helps senior managers understand the contribution being made [6-17].

Separate research by PMI into the relationship between highperforming departmental PMOs and their enterprise PMOs revealed that 49 percent of high performers often consulted the EPMO regarding risk assessments, whereas 45 percent were in search for help to realign or prioritize the portfolio. Low performers reported only 28 percent and 29 percent, respectively [3].

### Research objective

While no two PMOs are created equal, it is clear that the role of the PMO is expanding in many organizations and that for many others there is a strong desire to expand the role of PMO to be much more strategically focused through expanded scope of responsibility and partnering with business leaders to advance important organizational objectives [6-14].

The analysis of the last publications showed that in the presence at entities SPMO or EPMO with higher level of a maturity, they reach objectives much quicker, with smaller risks, and therefore costs. The purpose of article is to find the decision for concerned parties within an Entity which will reduce internal resistance to change and help combine efforts to establish a SPMO.

### Discussion

In case of implementation of EPMO at the entity level it has been noticed that there is natural resistance to a new from heads of functional departments, project managers, contractors, etc. Representatives of each of above-mentioned groups have their own reasons for concerns and resistance to EPMO implementation. Let's try to understand this system conflict. [6] For this purpose we use the conflict resolution diagram "Evaporated Cloud" (Cloud). [7]

The Cloud is the foundation in the Theory of Constraint (TOC) Thinking Processes [18-22]. The Cloud is the process of framing the conflict and the generator of the breakthrough solutions. For our research we use a template of the Cloud of the conflict between Local vision and Global vision (Fig.1).

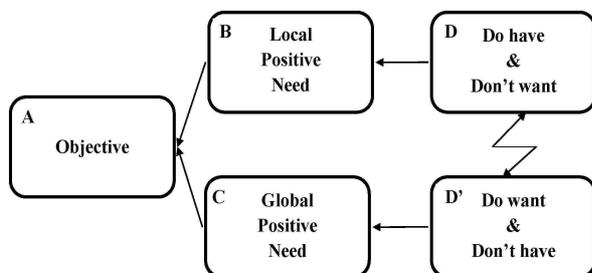


Figure 1. Template of the Cloud for our research

D – Entity is what tactic we have today, but it is undesirable effect (UDE) for us. D' – entity is what tactic we want to have in feature – desirable effect (DE) for us (Enterprise).

Building a Cloud is done through answering the questions associated with each box in the Cloud. The sequence of answering these questions for the UDE Cloud resembles a Z shape: [B]→[D]→[C]→[D']→[A].

[B]: Why is this UDE undesirable? What important need of the system does it jeopardize or endanger?

[D]: What action should be taken to meet the jeopardized need in B?

[C]: What other important need prevents us from always taking the action D?

[D]: What action do you take to meet the need in C?  
 [A]: What is the common objective achieved with both B and C? [8]

One of the conflict reasons between supporters of EPMO and its opponents is a local vision of project team members, who don't own a situation from the point of view of owners of business or a C-level management. They aim, using the best practices and PM-methodologies or simply the self experience, at any way to finish the project which is charged to them.

But, if taken separately, projects are completed successfully by any criteria (time, cost, quality, etc.), it doesn't necessarily mean that they brought additional value or other benefits to the firm. By the time of their closure external conditions of an environment of the entity could change, and strategy of Enterprise could be corrected. It means that so important for the entity scarce resources (people, money, etc.) were waste, and didn't allow implementing other projects from Enterprise portfolios, which could bring more benefits in turn. [6]

The Cloud of our main conflict is represented in Fig. 2.

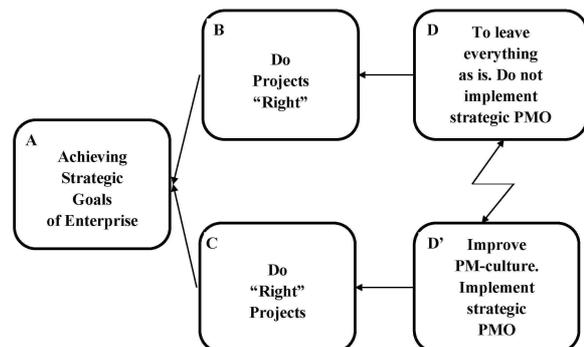


Figure 2. The Cloud of main conflict between local and global vision

Let's try to read our Cloud on Fig. 2 like a Z shape: [B]→[D]→[C]→[D']→[A].

[B]: For our Company it is important need does projects "Right" (on Scope/Time/Cost etc.).

[D]: At separate departments it turns out to carry out projects "right". It means for this positive needs we continue to work as before. We leave everything as is. We don't implement strategic PMO.

[C]: But each Company shall earn profit and isn't able to afford to waste resources and money. We will do only "Right" projects (approved by Governance Board).

[D']: For positive need [C] it is necessary to raise level of a maturity of the Company and to implement EPMO.

[A]: If we carry out only "Right" projects and do it "Right" than we achieve strategic goals of the Company.

[D-D'] are in a direct conflict.

[D] Jeopardizes [C] because PM-managers and department managers have a local view to the projects, that they carry out. And there mindset does assumptions from their Local (Department) vision as shown in Table 1.

Table 1

**Assumptions for [B-D] arrow:**

ID	Assumptions
1.	To finish projects any possible way
2.	To carry out projects in the sequence accepted by heads of departments
3.	To fight for strategic resources for projects by the "proven" methods
4.	To assign PM-managers at the discretion of the heads of departments (resource managers)
5.	To manage projects according to PM-managers experience – the main thing is the result
6.	To report on execution of projects to the approved milestones

In Table 2 we can see the assumptions of EPMO supporters from global point of view.

Often the logic of our everyday beliefs, particularly as individuals, just plain blocks us from even learning from others experience.

Table 2

**Assumptions for [C-D] arrow:**

ID	Assumptions
1.	To stop projects, the delivery of which no longer meet the objectives of the company
2.	To carry out projects strictly in priority sequence approved by Governance Board
3.	To start only projects for which there are free strategic resources in a pool
4.	To assign the PM-managers by PMO in coordination with sponsors
5.	To implement general PM-methodology at the company
6.	To provide the timely periodic reporting on execution and the forecast of all projects for monitoring by leaders

Let's see on our conflict on Fig. 2 from the view point of individuals (department) side. The local view is what we know and the global view is what we don't know. All of the things that we do have and that we don't want are the consequence of some work – our conscious competence [D]. The need that we are trying to meet is hardly ever visited, if visited at all. It is an unconscious competence. It is the desire to do our very best as individuals [B]. On the other side, all the things that we don't have and that we do want are the consequence of knowing that we aren't up to speed – a conscious incompetence [D']. We recognise that we don't know how to perfect the things that we do want. And we do this [C] and don't even know why - unconscious incompetence.

We stop ourselves to the local view and we erroneously extend it to cover more that it should. We thinking if we start doing something new or different now something bad is going happen, and we lose

control. If we ancor ourselves to the global view, the view of the system, then we can have what we do want, and no longer will we have to put up in boxes what we do not want. We must add something that is currently missing. [9]

A solution to the problem is a change to the reality that removes a major reason for the existence of the Cloud. The way to achieve objective [A] is through the removing or invalidating one of the significant underlying assumptions. When a major assumption is invalidated, then there is no reason for the logical connection to exist and hence one of boxes may disappear from the reality, causing the conflict to disappear or evaporate. Hence, this process is called the Evaporating Cloud.

A win-win solution the TOC way means that the tactics are not in conflict and that the solution supports both [B] and [C] needs. It means that we do not need to compromise on the achievement of the necessary conditions [B] and [C] and therefore we increase the chance of reaching the desired objective [A].

Finding an injection for solving conflict is an important step in the process. Injections for corresponding assumptions for [C-D] arrow are shown in Table 3.

Table 3

**Injections for corresponding [C-D] arrow assumptions:**

ID	Injections
1.	If project is "Right" then do it "Right" otherwise stop it
2.	If departments gave the project proposals then to include them in the Enterprise's projects shortlist on consideration by Governance Board and then carry out projects strictly in priority sequence approved by Governance Board
3.	If all inner stakeholders knows schedule of strategic resources they planning schedule of other resources to avoid waste and to start only projects for which there are free strategic resources in a pool
4.	If PMO with heads of departments choose candidates for PM-managers position then PMO suggest them to sponsors for corresponding projects
5.	If in departments are experienced PM-managers then there best practices will be consider for implement general PM-methodology at the entity
6.	If project has approved baseline then corresponding monitoring and control will be provided at all levels of management

With our injections to corresponding assumptions we break the the [B-D] arrow of local vision and evaporate our Cloud on Fig. 3.

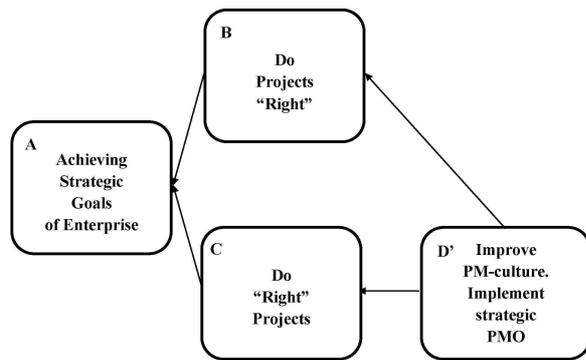


Figure 3. The Cloud with win-win solution after injections to assumptions

We must also change our policies and measurements to reflect our newly found systemic outlook.

By means of one of the TOC fundamental tools – Evaporated Cloud – we showed possibility of the conflict resolution at the Entity level between supporters and opponents of EPMO.

## Conclusion

High-performing PMOs – those with the greatest force behind the completion of successful projects – are perceived as an integral part of strategy implementation. They are given a set of specific priorities and are tasked with making projects work in a way that complements business goals. They have support, both financial and in the form of skilled employees, and are asked to improve with each project by learning from their mistakes. PMOs equipped with a high level of decision-making authority, as well as influence at the C-suite level, are much more effective than those operating at a lower level and lacking the proper resources.

Effective organizations are often those with confident PMOs that are self-critical and prepared to hear feedback – positive and negative – from stakeholders, and that are keen to act on advice to continually improve the processes that underpin success in project and program management and therefore drive business results.

High-performing PMOs understand that sharing insights and experiences with others in the organization improves the value the PMO bring to the business. Also critical to success is a commitment to the capabilities needed to drive the organization from the current to future state.

## Literature

1. *PMI's Pulse of the Profession™. PMOs Frameworks. November 2013.*
2. *PMI's Pulse of the Profession™. The High Cost of Low Performance. ©2013 Project Management Institute, Inc. Pulse of the Profession™, March 2013.*
3. *Insights and Trends: Current Portfolio, Programme, and Project Management Practices. ©2012 PricewaterhouseCoopers.*
4. *PMI's Pulse of the Profession™ In-Depth Report: The Impact of PMOs on Strategy Implementation. ©2013 Project Management Institute, Inc. Pulse of the Profession™, July 2013.*
5. *Forrester Research. Are You Ready to Transform Your PMO? 2011.*
6. *Оганов, А.В. Необходимость внедрения офиса управления проектами / А.В. Оганов, В.Д. Гогунский // Информационні технології в освіті, науці та виробництві. – 2013. – Вип. 4(5). – С. 57 – 61.*
7. *Goldratt, E. M. What is this Thing called Theory of Constraints and How should it be Implemented? Croton-on-Hudson, NY: North River Press. – 1990.*
8. *Theory of Constraints Handbook Edited by James F. Cox III*
9. *John G. Schleier, Jr. The McGraw-Hill Companies, Inc. – 2010.*
10. *Goldratt, E. M.. "Project Management: The TOC Way, Tutor Guide and Workbook," including CD-ROM simulator. Unpublished. Roelofarendsveen, The Netherlands: A.Y.G.I. Ltd. – 2000.*
11. *Оганов, А.В. Использование теории ограничения систем при внедрении офиса управления проектами предприятия / А. В. Оганов, В. Д. Гогунский // GESJ: Computer Sciences and Telecommunications. – 2013 – № 4(40). – С. 59 – 65.*
12. *Гогунский, В.Д. Основные законы проектного менеджмента / В.Д. Гогунский, С.В. Руденко // IV міжнар. конф.: «Управління проектами: стан та перспективи». — Миколаїв: НУК, 2008. — С. 37 – 40.*
13. *Оборський, Г.О. Стандартизація і сертифікація процесів управління якістю освіти у вищому навчальному закладі / Г.О. Оборський, В.Д. Гогунський, О.С. Савельєва // Тр. Одес. политехн. ун-та. – Вип. 1(35). – 2011. – С. 251 – 255.*
14. *The standard for portfolio management / Project Management Institute. - Third edition.*
15. *Гогунский, В.Д. Обоснование закона о конкурентных свойствах проектов / В.Д. Гогунский, С.В. Руденко, П.А. Тесленко // Управління розвитком складних систем. – Вип. 8. – 2012. – С. 14 – 16.*
16. *Вайсман, В.А. Теория проектно-ориентированого управления: обоснование закона Бушуева С.Д. // В.А.Вайсман, В.Д. Гогунський С.В. Руденко // Наук. записки Міжнар. гуманітарного ун-ту: зб. – Одеса: МГУ, 2009. – С. 9 – 13.*

17. Бушуев, С.Д. Напрями дисертаційних наукових досліджень зі спеціальності «Управління проектами та програмами» / С. Д. Бушуев, В. Д. Гогунський, К. В. Кошкін // *Управління розвитком складних систем.* – 2012. - № 12. – С. 6 – 9.
18. Детмер, У. Теория ограниченной Голдратта: системный подход к непрерывному совершенствованию / Уильям Детмер; пер. с англ. – 2-е изд. – М.: Альпина Бизнес Букс, 2008. – 444 с.
19. Белоцицкий, А. А. Управление проблемами в методологии проектно-векторного управления образовательными средами [Текст] / А. А. Белоцицкий // *Управління розвитком складних систем.* – 2012. - № 9. – С. 104 – 107.
20. Лізунов, П.П. Створення інформаційно-освітнього середовища вищого навчального закладу / П.П. Лізунов, Білоцицький, А. О. // *Вісник Східноукраїнського національного університету ім. В.І. Даля.* – 2007. – № 5 (111), ч. 1. – С. 205 – 210.
21. Рач, В. Побудова термінологічної системи організації наукового знання [Текст] / В. Рач, О. Россошанська, О. Медведєва // *Науковий світ.* – 2011. - № 4. – С. 13 – 16.
22. Шахов, А.В. Моделирование движения организации в проектной среде / А.В. Шахов, А.В. Шамов // *Управління розвитком складних систем.* – 2012. – № 7. – С. 68 – 72.

## References

1. *PMI's Pulse of the Profession™ (2013). PMOs Frameworks. November 2013.*
2. *PMI's Pulse of the Profession™ (2013). The High Cost of Low Performance. ©2013 Project Management Institute, Inc. Pulse of the Profession™, March 2013.*
3. *Insights and Trends: Current Portfolio (2012). Programme and Project Management Practices. ©2012 PricewaterhouseCoopers.*
4. *PMI's Pulse of the Profession™ (2012). In-Depth Report: The Impact of PMOs on Strategy Implementation. ©2013 Project Management Institute, Inc. Pulse of the Profession™, July 2013.*
5. *Forrester Research. (2011). Are You Ready to Transform Your PMO?*
6. *Oganov, A.V., Gogunsky, V.D. (2013) The need to implement project management office. Information technologies in education, science and industry. Vol. 4 (5), 57 – 61.*
7. *Goldratt, E. M. (1990). What is this Thing called Theory of Constraints and How should it be Implemented? Croton-on-Hudson, NY: North River Press*
8. *Theory of Constraints Handbook Edited by James F. Cox III*
9. *John G. Schleier, Jr. (2010). The McGraw-Hill Companies, Inc.*
10. *Goldratt, E. M. (2000). "Project Management: The TOC Way, Tutor Guide and Workbook," including CD-ROM simulator. Unpublished. Roelofarendsveen, The Netherlands: A.Y.G.I. Ltd.*
11. *Oganov, A.V., Gogunsky, V.D. (2013). Using the theory of constraints in implementing enterprise project management office. GESJ: Computer Sciences and Telecommunications. № 4(40), 59 – 65.*
12. *Gogunsky, V.D., Rudenko, S.V. (2008). Basic laws of project management. IV Intern. conf., "Project Management: Status and Prospects." Nikolaev: NUS, 37 – 40.*
13. *Oborsky, G.A., Gogunsky, V.D., Saveleva O.S. (2011). Standardization and certification processes of the quality management education in higher education. Proceedings of Odes. Polytechnic. Univ, 1 (35), 251 – 255.*
14. *The standard for portfolio management / Project Management Institute. - Third edition.*
15. *Gogunsky, V.D., Rudenko, S.V., Teslenko, P.A. (2012). Justification law on competitive properties of projects. Management of development of difficult systems. Vol. 8, 14 - 16.*
16. *Vaysman, V.A., Gogunsky, V.D., Rudenko, S.V. (2009). Design theory-based management: rationale Bushuevs S.D. law. Scientific Proceedings Internat. Humanitarian Univ: Coll. Odessa. 9 - 13.*
17. *Bushuev, S.D., Gogunsky, V.D., Koshkin, K.V. (2012). Areas of dissertation research in the specialty "Program and Project Management." Management of development of difficult systems. № 12, 6 - 9.*
18. *Detmer, W. (2008). Goldratt's Theory of Constraints: a systematic approach to continuous improvement. Trans. from English. 2nd ed. Moscow: Alpina Business Books, 444.*
19. *Beloshchytskyi, A.A. (2012). Management problems in the methodology of design vector control of the educational environment. Management of development of difficult systems. № 9, 104 - 107.*
20. *Lizunov, P.P., Biloschytsky, A.A. (2007). Create information-educational environment of higher educational institution. Journal of East-Ukrainian National University V.I. Dahl. № 5 (111), part 1, 205 - 210.*
21. *Rach, V., Rossoshans'ka, O., Medvedeva, O. (2011). Building a terminological system of scientific knowledge. Scientific world. No.4, 13 - 16.*
22. *Shakhov, A.V., Shamov, A.V. (2012). Modeling of movement organization in a project environment. Management of development of difficult systems. № 7, 68 - 72.*

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