MANAGING INFORMATION ACROSS THE ENTERPRISE: IMPLEMENTING A PROGRAM MANAGEMENT OFFICE (PMO)

Edward Jankovic
Robert DeMichiell and Associates
REDDING, CONNECTICUT, U.S.A.
Michael Lohle
Robert DeMichiell and Associates
BETHEL, CONNECTICUT, U.S.A.
Kathleen Y. Terry
The TEEG Venture Group, L.L.C.
ALPHARETTA, GEORGIA, U.S.A.

Abstract

Program management offices (PMOs) can help develop and implement organizational improvements. PMOs can increase the efficiency and effectiveness of product and service delivery and help bridge the strategy-execution gap to sustain a competitive advantage. A PMO is one essential element for driving collaborative vision, prioritization, communication, and execution of projects [Allen, 2006]. This article introduces (1) PMO concepts (framework, structure, and procedures), (2) a PMO Case Study Methodology to implement an organization’s PMO, and (3) concepts in case method research for the classroom experience that could be used in universities’ business, information systems, and enterprise resource planning curricula.

KEY WORDS: Program management office (PMO), project management body of knowledge (PMBoK), Project Management Institute (PMI), request for proposal (RFP), program management, Information Technology (IT), Return on Investment (ROI)

LEARNING OBJECTIVES

The learning objectives of this article are to:

a. Develop and implement an effective program management office (PMO) to bridge the gap between business strategy and project execution while alleviating risk and creating competitive advantages;

b. Encourage students as individuals and teams to act as role players (PMO managers, analysts, team members, and leaders) in contemporary and active environments in preparation for their real roles in the world of work;

c. Comprehensively examine the more difficult aspects of variable identification in the solution to problem solving, and devote more time to the rationales behind decisions;

d. Provide a classroom experience that rewards research of the methodology in addition to its use in fact discovery, both at the individual student level and at the student team level; and

e. Highlight an example of how this methodology can be used in an actual case study (locally and globally implementing a PMO in an organization).
INTRODUCTION

A PMO is not a substitute for executive decision making—it is a facilitator. In fact, executive sponsorship is critical to the success of a PMO and current leadership must recognize the need to change from a research-driven to a market-driven company.

For company executives, the PMO provides project information to leadership in a standard, concise format to support management decision making. For lower-level management, the PMO provides guidance on business and project objectives and communicates the leadership’s decisions. In both directions, it establishes and supports a standard project-management language to align everyone’s understanding. By establishing, supporting, and enforcing project management standards, the PMO can create a standard reporting structure that helps management see how well each of the moving parts is doing against a strict schedule.

There are two basic PMO models: One acts in a consulting capacity, providing project managers in business units with training, guidance, and best practices; the second is a centralized version, loaning out staff project managers to business units for specific projects [Santosus, 2003]. How a PMO is organized and staffed depends on a myriad of organizational factors, including targeted goals, traditional strengths, and cultural imperatives. When deployed in line with an organization’s culture, PMOs help CIOs deliver strategic IT projects that satisfy both the CFO and internal customers. Over time—CIOs should allow three years to derive benefits—PMOs can save organizations money by enabling better resource management, reducing project failures, and supporting those projects that offer the greatest payback [Santosus, 2003].

STRUCTURING THE PROGRAM MANAGEMENT OFFICE

The case study methodology introduced in this article is a method used to establish the foundation and framework for implementing a PMO in an organization, whether it is academic or corporate in its structure. Figure 1 illustrates a process by which the teams assigned can (Team A) choose an industry to study, research background information of a particular organization, build a methodology framework around the organizational structure, and expand the information using Case Expansion 1 (Team B) and Case Expansion 2 (Team C).

By following the case study methodology in Figure 1, the instructor or teacher can use this framework to assist the students in demonstrating and presenting an effective PMO to bridge the gap between business strategy and project execution while alleviating risk and creating competitive advantages. The students will need to have an assigned real-world research case in a specific industry where a PMO is needed. Table 1 can be used by Team A as a framework to build and establish the standards for this case research.

PMO STRATEGIC ANALYSIS

Establishing and structuring a PMO is one essential element for driving collaborative vision, prioritization, communication, and execution of projects.
The core responsibilities of a PMO include
- Performance management
- Project portfolio management
- Status reporting and risk management
- Business plan and strategy
- Governance
- Knowledge management
- Methodology
PMOs vary in their size, structure and responsibilities. They function in seven areas:

- **Project support**: Provide project management guidance to project managers in business units.
- **Project management process and methodology**: Develop and implement a consistent and standardized process.
- **Training**: Conduct training programs or collect requirements for an outside company.
- **Home for project managers**: Maintain a centralized office from which project managers are loaned out to work on projects.
- **Internal consulting and mentoring**: Advise employees about best practices.
- **Project management software tools**: Select and maintain project management tools for use by employees.
- **Portfolio management**: Establish a staff of program managers who can manage multiple related projects (infrastructure technologies, desktop applications, and so on), and allocate resources accordingly [Santosus, 2003].

Before a PMO can be established and implemented, a thorough analysis must be completed for all processes, policies, and standards for each division of the organization that will be affected by the PMO implementation:

**Requirements Gathering**

- Validation of requirements testability
- Ability to capture requirements
- Ability to effectively manage changing requirements
Analysis and Design
- Understanding the target environment—specifically processes and current systems
- Architectural design—easy to maintain and enhance? Performance, scalability, usability problems? Any other design problems? Difficult to integrate?
- Validation of architectural design
- Validation that all requirements make it to the final solution—thoroughness

TABLE 1
PROJECT OFFICE METHODOLOGY

<table>
<thead>
<tr>
<th>Phases</th>
<th>Description</th>
<th>Expected Outcomes</th>
</tr>
</thead>
</table>
| **Program Planning** | • Planning and scheduling  
• Resource management  
• Dependency management  
• Assumption management | • Integrated schedule based on activity sequencing.  
• Identification of where resources are being used  
• Methods for balancing the use of scarce resources across multiple projects  
• Improvement in the use of staff resources |
| **Cost Management** | • Cost management  
• Business case monitoring and performance management | • Better alignment of budgetary expenditures and project initiatives  
• Processes to better monitor and track budgetary compliance  
• Identification of opportunities to improve efficiency, effectiveness and quality  
• Process standardization |
| **Communications** | • Communications management  
• Stakeholder management  
• Project monitoring and reporting | • Methods to ensure communication initiatives between management and stakeholders  
• Processes for monitoring and reporting |
| **Program Control** | • Risk management  
• Issue management  
• Scope management and change control  
• Acquisition support and management | • Effective management of emergent issues that derail projects  
• Implementation of best practices in program and project management  
• Organizational maturity alignment with Project Management Institute (PMI) and Project Management Professional (PMP) organizational project management maturity model standards |
| **Quality Standards** | • Quality management  
• Knowledge management | • Standardized method for quality assurance of projects and programs  
• Effective management that supports accurate, complete, consistent work |

Construction
- Source code management
- Build management
- Scope management
- Colliding developers

Testing
- Late discovery of problems—technical gaps in requirements
- Address problems in a timely fashion
- Magnitude of testing effort
- Integration between quality assurance and construction resources
Transition
- Change management
- Smooth transition to production

Miscellaneous
- Estimating project, change requests
- Gates aligning with activities
- On time, on budget, on quality
- Tracking change requests and problems
- Integrated tools from requirements gathering through change management
- Integrated approach, no matter what domain

CASE EXPANSION # 1:
IMPLICATIONS FOR THE ORGANIZATION
MAJOR INFORMATION TECHNOLOGY UPGRADE

Major technology upgrades provide an excellent showcase for the PMO. For this case study, consider a company that has grown through several acquisitions. Instead of cobbling together the legacy applications they inherited, they have decided to consolidate processing into a single application. Their goal is to use the new application’s workflow to reengineer key processes. In addition, they want the project to forge a common corporate culture. Three items must be considered:

- Organizational Impacts
- Conversion Issues
- Resource Needs.

Think about these questions while reading these next three sections. Answers will be provided afterward.

1. Should the PMO be wholly “owned” by IT or should it be an independent body?
2. What role, if any, does the PMO play in establishing an infrastructure strategy?
3. Would a phased approach to this project be appropriate? Should they “pilot” any initiatives?
4. What pitfalls do you see for the PMO? How would you recommend working through them?
5. Consider this the PMO’s first real test. How would the PMO take a lead role? How could it be rendered irrelevant?
6. Consider this hypothetical case: The business is very supportive of a PMO. Now consider the alternative: IT has created the PMO and the business does not care. Which has the higher probability of failing?

ORGANIZATIONAL IMPACT

Any major IT initiative subjects the organization to risk and one of the PMO’s main functions is to minimize that risk by ensuring project managers manage the triple constraints of cost, schedule, and quality. For instance, the PMO should develop an analysis to help the company decide whether to make or buy a solution and, if a decision to buy is made, to manage requests for proposal (RFPs) because the PMO provides the objectivity needed to make the appropriate decisions. Then, the development approach taken must dovetail with the organization’s business strategy and project management methods. For example, if the organization has followed a traditional waterfall development method in the past, it may not be the best time to introduce the Agile development method with its scrums (frameworks of roles and practices) and short development sprints (periods in the development). This is especially true if the organization decides to buy an enterprise resource planning (ERP) solution because the vendor will perform all development externally, delivering releases on a scheduled basis. In this case, vendor management and testing become preeminent and the development method becomes irrelevant. A well-positioned PMO will ensure that IT does not make such decisions in a vacuum and will align them with company strategy.
CONVERSION ISSUES

This initiative is a program of related projects and operations that supports the business case. The challenges are manifold. First, project management must ensure the legacy applications continue to process business data until the replacement is installed. Then, they must ensure data is accurately mapped from source to target. Finally, they must ensure a smooth transition to the new application. This program may require an investment of several years and the expertise of professional project managers. The PMO should provide this elite group. In addition, cost, quality, and schedule must be rigorously managed. Case literature abounds with examples of failed projects where one or more of these constraints was not emphasized.

RESOURCE NEEDS

If a buy decision is made, the organization will outsource the new application’s implementation to an external IT services organization. Such a decision will require full-time employees to support dying legacy systems while consultants implement the new technology. After implementation, the organization may also decide to move support offshore to take advantage of competitive rates. While this reflects a portfolio approach to IT where the CIO manages technical initiatives like assets and moves work where it generates the best return, employees may become disenfranchised or, worse, made redundant. The PMO must play a central role in managing the risk this presents. During the RFP process, they should help management choose a solution that requires skills compatible with those maintained in house and establish training plans that empower current employees to support the new systems. For example, unexpected delays in receiving hardware and latency issues that occur after setup can severely hinder productivity and should be anticipated. The PMO should establish repeatable processes for such arrangements to anticipate the required infrastructure.

ANSWERS

Since every situation is different, there are no right answers to the questions posed at the beginning of this case expansion. The “answers” provided below are intended to generate further discussion and should not be considered definitive.

1. Should the PMO be wholly “owned” by IT or should it be an independent body?
   Every organization in the company conducts projects, not just IT. A PMO established as an independent body tends to promote project management and delivery across the enterprise whereas one owned by IT does not have the same reach. Also, an independent PMO is similar to the company’s audit function, providing the required “checks and balances” for optimal solutions. Despite the benefits of establishing the PMO as an independent entity, PMOs are usually established within IT because project management has traditionally started within that organization.

2. What role, if any, does the PMO play in establishing an infrastructure strategy?
   The PMO should help project managers manage equipment requisition and setup. In addition, since infrastructure projects are similar to other projects, they should follow the same structured project-management method to PMO support.

3. Would a phased approach to this project be appropriate? Should they “pilot” any initiatives?
   When managing any project, especially one as large as this, it behooves project management to decompose the work into manageable work packages combined into phases that clearly convey progress. Pilots or proofs of concept should be conducted early to prove the solution will work as anticipated. Stage gates should also be established at key milestones to allow executive management to assess whether the project still meets their success criteria. In addition, management must be given the opportunity to decide whether or not to continue at all times. Situations change and the project’s priority or funding may change with them.
4. What pitfalls do you see for the PMO? How would you recommend working through them?
   The biggest pitfall for any PMO is political. For example, because this is such a critical strategic initiative, IT may become possessive. The PMO must be active and drive this program; therefore, they will need a proactive working relationship with the project's business sponsors.

5. Consider this the PMO's first real test. How would the PMO take a lead role? How could it be rendered irrelevant?
   If the PMO takes a "one size fits all" approach to project management it could be rendered irrelevant. Instead, the PMO must partner with the project team, understand the project, and fit the level of structure to its size and goals. If that occurs, the team will perceive value and eagerly engage.

6. Consider this hypothetical case: The business is very supportive of a PMO. Now consider the alternative: IT has created the PMO and the business does not care. Which has the higher probability of failing?
   As long as the project manager follows structured project management procedures, he or she does not need a PMO. Unfortunately, without a PMO to provide the candidate with help in the hiring process, the firm leaves procuring someone with the requisite skills to chance. Worse, without a PMO, it is probable a skilled project manager will encounter difficulty implementing structured project management methods. Where the PMO sits will not negate its effectiveness, though it may shrink its organizational impact. On the other hand, the adverse impact of not having a PMO can be severe.

CASE EXPANSION # 2:
PMO GLOBAL

Aspects to consider when taking a case international could be to sell more products to new markets (product life cycle and extending this in countries that have just discovered the need for the product) or to obtain resources at better prices in more strategic locations.

Going international can lessen or increase risk. Some companies need to take on additional risk in their product or service portfolio, so risk is not always a negative aspect when looking for overseas opportunities. If there is risk of the wrong kind, there are ways to handle it and turn it to an advantage. Cultural differences, management differences due to culture or industry operations in a country, financial reporting or legal differences, and IT capabilities can all contribute to or detract from profitability in a new environment.

When expanding across the enterprise to implement a better management system is a goal of the organization, below are some points to consider as the PMO begins its work.

IMPACTS

Cultural
- Assess existing practices and standards, culture, industry norms, and define why they exist.
- Plan and transform. Look to the culture. What kind of political, economic, reward systems, and lifestyle environments exist.
- Implement. How do workers see their bosses, their responsibilities, and their subordinates.

Management
- Continuous feedback and measurement. What is the motivation to report about a new idea/system? In the USA, everyone involved in the new idea must agree or see why it is necessary and worthy of this effort. In foreign countries, this could be brand new to a worker due to cultural aspects of work. The possibility of complacency or change as a threat may exist without this understanding.
- Cultural aspects of work in foreign countries: relationships with others, time, social structure, agreements can be analyzed with Hofstede's [1980] cultural characteristics or other data [Trompenaars and Hampden-Turner, 1998; Huntington, 1996], which discuss how different cultures see work relationships. They often see these pieces of life differently. How does an
organization deal with the differences? Corporate culture can be differentiated from country or regional culture. Corporate culture is affected by ethnicity, a particular industry in a country, demographics, and ideology. Some of these factors may not apply, but the list is useful so nothing will be overlooked.

Finance
- The investment climate of a country can be estimated by the location, resources available, people’s educational level, and projected ROI. Such risks as political, economic, accounting, and transaction risks are assessed from industry or rating-agency reports, and the use of international accounting standards, financial reporting requirements (for listing stock and for financial statements) will show norms and how much change might be necessary for the project implementation.
- In Central Europe, for example, with the “right” kind of workforce, an organization could show the benefits of free-market (versus centrally planned) practices and entrepreneurial thinking. This would generally target younger workers and officials who have seen the effects of the lifting of central planning and the transition to market economies over the past 15 years.
- Specifically, Slovakia has this year begun the adoption of the Euro as its currency. It is only the second Accession country to the European Union to do so. To meet requirements for this currency adoption, several economic and financial standards had to be met, such as discipline of budget deficits and other fiscal policy measures.
- The hurdles that other countries are encountering in joining both the European Union and the adoption of the currency could be smoothed with the use of a PMO, either as a consulting organ or actual unit employed by the government.

Information Technology
- Host countries often seek knowledge transfers so their labor force can advance to a new level of expertise. When a foreign firm expands to a new location, this knowledge transfer is one resource the firm can offer that may make the host country more receptive to the firm.
- The entrepreneurial abilities of many Central Europeans are an attraction to firms wishing to locate in that region. Well-educated people with the ability to think as a manager or owner are valuable to productivity. Here, a PMO may be useful to put the finishing touches on an idea in a firm with these workers that will increase productivity and add value to the firm.

CONCLUSION

Coming up with a PMO that works for any given organization is an exercise in both customization and patience. When it comes to establishing a PMO, there are no road maps to follow, benchmarks to shoot for, or metrics against which to measure. Through “real-world” experience, this article captures the essence of information, formulated into a methodology that could be used to implement a PMO within an organization. The most effective PMOs are those that reap improvements over time and continuously push the organization to improve on its performance. As the first case expansion confirmed, PMOs must spearhead the management of the triple project constraints of cost, schedule, and quality. It does not matter where the PMO is positioned within the organization, but the absence of a PMO increases the probability of project failure. Especially in the global environment, using a PMO with expertise in cultural and market differences can mean a great deal to a firm’s success in its new endeavors.

REFERENCES

A guide to the project management body of knowledge (3 ed.) (The Project Management Institute, 2004).


Hofstede, G. Culture’s Consequences (Sage, 1980).


Macdougall, P. Division of Labor. Information Week (September, 2005), pp. 1–2.


McDougall, P. India’s Next Step. Information Week (August, 2005), pp. 1–2.


