

FACTORS INFLUENCING THE SUCCESS ASSOCIATED WITH THE IMPLEMENTATION OF AN ORGANIZATIONAL PROJECT MANAGEMENT OFFICE

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ABSTRACT

Project management offices (PMO) are becoming more prevalent in business organizations. While some corporations are reporting some improved project success, others are challenged to demonstrate the value of a PMO. This research examines the role and characteristics of a PMO compared to the value realized from its implementation. This research is currently in a pilot status. Significant research has been completed to compile a listing of various constructs and characteristics which have been supported by existing literature relating to the existence and rationale of a PMO. The models and statistical processes are being reviewed to ensure that the construct listing will support the objective of the research.

Keywords: Project Management, Planning/Strategy, Organizational Structure

INTRODUCTION

More and more organizations are establishing Project Management Offices, or PMOs, as a means to improve current project management practices. The Project Management Book of Knowledge (PMBok) defines a PMO as “An organizational body or entity assigned various responsibilities related to the centralized and coordinated management of those projects under its domain. The responsibilities of the PMO can range from providing project management support functions to actually being responsible for the direct management of a project” (Project Management Body of Knowledge, 2004). To further qualify the definition, P.F. Rad (2001) states that “a PMO is the administrative mechanism by which a focal point is provided for organizational project management”. S. Bernstein (2000) also offers a further qualification describing a PMO as “a formal, centralized layer of control between senior management and project management”. The research indicates that there is no single PMO definition across organizations

PMOs perform a variety of tasks including the development of standards, project archiving and assessment of risks, among others. However, many aspects of the PMO are inconsistent among organizations. Research by Hobbs and Aubry (2007) has found that “most PMOs have two characteristics in common: they tend to be young and to have a small staff. Apart from these two points in common, PMOs vary enormously one from the other”. Additionally, PMOs have a short life expectancy and are frequently reorganized and restructured. The research of Hobbs, Aubry & Thuillier (2008) has indicated that “organisations reconfigured [their] PMOs every 3 to

4 years and sometimes sooner”. Despite the variations and fundamental restructures, many organizations are finding success with the implementation of PMOs.

LITERATURE REVIEW

Background

The popularity of PMO’s within an organization is on the rise. While research into the inner workings of the PMO has been conducted, it is difficult to identify the characteristics that define a PMO for all organizations and the value reaped from PMO creation. This paper analyzes the research to review the rationale and characteristics of implementing a PMO within an organization. This research will compile an analysis of literature focusing on the following:

- Motivations for PMO creation,
- PMO’s functional role within the organization,
- PMO characteristics,
- Life cycle of the PMO, and
- Value and benefits produced from the implementation of a PMO.

The following sections review and discuss these characteristics from the various research literature associated with project management office implementation. This detail compilation will provide a foundation of the research study boundaries and methodology.

PMO Motivation for Creation

Many companies are implementing PMOs, but what is the real motivation behind their inception? The research into this topic indicates that there is no single motivator for initiating a PMO, however, throughout the literature review, many common motivators are found amongst firms. In some instances, a mandate is given from senior management to implement a PMO based upon discussions with other companies. Difficulties have been found with this approach. The research indicates that quite often the mandate comes without a clear depiction of the requirements that encompass a PMO implementation. The existence of a multitude of types of PMOs coupled with the lack of a prevailing understanding of the value PMOs provide to their organizations is offered as the reason behind the lack of clarity in direction (DiMaggio, Powell, & Dobbin, 2004).

In terms of organizational needs, the need for consistency is the next common motivator for PMO creation. Successful project management requires consistency and uniformity. The need for consistent project execution practices as well as a consistent project management methodology and uniform performance of fundamental project management tasks entices many organizations to gravitate towards PMO implementation (Andersen, Henriksen, & Aarseth, 2007; Dai & Wells, 2004). Dai and Wells’ (2004) research further explain that the “establishment of a PMO can foster consistency and nurture PM professionalism”. The need for consistency also lies with the project managers themselves. Additionally, organizations require capable project managers and see the need for the development and training of capable project managers being fulfilled by the implementation of a PMO (Andersen, et al., 2007; Dai & Wells, 2004). Perry

and Leatham (2001) assert the importance of training. The first stage in the authors' three stage approach to establishing a PMO is the training of project managers. The authors assert that this stage sets the foundation for project management basics and must be performed before proceeding further with the stages of the PMO implementation. The authors recommend that the PMO be responsible for developing and administering the project manager training program.

The need for reduction of cost overruns also exists as an organizational need. Andersen, Henriksen and Aarseth (2007) found through their research that approximately half of all projects experience project overruns pointing to a need for additional project effectiveness. The concentration and unification of project management practices achieved through the implementation of a PMO is believed to offer competencies which will improve the cost overruns associated with many projects (Andersen, et al., 2007; Dai & Wells, 2004). Andersen, Henriksen and Aarseth (2007) also assert that firms seek to implement PMOs to improve issues with cost overruns using the rationale that cost overruns can be improved by "ensuring a central competence unit within project management in the organization".

Research performed by Englund, Graham and Dinsmore (2002) finds that a project failure itself may incite organizations to implement a PMO. Desouza and Evaristo (2006) explain that the lack of adequate knowledge management is one of the primary causes of such project failures. The authors assert that "knowledge-intensive PMOs" foster an environment in which learning from prior successes and failures can occur. In addition to fostering a learning environment, the research findings of (Dinsmore, 1999; Fleming & Koppelman, 1997; Knutson, 1999) intimate that the implementation of a PMO facilitates the ability to acquire knowledge from previous successes and failures. In summary, the research implies that while a project failure may be a motivator for the creation of a PMO, the PMO itself then creates an environment in which to learn from these previous failures.

While the majority of the PMO research describes the motivators *for* implementing PMOs, research performed by Spelta and Albertin (2012) offers four reasons firms are indicating as reasons to avoid implementing a PMO:

1. No evidence of project performance gains,
2. Increases in overhead without offsetting benefits, increased red tape,
3. Stable environment without important projects to implement, and
4. Creates conflict among sectors in the organization, generates resentment among project managers and causes loss of talent to project management.

It is evident that there are many motivators for creating a PMO. The need for consistency, uniformity and centralization play a considerable role in motivating companies to implement a PMO. The fact that there are numerous varieties of PMOs in existence and the overall lack of surety in the value provided by PMOs does not allow for even a general model for firms to mimic creating a "best practices" model.

PMO Functions

The functions performed by PMOs also vary across organizations. Research performed by Aubry, Hobbs and Thuillier (2007) has found that approximately 75 unique PMO functions exist. Throughout the literature many authors also list the tasks commonly performed by PMOs as single functions; however, some contemporary literature offers groupings of these common PMO functions. Of note is the disparity that exists within these groupings. Hurt and Thomas (2009) list the five major groupings of PMO functions as:

1. Monitoring and controlling project performance
2. Development of project management competencies and methodologies
3. Multi-project management
4. Strategic management
5. Organization learning

The 2011 research of Artto, Kulvik, Poskela, and Turkulainen (2011) also groups common functions performed by PMOs:

1. Managing practices
2. Providing administrative support
3. Monitoring and controlling projects
4. Training and consulting
5. Evaluating, analyzing

While monitoring and controlling appears on both lists, divergence exists among the remaining functions. The authors state that the findings represent the “ambiguity of PMOs with regards to organizational structures and managerial practices embedded in the firm’s organization”. Despite the areas of contradiction and ambiguity identified in terms of PMO function, there are a few functions that most authors agree are performed by all PMOs.

An overwhelming number of authors concur that developing standards is a common function performed by PMOs in most organizations (Aubry & Hobbs, 2011; Aubry, Hobbs, Muller, & Blomquist, 2010; Aubry, et al., 2007; Dai & Wells, 2004; Desouza & Evaristo, 2006; Hobbs & Aubry, 2007; Hurt & Thomas, 2009). This fact is not surprising as consistency is a common motivator for PMO creation as indicated in the previous section of the literature review. Desouza and Evaristo (2006) indicate that providing “guidance on best practices and standards” are functions used by the PMO to achieve successful standardization. In addition to creating the standards, the PMO must be able to have others follow them (2007). The creation of standards is an important function of the PMO; however, the standards alone are not an indicator of PMO success. The PMO must inspire the rest of the organization to follow these standards in order to be effective.

Monitoring and controlling are also common functions performed by most PMOs (Aubry & Hobbs, 2011; Desouza & Evaristo, 2006; Hobbs & Aubry, 2007; Pellegrinelli & Garagna, 2009; Spelta & Albertin, 2012). Examples of monitoring and controlling tasks performed by the PMO are “collecting reports, auditing projects, conducting post-project reviews, and allocating resources” (Artto, et al., 2011). This function of the PMO is widely considered as critical and one of the most important (Artto, et al., 2011; Aubry & Hobbs, 2011; Hobbs & Aubry, 2007),

and should be used with caution. While monitoring and controlling are critical, these functions can also contradict other functions of the PMO. Aubry and Hobbs (2011) describe the PMO's "paradox between control and flexibility". PMOs need to simultaneously control projects while also "encouraging innovation and change with flexibility" (Aubry & Hobbs, 2011), two seemingly opposing functions.

It is also widely agreed upon that knowledge transfer is the over-arching function that must be performed in order for the PMO to be successful (Dai & Wells, 2004; Desouza & Evaristo, 2006; Hobbs, et al., 2008; Hurt & Thomas, 2009; Spelta & Albertin, 2012). This finding is not surprising given that project failure caused by poor knowledge transfer is a motivator for PMO implementation as discussed earlier. Dai and Wells (2004) indicate that without effective knowledge transfer little benefit can be gained from prior project successes and failures. The authors assert that "the PMO can provide a centralized archive to systematically collect and store project knowledge such as lessons learned and templates", thus offering a single repository of information future projects can benefit from.

While the ambiguity identified among functions performed by PMOs is concerning, it is encouraging that there are certain functions performed by most PMOs that organizations are benefitting from.

PMO Characteristics

Similar to the varied functions performed across PMOs, the literature supports that the characteristics among PMOs are also varied. Several authors agree that PMOs are socially constructed (Arto, et al., 2011; Aubry & Hobbs, 2011; Aubry, et al., 2007; Aubry, Hobbs, & Thuillier, 2008; Hobbs, et al., 2008). Within this social structure, there is significant variance among the PMOs structure and role as well as the value derived from its implementation (Arto, et al., 2011; Hobbs & Aubry, 2007, 2008; Pellegrinelli & Garagna, 2009). While the research provides some insight into the social structure, Van de Ven's (2007) research also suggests that the key people involved with PMOs use a combination of qualitative and quantitative instruments. The characteristics

Despite the variations, organizations can find success following the implementation of a PMO (Andersen, et al., 2007; Dai & Wells, 2004; Desouza & Evaristo, 2006). Desouza and Evaristo (2006) identify the only criterion for success requiring that "the PMO structure be closely aligned with organization's corporate culture". The authors also offer that success can normally be attributed to the effectiveness of communication among team members.

Hobbs and Aubry (2007, 2008) reviewed the authority level characteristic assigned to PMOs. The authors found that the majority of PMOs have little or no decision making authority. Aubry and Hobbs' (2008) research was further expanded asserting that decision making authority can commonly be found among organizations having external project customers while less decision making authority can be found in organizations with internal project customers. The authors' findings indicate that PMOs interacting with external customers have fewer political factors impeding their decision making process, while PMOs with internal customers are forced to work through power struggles between business units.

Although a few common characteristics have been identified in the literature, Aubry and Hobbs (2007) assert that there are only two characteristics that PMOs have in common: PMOs tend to be young and have a small staff. The research (Aubry, et al., 2010; Hobbs & Aubry, 2007, 2008; Pellegrinelli & Garagna, 2009) supports the young age of PMOs may be attributed to the frequent restructuring of PMOs. In general, it is difficult to find concurrence in what characteristics should be found in all PMOs. Hobbs and Aubry (2007) explain the lack of consensus is understandable given 1) that the PMO is a relatively recent phenomenon, 2) that PMOS take on a great variety of forms and functions, and 3) that there has been a lack of systematic investigation.

PMO Life Cycle

Of significant concern, as found in a majority of the literature, is the short life cycle and subsequent restructuring found among most PMOs. It is of note that the catalyst cited in the literature for triggering these changes has changed over the years. Research conducted by Rad and Levin (2002) as well as Andersen, Henriksen, and Aarseth (2007) finds that PMO learning follows a walk before you crawl path with increased PMO maturity fostering focus change for the PMO. The 2004 research of Dai and Wells showed similar findings. The authors affirm that the initial organization of the PMO does not represent the ultimate organization of PMO.

The year 2008 seems to mark the transition to an expanded view of factors influencing PMO restructuring. Hobbs, Aubry and Thuillier (2008) concur that the natural progression of the PMO can result in change as noted above; however the authors also found that the instability of organizations themselves can lead to PMO restructure. Further expanding upon this notion, more contemporary research confirms that PMO restructure is a result of internal and external organizational factors. Hobbs and Aubry (2008) as well as Aubry, Müller, Hobbs, and Blomquist (2010) found that PMO restructure occurs as a result of both internal and external tensions as opposed to occurring due to a natural life cycle. Research exploring such tensions performed by Hobbs, Aubry and Thuillier (2008) indicates a source for internal tensions impacting the PMO. The authors assert that “the standardisation of project management methodology and process are often in opposition to the flexibility needed in the execution of a project in real life when it is time to put the methodology into application, confrontations are rather the norm. The tension between standardisation and flexibility is closely related to issues of power and control. Standards are followed, or not, depending on who has the power to decide”. This tension exploits an area in which PMOs are effectively working against themselves finding practices the PMO institutes are causing tension that potentially can result in the need for a PMO restructure. Pellegrinelli and Garagna (2009) concur and state that the PMO “transforms aspects of the organizations processes, routines and culture and in doing so may undermine its very reason for being”. The authors describe this phenomenon as a result of PMOs functioning as both a subject of change as well as an agent of change.

The research undoubtedly indicates that throughout the life cycle of the PMO, frequent restructure occurs. While it was originally believed that the catalyst for restructure was primarily natural progression and lessons learned, more recent findings indicate that changes occurring both internal and external to the organization are more prominent.

Benefits and Value

Organizations are increasingly faced with the challenge of understanding the value of the PMO for the expenditures being spent to support it. Organizations are having a difficult time showing this value and research results are unable to establish the value as well. Aubry and Hobbs (2011) assert that research has not been able to prove that economic value can be obtained from investing in project management. Despite this, the research of Spelta and Albertin (Spelta & Albertin, 2012) indicates that PMO's positively impact an organization in terms of increased efficiencies and heightened project management success. As a result of the authors' literature review, they have developed a table consisting of pros and cons that should be considered prior to implementing a PMO:

Pros	Cons
Improves project management; reduces the number of problem projects; improves quality and customer satisfaction	Creates conflict among sectors in the organization, generates resentment among project managers and causes loss of talent to project management
Leads to more efficient use of resources in a multi-project environment	Increase overhead without offsetting benefits; increased red tape
Need to implement strategic projects	Stable environment without important projects to implement
Attention to best project management practices	No evidence of project gains
Improved project status control and communication; Facilitates transfer of project management knowledge across the organization	Project management methods and the results obtained are satisfactory

The pros and cons listing above does not lend itself to the quest for identifying the economic value obtained following a PMO implementation; however, the listing does provide companies with prospective PMOs information to consider regarding the potential benefits obtained following a PMO implementation versus the negative impact the PMO implementation can have on the company. As it relates to improved project success, most authors agree that PMOs are contributing to project success within organizations (Andersen, et al., 2007; Aubry & Hobbs, 2011; Dai & Wells, 2004; Hobbs & Aubry, 2007; Hurt & Thomas, 2009; Spelta & Albertin, 2012). Organizations must decide if the prospect of project management success accompanied by many of the pros appearing in the table above is worth the risk of experiencing the cons included in the table above. In addition, when considering a PMO implementation, organizations must consider the likelihood that they may not be able to prove economic value obtained following PMO implementations as the research supports.

Analysis of Research Constructs

Following this process, the constructs were then ranked using the number of supporting articles as the criteria. To perform the ranking, the number of supporting articles was calculated for each construct. The supporting article count for each construct was then compared to the article

counts for all constructs and a ranking was calculated. The resulting ranked concurrence of support will become the foundation for the survey instrument.

Purpose of the Study

The objective of this research study will be to determine the influence of the various characteristics on the value of a project management office to a business organization. The various characteristics compiled from the literature review will provide the foundation for the data to complete the analysis and objective of this research.

RESEARCH METHODOLOGY

The research will gather respondent data from various business organizations focused on the observed constructs identified through the literature review. The research will attempt to determine the influence of these factors on the benefits and value associated with the integration of a PMO within an organization. The research will extend the current research as well as provide some potential insight on this new business unit/function.

Construct Development

As previously noted, the analysis of literature compiled various characteristics associated with the creation and rationale of a project management office. These characteristics were consolidated to compile a set of observed constructs (questions) and their latent constructs. As shown in Table 2, twenty-five observed constructs have been categorized into five unobserved constructs; four of which are assigned to independent variable constructs. Four of the original characteristics (5, 21, 22 and 29) may be removed due to inability to operationalize into an appropriate construct.

Survey Design

The observed constructs will be operationalized into a survey instrument along with appropriate response scales. The questions will be compiled using the foundational research and accepted research scale construction. The survey instrument will also include specific questions to gather responses relating to the business organization and the respondent (business industry, job position, experience, organizational role). To protect the anonymity of the respondent, no personal or business identifiable information will be stored.

Survey Administration

The survey instrument will be administered through an online, web-based survey tool. The instrument will be tested and proofed by at least three independent business professionals prior to deployment to ensure its validity and accuracy. Since business organizations are not usually inclined to provide employee listings and email addresses, we will perform the following process for each participating company:

1. Request a contact person from the participating company.

2. For survey deployment, provide a package including a) hardcopy of the survey instrument, b) survey administration deadline timeframe, c) a listing of those levels and employee roles that are required as respondents, d) letter to provide each employee participant (containing the URL address, purpose of the study and informed consent dialogue) and e) a statement discussing the anonymity of the respondents.
3. As an incentive to participate in the survey, the contact person will receive a summary of the research findings after the results are analyzed. The findings will be provided in summary form only without any identification of specific employee responses or business organization.

The survey will be administered to several business organizations. At the time of this submission, 14 businesses have been contacted; seven have confirmed their participation. The greater majority of the businesses have PMO offices institutionalized into their corporate structure. Table 3 contains a listing of the business organization participants.

Statistical Analysis

Once the responses are received, the statistical analysis will be completed as follows:

1. Cronbach's Alpha construct validity
2. Confirmatory Factor Analysis
3. Cluster Analysis
4. One of several statistical analyses: multiple regression, path analysis or structural equation model. The deciding factor will be dependent on the number of responses received from the survey administration.

The research study has not been completed. We have received very constructive and positive feedback from the conference reviewers. Based on that review, we have decided to explore additional research and constructs to include in the model. With the effort needed by the researchers and the participating companies, it will be imperative to assemble an efficient and focused survey instrument based on a solid foundation of constructs and variables.

Therefore, the conference presentation will focus on the anticipated construct listing and statistical analysis approaches that may be used to analyze the survey responses. Some recommended models will be discussed which utilize the current construct list. We would anticipate that the feedback from the presentation of this information will provide valuable information to continue with the research effectively. We are considering a pilot test of the survey with one business organization. While we believe that this would assist in the validity of the survey instrument and model, we also want to be cautious about asking an organization to participate in a test study.

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Tables will be provided at the conference presentation.