O | UNIVERSITY OF OREGON

APPLIED INFORMATION MANAGEMENT

The Role of the Project Management Office in a Multi-Project Environment: Enhancing Governance for Increased Project Success Rates

CAPSTONE REPORT

Jim Misner
Engineering Project Manager
Comcast

February, 2008

Approved by

_____

Dr. Linda F. Ettinger

Academic Director, AIM Program

The Role of the Project Management Office in a Multi-Project Environment: Enhancing Governance for Increased Project Success Rates

Jim Misner

Comcast Corporation

Abstract

For

The Role of the Project Management Office in a Multi-Project Environment: Enhancing Governance for Increased Project Success Rates

Research indicates that project management becomes increasingly difficult when there are multiple overlapping projects, resulting in a need for enhanced governance controls to increase success rates. A Project Management Office (PMO), defined by Grey and Larson (2006) as a centralized unit to oversee project management, is often utilized. This literature review of references published between 2000 and 2008 provides mid-level decision makers a synthesis of ideas related to the role and value of the PMO.

Table of Contents

Introduction to the Literature Review

Topic

The focus of this paper is to investigate the role of the Program Management Office (PMO) in a multi-project environment, with an emphasis on how the PMO is purported to enhance governance for the promise of increased project success.

Research Problem

Recent research indicates that in spite of improvements in the science of project management, only 34% of projects ultimately meet all of the intended goals (Hunte, 2007). While discussing governance regimes, Miller and Hobbs (2005) note that "When undertaking a very large project without an adequate governance regime, most organizations are exposed to a high probability of failure and the resultant significant negative impact" (p. 42). Conversely, it has been shown that companies that follow a specific strategy and demonstrated above-average governance had profits which were more than 20% higher than those of companies that followed the same strategy but had poor governance (Weill & Ross, 2004). These studies indicate that strong project governance procedures increase the potential of multiple project success.

This perspective has become an issue of importance in the project management literature in recent years (Miller & Hobbs, 2005, p. 47; Hobbs & Aubry, 2007), for a number of specific reasons. Key among these is the Sarbanes-Oxley Act of 2002, which requires companies to disclose investments, such as in large projects that may affect a company's operating

performance. As noted by Santosus (2007), this consideration forces companies to keep a close watch on project expenses and progress (p. 1). In *The Governance of the Extended Enterprise*, it is noted that "the passage of Sarbanes-Oxley has significantly impacted entities strategy and related objectives as well as their corporate governance perspectives" (IT Governance Institute, 2005, p. 21).

Another reason in support of the perspective that strong project governance procedures increase the potential for project success is the increasing complexity of the multi-project environment (Project Management Group, 2007b). The project management office, or PMO, is a tool that addresses the need for selecting and managing multiple simultaneous projects in such a manner as to maximize the value obtained (Microsoft, 2005). As stated by Zarrella, Tims, Carr, & Palk (2005), not all projects are equal in their anticipated return on investment (ROI) and it is unlikely that an enterprise could perform all desired projects. In addition they state "With multiple overlapping projects, the availability of funding and resources constantly changes as projects progress through their life cycle" (Zarrella, Tims, Carr, & Palk, 2005, p. 3).

Examining the theoretical value of a PMO in support of increased project success.

The goal of this inquiry is to conduct an in-depth literature review (Leedy & Ormrod, 2005) to further investigate how a Program Management Office (PMO) can facilitate and enhance the application of strict governance principals to manage multiple simultaneous projects. Englund, Graham and Dinsmore (2003) note that "As long as there is a multi-functional environment that requires the simultaneous management of numerous projects, the concept (of the PMO) remains valid" (p. 10).

The assumption underlying this inquiry is that whenever multiple overlapping projects exist, there is a need for an added governance structure that allows improved control of project efforts.

As noted by Hunte (2007), "Without proper visibility, organizations are unable to see what is needed six months, three months, or even two months down the road, resulting in poorly constructed project plans that do not capture critical dependencies, including assigning project resources and key milestones" (p. 1).

Kendrick (2006) discusses the implementation of the PMO as one of the sources of process-oriented control in an organization. He goes on to list three basic ways that the PMO office may function, depending on the needs of a particular organization: auditing, enabling or executing on the various project functions. Each function offers a different degree of command and control to the organization, in support of the desired governance foundation.

According to Santosus (2007), PMOs are of value because they "provide the structure needed to both standardize project management practices and to facilitate project management, as well as determine methodologies for repeatable processes" (p. 2). Santosus details a recent survey conducted by analysts at CIO.com and the Project Management Institute in which 450 organizations were polled for their use of the PMO function. 67% of the respondents did use a PMO and half of those stated that their project success rates had improved. In the final analysis of the survey, the top two reasons reported for having a PMO were (1) increased project success rates and (2) the implementation of standardized practices (Santosus, p. 4).

Examining challenges faced when implementing a PMO within an organization.

There are a number of challenges for consideration, described in the selected literature, when moving from a non-governed ad-hoc system of project management to one organized under the oversight of a PMO (Hunte, 2007). Those attempting to implement the new concepts of governance and the PMO will need to think and act as "organizational change agents" (Englund et al., 2003). According to Englund, et al., these agents need to develop and implement a

pathway document that details the steps to implement these changes, led by the PMO proponents. Hunte (2007) describes this effort as a focus on determining where the organization currently is, outlining the goal of where they want to be and then laying out a stepwise roadmap on how to get there, all while measuring the progress to plan.

Engle (2005) believes that the main goal is to develop a program that structures the various project management efforts into a more systematic process, both repeatable and documented. Parviz (2000) suggests that there are a number of well documented challenges to implementing the PMO which include the factors of cost/ performance benefits, disruptions to the existing culture and perceived threats to the status quo. These challenges are further supported by the Selig (2006) study which reports the number of organizations that continue to struggle with sustaining formal process/project programs that fail because of the lack of flexibility or vision on the part of the incumbent culture and/or senior leadership. All of these challenges need to be anticipated and addressed in the roadmap for change.

Audience/Significance

This inquiry is designed for use by mid-level engineering and IT managers located in the telecommunications industry and more specifically the cable television industry. It may also be of interest to functional managers with employees that are or will be assigned to project teams. Other interested persons might include those responsible for selecting project team members, current project team leaders and staff, project funding decision makers and outside support or contractor personnel who must interface with the in-house project management leadership structure.

The issues of governance will be of concern to customers, both internal and external, as well as other stakeholders with an interest in the performance of the organization. The primary

external concerns revolve around the legal and ethical issues mandated by the Sarbanes Oxley Act of 2002 (SOX). And while responsibility for SOX compliance lies with the senior management, it is necessary that all levels of management are aware of the impact that this legislation has had on project strategy and objectives (see p. 4 of this review).

The next level of focus is on the decentralized organization, in which project management operational decisions are made at local mid-management levels. Englund et al. (2003), found that the primary roadblocks in moving an organization towards a change are the stakeholders; and the primary stakeholders in the status quo are at the mid to senior management levels most closely invested in the existing project efforts. Managers in these kinds of settings are the first people who need to buy into a shift in PM philosophy.

Next are the senior regional managers. Their buy-in and support are needed both for the funding issues and to communicate that the ensuing changes are being formulated as part of the greater business strategy and compliance requirements. Santosus (2007) notes "The senior leadership must be involved, either in terms of sponsorship or a direct reporting relationship" if a PMO effort is to be effective (p. 3). It is a primary function of these managers to serve as the role models for change; to reinforce the values and expectations that will be reformed during the change process (IT Governance Institute, 2005).

Research Limitations

The concepts of project management governance and control via the implementation of a Program Management Office are not new but are experiencing rapid change and acceptance (Santosus, 2007). Because of this, this review is limited to literature that has been published since 2000, with a few exceptions.

The intended audience is limited to mid-level engineering managers working in project related capacities in the telecommunications field who might be cast in the role of determining how best to exercise command and control over multiple overlapping enterprise directed initiatives.

The overriding focus is to select literature that examines at least one of these three questions:

(a) What is the role of a PMO in governance enhancement?

(b) What are the theoretical contributions of the PMO to project success?

(c) In what manner might an organization be prepared for the implementation of a PMO?

The literature for review is selected from the following types of sources: academically based, peer reviewed articles, carefully chosen White Papers and conference proceeding reports published in the past seven years. In addition, a number of subject matter books are included for foundation materials. Articles and papers are chosen because they present the most up to date thoughts and perspectives of various authors made available to a broad audience via the journals they are published in. The books are chosen because they provide in-depth background material for a targeted topic, have extensive related bibliographies and are often cited by other authors.

This topic has many issues that are beyond the scope of this review. Issues that are not covered include:

(a) Executive level governance and compliance requirements;

(b) Enterprise strategies and

(c) Specifics on how individual projects should be managed and governed.

(d) The specific, or tactical, details of how a PMO is actually put in place.

Writing Plan Introduction

This literature review is designed to provide sufficient background material so that the reader understands how the previous work in the field relates to and supports a rational for the current research. Oberzinger (2005) suggests a number of key rhetorical patterns that such an effort can take and, further, allows that they may be used in combination. This paper examines a well documented topic (the Project Management Office) but the specific need of the intended audience (the cable television industry) is less well covered. The rhetorical pattern selected as a basis for the writing plan developed for the Review of the Literature (see page 29) combines the Swiss Cheese and Guilt by Association patterns. The Swiss Cheese approach attempts to lay out an overview of current knowledge and identifies gaps that need further investigation. The Guilt by Association approach addresses the problem where there is scant research in a particular context or area and attempts to propose a new context based on inferences from the known examples.

Definitions

BattleBot Rhetorical Approach

A writing approach used when the researcher wishes to identify all relevant lines of argument or debate on the topic and then position the current work within that context to compare and contrast (Oberzinger, 2005).

Change Agents

"A person who leads a change project or business-wide initiative by defining, researching, planning, building business support and carefully selecting volunteers to be part of a change team". From a glossary on the website for SixSigma Magazine, retrieved Nov 23rd, 2007 from http://www.isixsigma.com/dictionary/Change_Agent-393.htm

Command and Control

"Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission." (Definition as found at http://en.wikipedia.org/wiki/Command_and_Control_Military). This definition originated in the military but is used in the context of this paper to suggest tight controls of all the various resources needed for successful project completions. A less harsh definition is offered by Hawkins and Rajagopal (2005) when they suggest that such control stems from the methods and discipline that result from having organizational structure, skills and business processes in place.

Corporate Governance

(1) "A methodology for aligning technology spending and labor costs with strategic business objectives" (Microsoft, 2005).

(2) "Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined."

(Organization for Economic Co-operation and Development OECD Principles of Corporate Governance 2004 www.oecd.org)

Decision Rights & Accountability Framework

A concept that maximum value is achieved from a project effort only when a formal framework is created detailing both who has decision making inputs and rights as well as who specifically is accountable for the expected results. (Weill & Ross, 2004)

Guilt by Association Rhetorical Approach

Another form of research writing used when there is no existing direct research on the topic. The researcher builds a context for his thesis based on inferences from similar or related research materials (Oberzinger, 2005).

Multi-project Environment

As used in this paper, any enterprise or organization pursuing multiple project efforts at the same time; where new projects are added as others are completed. Multiple projects are in various stages of the project life cycle; simultaneously proceeding while overlapping each other and potentially vying for the same resources (Dietrich, Järvenpää, Karjalainen, and Artto, 2006).

Portfolio Management

A method of prioritizing projects in such a manner as to make ongoing adjustments based on shifting business demands as well as a way to evaluate which projects have delivered the anticipated return on investment (Kalin, 2006).

Process-oriented Control

A concept that well defined processes should be developed and applied to every phase of a

project. These processes may be elaborate or informal, as dictated by a particular organization. In

either case, the goal is to maintain control of the overall project through some form of

predictable and repeatable process (Kendrick, 2006). The Project Management Book of

Knowledge (PMBOK) also refers to this function as "consisting of those processes performed to

observe project execution so that potential problems can be identified in a timely manner and

corrective action can be taken, when necessary, to control the execution of the project" (PMI,

2004 p.74).

Program Management Office (PMO)

Grey and Larson (2006) define the PMO as "A centralized unit within an organization or

department that oversees and improves the management of projects" (p.561). Alternately, the

acronym may be found referring to a Project Management Office or to a Portfolio Management

Office. All are variations of the same function, differing only in the scope of their

responsibilities.

Project Governance

The governance of project management concerns those areas of corporate governance that are

specifically related to project activities. Effective governance of project management ensures that

an organization's project portfolio is aligned to the organization's objectives, is delivered

efficiently and is sustainable (Reid & Bourn, 2004).

Project Stakeholders

Individuals and organizations that are actively involved in the project, or whose interests may be

affected as a result of project execution or project completion (PMI, 2004).

Road Map Rhetorical Approach

In this pattern of research writing, the researcher shows how the collection of topic knowledge, each instance of research built on the previous, has created a path to the current work under discussion (Oberzinger, 2005).

Sarbanes-Oxley Act of 2002

Federal legislation created in the wake of the Enron accounting fraud scandal. It is a set of rules and regulations strictly controlling the accounting and reporting processes that publically held corporations must adhere to (Rollins & Lanza, 2005).

Swiss Cheese Rhetorical Approach

A method of research writing wherein the researcher constructs a "picture" of the current knowledge of a topic, identifies any holes or gaps in the body of knowledge and then argues that his research fills one of those holes (Oberzinger, 2005).

Theory of Multiple Contingencies

As used here, the concept that all project efforts will be impacted by multiple groups of stakeholders who may have counter or conflicting priorities; that a governance framework must recognize both the stakeholder's needs and the degree of decision making authority they have that may affect the project (Sambamurthy, 1999).

Work Breakdown Structure (WBS)

A hierarchical outline of all the tasks in a project, divided into small work elements, that acts as a "map" of the overall effort; it is a visual tool to help the project manager identify all products and elements to establish a basis for control (Gray & Larson, 2006).

Research Parameters

Research Parameters presents an overview of the research methods for the inquiry, including the search strategy that was used to locate the reviewed literature, which search engines and databases were searched and the terms and keywords used. There is also an explanation of the evaluation criteria used for literature collection and selection as well as the methods for recording the data and a detailed description of the plan upon which the Review of Literature text is based.

Search Strategy Report

The search strategy for this paper began with broad based searches of Google and Google Scholar using such fundamental terms as governance and project management. Various hits led to expanding the list of key terms. Subject related text books, notes and lecture materials from previous University of Oregon class work also yielded additional keywords (see below). The search was then expanded to the UO library portal for online searching, primarily the "OneSearch" tool. This led to an extensive number of articles, papers and books, primarily from hosted databases such as EbscoHost, and Business Source Premier. The website (www.Lii.org) (which is a database) also led to www.OAister.org which is described as "a union catalog of digital resources" with over 900 contributors. Searching with the term "project management" led to //boundless.uoregon.edu/digcol and to //scholarbank.uoregon.edu/dspace. Searching these for Program Management Office yielded new 28 hits.

The search strategy also yielded a number of relevant books for use in framing the topic for this review, including:

Broadbent, M., & Kitzis, E. (2005). *The new CIO leader: Setting the agenda and delivering results*. Boston: Harvard Business School Press.

IT Governance Institute. (2005). *Governance of the extended enterprise*. Hoboken: J. Wiley and Sons.

Rollins, S. C., & Lanza, R. B. (2005). *Essential project investment governance and reporting: Preventing project fraud and ensuring Sarbanes-Oxley compliance*. Boca Raton: J. Ross.

Englund, R. L., Graham, R. J., & Dinsmore, P. C. (2003). *Creating the project office: A manager's guide to leading organizational change*. San Francisco: Jossey-Bass.

The Worldcat and Summit library systems were used to locate many of these books at the Portland State University, Marylhurst and UO libraries.

Search Criteria

Initial keywords and phrases included iterative combinations of the following terms, which were fed into the various search engines and returned most of the most relevant and useful resources and/or further leads. The EbscoHost portal, leading to the Business Source Premier and Academic Search Premier databases were the most useful in terms of the number of hits returned that could then be narrowed down to relevant materials.

Keywords.

- project evaluation
- project governance
- project management.
- project management office
- program management office
- portfolio management office

As references were located, the abstracts and metadata keys were mined to perform further searches. The following terms were of medium value in source hits and sometimes referenced back to my original terms or identified resources:

- change management
- enterprise governance
- information resources management
- information science
- information technology
- IS organization design
- IT projects
- knowledge management
- management information systems
- multiple contingencies
- risk models
- strategic planning
- knowledge-based risk

The following terms were processed but provided no sources or references relevant to this

research effort:

- application service providers
- computer science
- computer software
- contracting out
- cost control
- data warehousing
- electronic data processing departments
- federal governance
- financial management
- industrial management
- production planning
- qualitative research

Evaluation Criteria

Selected literature are first evaluated for relevancy. Focus is on at least one of the three

questions addressed in this review:

(a) What is the role of a PMO in governance enhancement?

(b) What are the theoretical contributions of the PMO to project success?

(c) In what manner might a PMO be implemented in an organization?

The quality of the reference is then tested based on the following criteria, as suggested by Taylor and Procter (2007).

(a) How did the book or article relate to the specific topic of this review?

(b) Did the author formulate a problem or issue that supports or contradicts the thesis of this review?

(c) Did the author cite other relevant materials; were there citations that were common to other selected references?

(d) Was the tone of the material objective and academically sound? Or did the author use appeals to emotion or other rhetorical language to argue his point?

(e) Did the author represent only himself in a straight forward research effort? Or was there an underlying commercial connection? For example, in some cases, otherwise valid research was used as a platform promote a product solution that the writer had a vested interest in. Did this position invalidate the research as presented?

Sources of information found through general web based searches are given lower credibility than those found in academically sound databases such as the Business Source Premier and Academic Search Premier. In the same manner, materials found through academic portals such as EbscoHost or at the web sites of recognized authorities (ex: Project Management Institute) are considered as higher quality sources.

Documentation Approach

Documentation for this review is collected and saved in several complementary ways:

1. As modeled by Leedy and Ormrod, a search form is created to record each reference search activity (2005, p.73). This form has spaces for entering all relevant data for each reference or source selected including how and where it is found and the terms and key words that led to the source. The form can also be printed out and used when performing manual searching in a library or bookstore. The forms are then assigned record numbers and collected in a binder.

2. Abstracts and full text articles for potentially useful references are collected wherever possible during electronic searching. Abstracts are copied from or created for the non-electronic sources collected.

3. All reference information is then stored in a database using the EndNote software program. With this program, it is possible to code and cross reference the collected materials in whatever manner useful to use later in the Literature Review. EndNote also creates a full bibliography using the desired format, in this case APA.

4. The collected papers, books and abstracts can then be reviewed and critiqued per the selected evaluation criteria.

5. The various references are sorted into groups relevant to the main topic and sub-topics.

6. Full text articles are printed out as needed so that highlights and notations could be added. These prints are then archived in binders along with the earlier created search forms.

7. Finally, a collection of quotes and notes is created for easy access, along with the necessary references to the original documents in the database and/or binders.

Writing Plan

This literature review is designed to provide sufficient background material so that the reader understands how the previous work in the field relates to and supports a rational for the current research. This paper examines a well documented topic (the Project Management Office) but the specific need of the intended audience (the cable television industry) is less well covered. There are a number of rhetorical writing patterns that can be used. Oberzinger (2005) suggests a number of key rhetorical patterns that such an effort can take including the Swiss Cheese approach, Guilt by Association, the Road Map and The BattleBot pattern. However, because of the gaps in the literature, no one approach seemed suitable here. Oberzinger (2005) allows that "often these patterns may be used in combination" (p.4). In this case, a combination approach was deemed best suited. The rhetorical pattern selected as a basis for the writing plan developed for this literature review combines the Swiss Cheese and Guilt by Association patterns. The Swiss Cheese approach attempts to lay out an overview of current knowledge and identifies gaps that need further investigation. The Guilt by Association approach addresses the problem where there is scant research in a particular context or area and attempts to build the new context based on inferences from the known examples. The following outline is used as the basis upon which to organize ideas within the discussion presented in the Review of Literature section of this document. Ideas are organized according to three primary components.

Writing Plan Outline

1. The need for increased governance in the multi-project environment
    a. Why is greater governance needed
        i. The desire to increase project success rates

    ii. To fulfill compliance guidelines and regulations

    iii. Dealing with an increasingly complex project environment

  b. What needs to be done – The proposed PMO solution

    i. The PMO defined

    ii. The PMO mission

2. The value of the PMO and enhanced success rates

  a. Why a PMO is needed in a multi-project environment

    i. Visibility and alignment of resources across multiple projects

    ii. Maximize the return on investment (ROI) for each project

    iii. Improved project control through enhanced governance

  b. PMOs and process control

    i. Issues of Command & Control

    ii. Providing structure to standardize practices and methodologies

3. How to plan for PMO implementation

  a. Moving from an ad-hoc environment to one controlled by a PMO

  b. The PMO charter

    i. PMO components

  c. Organizational changes

    i. The role of change agents in driving cultural and organizational change

    ii. Creating the culture of acceptance at all levels of the organization

  d. Gaining executive support

    i. The need for a champion at the senior level

    ii. What's in it for them?

          iii.   Cost vs. ROI – The Executive View

4.   Conclusions and suggestions for further research.

Review of the Literature Bibliography

The Review of the Literature Bibliography is a listing of the 22 references found to be of greatest significance to the review. Brief abstracts (excerpted as published in each reference) are included so that the relevancy can be seen. The references are separated into the three major components of the review (as noted in the Writing Plan Outline) and listed alphabetically within each one.

Component #1: Literature that documents the need to increase governance in the area of project management

Dietrich, P., Järvenpää, J., Karjalainen, J. & Artto., K. (2006). *Successful management in multi-project environment.* Retrieved Nov 11, 2007 from http://www.cin.ufpe.br/~gmp/docs/papers/Successful%20management%20in%20multi-project%20environment.pdf

> **Abstract:** The aim of this paper is to study how to organize project-oriented organization and what are the successful management principles in multi-project environment. The paper approaches the challenges first by focusing on organizational structures and management models in multiple projects organizations, and second studying the success factors in multiple project management.

Gray, C. F., & Larson, E. W. (2006). *Project Management: The managerial process* (3rd Ed.). Boston: McGraw-Hill Irwin.

> **Abstract:** *Project Management* strikes a balance between the technical and human aspects of managing projects. This text addresses the major questions and issues the authors have encountered while teaching and consulting with practicing project managers in domestic and foreign countries. The text is very contemporary and up-to-date. This application-oriented text provides a road map for managing any type of project.

IT Governance Institute. (2005). *Governance of the extended enterprise*. Hoboken: J. Wiley and Sons.

> **Abstract:** Globalization and worldwide communications have overridden national boundaries. In many markets, the effect of global financial interdependence (governmental, political, and business) is now so interconnected that they must be considered with almost any decision being made. Governance in the Extended Enterprise shows how successful enterprises have integrated information technology and business

strategies, culture, and ethics in order to optimize information value, attain business objectives, and capitalize on technologies even in highly competitive environments.

Microsoft. (2005). *Enterprise project management: IT governance and the program management office*. A White paper retrieved Oct 31st, 2007 from http://www.cwbah.com/pdfs/EPM_whitepaper_itgov.pdf

Abstract: Organizations are challenged to track and measure the effectiveness of a large number of projects in various aspects of their work, and aligning Information Technology costs with business objectives is becoming increasingly important. Executives–especially those accountable for the success or failure of IT spending–would benefit from better ways to select the most promising projects from a batch of project candidates, efficiently allocate resources among different ongoing initiatives, and evaluate project success from a strategic vantage point.

Miller, R., & Hobbs, B. (2005). Governance regimes for large complex projects. *Project Management Journal Research Quarterly, 36*(3), 8.

Abstract: This paper presents a framework for building governance regimes for large complex projects. The framework is based on three sources: 1) a re-examination of a study of 60 large capital projects (Miller & Lessard, 2000), 2) the institutional, corporate and project governance literatures and 3) interviews centered on the revision of the British Private Finance initiative and on the development of the Norwegian project approval process.

Pells, D. L. (2007). *Project management governance and oversight.* A paper presented at the 1st UTD Project Management Symposium, Plano, Texas on Aug 6, 2007. Retrieved Oct 23rd, 2007 from http://www.pmforum.org/library/papers/2007/Dallas/Pells-Expert_Advisory_Panels.pdf

Abstract: Project management governance is an important aspect of overall corporate governance, especially for project-based organizations and for organizations with large capital investment projects underway. Project management oversight is also needed on large, complex, mission-critical and globally important programs and projects.

Reid, B., & Bourn, J. (2004). *Directing Change: A guide to governance of project management*. Retrieved 2004, from www.apm.org.uk.

Abstract: How should those governing organizations oversee the management of projects? The discipline of project management has come of age. The body of knowledge is well defined, skill requirements can be assessed and methods are codified. Good practice in directing and managing project work is increasingly evident. However, in many organizations there remains a gap in the governing surveillance of project activities. Responsible practice requires that this gap be eliminated. The guide applies standard governance requirements to your project portfolio.

Sambamurthy, V. (1999). Arrangements for information technology Governance: A theory of multiple contingencies. *MIS Quarterly, 23*(2), 261-290.

Abstract: In this paper, the author argues that governance arrangements need to recognize and prepare for the effects of complex interactions among multiple contending forces. He primarily builds on the research of C. Gresov (1989) who proposed the theory of multiple contingencies. The paper takes the position that to ensure project success, a flexible governance framework that recognizes that there will be conflicting priorities needs to be in place.

Weill, P., & Ross, J. (2004). *IT Governance: How Top performers manage IT decision rights for superior results*. Boston: Harvard Business School Press.

Abstract: Argues that the real reason IT fails to deliver value is that companies have no formal system in place for guiding and monitoring IT decisions. This book shows that companies need IT governance systems to ensure that IT investments are made effectively.

Component #2: Literature that examines the theoretical value of a PMO, in support of increased project success

Bonham, S. (2005). *IT project portfolio management*. Norwood, MA: Artech House.

Abstract: This book introduces a comprehensive approach to implementing Project Portfolio Management (PPM) to support and prioritize IT projects in both large and small companies. This is the first book to show you how to manage the portfolio of all IT-based projects in an organization. It details how a portfolio of projects can be aligned with the ever-changing marketplace via a central strategy, maximized for overall return on investment, and balanced for risk across an organization.

Hobbs, B., & Aubry, M. (2007). A multi-phase research program investigating project management offices (PMOS): the results of phase 1. *Project Management Journal, 38*(1), 74-86. Retrieved Nov 3, 2007 from http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=24844788&loginpage=Login.asp&site=ehost-live

Abstract: Over the last decade, the project management office (PMO) has become a prominent feature in many organizations. Despite the proliferation of PMOs in practice, our understanding of this phenomenon remains sketchy at best. No consensus exists as to the way PMOs are or should be structured nor as to the functions they should or do fill in organizations. A three-phase research program has been undertaken in order to develop a better understand of PMOs. This paper presents the research strategy, the overall program, and the results of the first phase of the research.

Kalin, S. (2006). *Making IT portfolio management a reality*. Retrieved from
http://www.cio.com/article/21407/Making_IT_Portfolio_Management_a_Reality.

> **Abstract:** This article was a brief review of a panel discussion with the CIO Executive
> Council of CIO Magazine. The executives discuss strategies, tips and insights on making
> IT portfolio management a reality.

Kendrick, T. (2006). *Results without authority: Controlling a project when the team doesn't
report to you*. New York: Amacom.

> **Abstract:** Project leaders these days supervise few if any of the people that they rely
> upon for project success. Getting projects off to a good start and then maintaining control
> of them is an enormous challenge for a project leader who has little or no formal
> authority. But there are many proven, powerful techniques a strong project leader can
> employ to keep projects and teams on track. This book explores a wide range of effective
> methods and tools for leading a diverse team, and includes clear, insightful examples that
> demonstrate how they work in a variety of situations.

Santosus, Megan. (2007). Why you need a project management office. An online article from
CIO.com, retrieved Nov 13th, 2007 from http://www.cio.com/article/print/29887

> **Abstract:** For years, IT departments have struggled to deliver projects on time and within
> budget. But with today's emphasis on getting more return on investments, IT has to rein
> in projects more closely than ever. That challenge has led many to turn to project
> management offices (PMOs) as a way to boost IT efficiency, cut costs, and improve on
> project delivery in terms of time and budget.

Weill, P., & Broadbent, M. (1998). *Leveraging the new infrastructure.* Boston: Harvard Business
School Press.

> **Abstract:** This work is based on the premise that information technology investments are
> quite possibly the most important decisions that can be made within an organization. It is
> a guide that provides a framework for managers and technology decision-makers to
> collectively better understand the role that IT can play to further business operations and
> processes. The authors present the idea of managing an information technology portfolio,
> in much the same manner that other business assets and investments are handled. Ways in
> which organizations can tie their infrastructure with strategy and business processes are
> addressed. The final portion of the work presents methods for managing technology
> investments to maximize value.

Zarrella, E., Tims, M., Carr, B., & Palk, W. (2005). *Global IT project management survey: KPMG.* Retrieved 11/3 from www.kpmg.com.au/aci/docs/irmpmqa-global-it-pm-survey2005.pdf

> **Abstract:** KPMG's Global IT Project Management Survey, conducted with 600 private and public sector organizations around the globe, addresses the ability of organizations to make and keep project commitments, the role governance plays in ensuring the delivery of promised value form the projects, and the golden rules to successful project management.

Component #3: Literature that examines the challenges faced when implementing a

PMO within an organization

Engle, P. (2005). The project management office. *Industrial Engineer: IE, 37*(1), 20-20. Retrieved Nov 7, 2007 from http://search.ebscohost.com/login.aspx?direct=true&db=mth&AN=15510546&site=ehost-live

> **Abstract:** The article reports on the concept of project management office (PMO) in project planning. The PMO structures project management into an organized, systematic approach that includes the following goals: (1) Project definition--goals and objectives, organization charts, and roles and responsibilities are documented. (2) Project planning and control--the charter documents what's to be done, and the project plan lays out how it will be accomplished. (3) The PMO typically reports on the project each week and identifies significant issues more frequently. In addition to these, the article also reports on many other goals of PMO.

Englund, R. L., Graham, R. J., & Dinsmore, P. C. (2003). *Creating the project office: A manager's guide to leading organizational change*. San Francisco: John Wiley & Sons.

> **Abstract:** Creating the Project Office is written for managers who are searching for ways to transform their organizations into more effective and efficient project-based workplaces. This book reveals that there is no more effective way to make that change than to create a project office tailored to the needs of the organization.

Hunte, G. (2007). *Getting started with a project management office.* A White Paper retrieved Oct 29, 2007 from http://www.technologyexecutivesclub.com/PDFs/ArticlePDFS/startpmo.pdf

> **Abstract:** This paper, the first in a four-part series from CA, contains practical insights and best practices for better IT project delivery. This paper discusses ways of moving from an ad-hoc approach to a more effective process by implementing a project management office (PMO). The focus is on determining the state of your company's existing IT efforts, confirm the overall business goals and create a roadmap that brings together the necessary people, processes and technologies to achieve them.

Johnson, M., Joyner, T., & Martin, R. (2002). Process-driven project management office implementation. Presented at the Association for the Advancement of Cost Engineering (AACE) International meeting in Portland, Or on June 21-29, 2002. Retrieved Jan 14th, 2008 from http://www.pmolink.com/articles/440.4369aaCEPaper.pdf

Abstract: This paper contends that the key to success for any Project Management Office (PMO) implementation effort is effective management of PMO processes. To be effective, a process must be well understood by project stakeholders and consistently enforced by management. The business process models also serve as the benchmark by which project management office quality improvement efforts are measured. The act of establishing a process framework and the effort involved in modeling processes help a PMO define its boundaries, educate the organization about its purpose, and achieve buy-in from key stakeholders.

Parviz, F.R. (2000). Implementing a PMO. *Project Management Journal, 31*(4). Retrieved Nov 13th, 2007 from http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=3843891&loginpage=Login.asp&site=ehost-live

Abstract: Comments on the implementation of a Project Management Office (PMO). Functions of the PMO; Benefits of implementing a PMO on companies; Cost of establishing a fully developed PMO.

Selig, G. J., & Waterhouse, P. (2006). IT Governance - an integrated framework and roadmap: How to plan, deploy and sustain for competitive advantage. Retrieved Nov 20, 2007 from http://www.technologyexecutivesclub.com/Articles/itgovernance/govroadmap.php

Abstract: IT governance represents an ongoing process which focuses on sustaining value and confidence across the business. Many companies start on a narrow path and focus on the compliance component (e.g. Sarbanes-Oxley) of IT governance, without developing a balanced approach consisting of both a top down framework and roadmap together with bottom up implementation to address the broad range of IT governance issues and opportunities in a planned, coordinated, prioritized and cost effective manner. This paper proposes a comprehensive and integrated IT governance framework which identifies the appropriate current and emerging best practice methodologies for each of the major IT Governance components that must be addressed in any approach.

Review of the Literature

Introduction

The focus of this paper is to investigate the role of the Program Management Office (PMO) in a multi-project environment, with an emphasis on how the PMO is purported to enhance governance for the promise of increased project success. The term "governance" generally refers to control processes and procedures used to both control and direct the actions of an organization and to determine who is held to account for these actions (Doughty & Grieco, 2005). It is this collection of management, planning and review processes, as well as the associated decision rights that enables the organization to determine and establish performance metrics thus formalizing and clarifying their responsibilities of oversight and accountability (Selig & Waterhouse, 2006). This perspective has become an issue of importance in the project management literature in recent years (Miller and Hobbs, 2005, p. 47; Hobbs and Aubry, 2007).

The investigation is framed by three conceptual components: (1) an examination of the need for increased governance; (2) A discussion of the value of implementing a Project Manage Office to fulfill the governance need, increasing the potential for enhanced project success rates and (3) How to successfully plan for the implementation of a PMO so as to overcome the obstacles of cultural change, stakeholder resistance and lack of leadership support.

The need for increased governance in the multi-project environment

In this first component, the literature is examined to determine just why some degree of governance structure is needed in an increasingly complex project environment. The concept of a

Project Management Office is introduced and defined. Finally the idea of organizational change to accommodate the new entity is explored.

Why is greater governance needed?

Organizing, planning and controlling for the successful completion of business projects continues to be a challenge in most organizations today. It is estimated that 66% of all projects ultimately fail to meet some or all of the intended goals (Hunte, 2007). Without an adequate control process in place, Miller and Hobbs (2005) found that most organizations are exposed to an increased potential for project failure. As both the complexity and the number of simultaneous projects grow, there is an increased probability of experiencing combinations of interrelated problems (Hawkins & Rajagopal, 2005). Further, a report from the Meta Group suggests that 75% of all business managers perceive that formal project management efforts lack credibility in their ability to deliver on time, within budget and to specification (Sun Microsystems, 2007).

The desire to increase project success rates.

Project management governance is an important aspect of overall corporate governance, especially for project-based organizations and for organizations with large capital investment projects underway (Pells, D., 2007). As discussed in *Governance of the Extended Enterprise*, large organizations often have multiple projects underway simultaneously. The successful enterprises have learned to integrate information technology and business strategies, culture, and ethics in order to optimize information value, attain business objectives, and capitalize on technologies even in these highly competitive environments (IT Governance Institute, 2005).

It has been shown that companies that follow a specific strategy and demonstrate above-average procedural controls had profits which were more than 20% higher than those of companies that followed the same strategy but had poor controls (Weill & Ross, 2004). These

studies indicate that strong project control procedures increase the potential of multiple project success.

The desire to fulfill compliance guidelines.

Controls can address a variety of important issues. The emphasis on corporate accounting scandals in recent years has led to an increase in the level of accounting controls that have been enacted in an effort to ensure adherence to compliance laws as well as greater protection of organizational stakeholders (Rollins & Lanza, 2005). The same concerns have led to a greater emphasis on the stricter application of classic project management principles and techniques so as to improve both project and overall organizational governance performance (Pells, 2007).

Increasingly, however, the project environment is becoming more complex, either because of the intricacies of a single project or because of the need for managing multiple overlapping projects. In either case, there is a need for the "ability to evaluate complex systems from multiple perspectives" (Miller & Hobbs, 2005). Inability to recognize and react to the complexity can lead to compliance failures. Fricke's study of a Michigan State agency project found that the creation of a strong Project Control Office along with the implementation of a strict project governance process saved the state $147 Million in federal penalties (2007). The Return on Investment (ROI) in such an example is clear.

What Needs to be Done – The proposed PMO solution.

In their study "Directing Change: A Guide to Governance of Project Management", Reid and Bourn (2004) look at the gap between good project management principles and the real world lack of project governance. They propose the implementation of the concept of a Project Management Office (PMO) to increase what they have termed as "governing surveillance" to all project activities. This is echoed by Parviz (2000) when he states that "one of the most

significant developments in recent years has been the formulization of the implementation of the PMO" (p. 1). He goes on to propose that the benefits of a PMO not only bring a heightened awareness and professionalism to the subject of project management but that it will pay for itself through increased project performance in cost control and better risk management. Parviz (2000) believes that the positive benefits of such an organizational change, both in structure and culture, will outweigh the associated costs.

The PMO Defined

The acronym "PMO" is used in three different ways, each defining different levels of the same idea of governance enforcement. It may be found referring to a Project Management Office, a Program Management Office or to a Portfolio Management Office. Each definition is a variation of the same function, differing only in the scope of the described responsibilities.

A Project Management Office is defined by the Project Management Institute as "An organizational body or entity assigned various responsibilities related to the centralized and coordinated management of those projects under its domain" (PMI, 2004, p. 369). Grey and Larson (2006) define the Program Management Office as "A centralized unit within an organization or department that oversees and improves the management of projects" (p.561). Finally, a Portfolio Management Office is described by Kalin (2006) as a function that oversees all projects and treats them in the same manner as a portfolio of financial investments with an eye towards maximizing the received value while minimizing risk to the organization.

The PMO mission.

The mission of the PMO might be defined in a number of ways, depending on the needs of the organization. However, there are several common goals. As described by Dave Beal,

Director of IT for the Comcast Oregon Market, the mission of the PMO, by any definition, is to align the various business groups within the enterprise to each other, and to any other PMOs within the organization, so as to ensure that all teams are working from one plan (personal communication, Nov 6th, 2007). According to a Microsoft Whitepaper (2005), it is the mission of the PMO to recognize that not all projects are equal in value (to the organization) and to align the proposed project costs with the strategic objectives of the company. And Santosus (2003) quotes Curtis Cook, CEO of Novations Project Management as stating that, regardless of size and structure, the PMO serves the parent organization via project support and methodology with the goal of enabling better resource management and enhanced project success rates.

The Value of the PMO and Enhanced Success Rates

The concept of a PMO, and its fundamental mission, has now been defined. The second component of this review continues the investigation of the role of the Program Management Office (PMO) in a multi-project environment by exploring why implementing a PMO is a sound strategy in dealing with concurrent or overlapping project efforts. The selected literature is examined for ideas on the optimal use of project resources, standardized process controls and examples of successful PMO examples.

Why a PMO is needed in a multi-project environment.

The value of a PMO is described in the selected literature in several ways. Englund et al., (2003) declare that "As long as there is a multi-functional environment that requires the simultaneous management of numerous projects, the concept of a PMO remains valid" (p. 10). Hobbs and Aubry (2007) find that one of the key benefits of a PMO is the opportunity to maximize the use of finite resources across the various parallel efforts in a multi-project

environment. This concept is referred to by Monteforte (2006) as "Resource Optimization" (p. 2). He goes on to say that while the perfect allocation of resources is unlikely in the real world, the PMO enhances the chance of an optimum distribution of those funds. At the same time, a PMO provides the governance controls to standardize the structure for handling these funds as well as assigning the accountability required by regulatory requirements such as the Sarbanes-Oxley Act of 2002 (Santosus, 2003).

Maximizing ROI for each project.

One of the common problems in a multi-project environment is determining the cost and expected return from each project, as a part of the whole (Program Management Group, 2007a). Supporting this theme, Doughty (2005) adds that, without proper oversight (governance), there is an elevated risk of implementing incompatible systems that consume project resources without any appreciable added value to the organization. While the PMO is a valuable tool to increase the control of these funds, it is not necessarily a guarantee. A survey by the Project Management Institute and CIO magazine found that 74% of respondents did <u>not</u> find lower overall project cost to be a benefit of the PMO (Santosus, 2003). Instead, it is through an increased degree of project success, driven by the PMO and balanced against a decrease in the implicit costs associated with failed projects, that the greatest benefit is achieved (Parviz, 2000).

Improved project control through enhanced governance.

In their 1998 study, Weill and Broadbent found that many major capital and technological decisions are left up to the technical staff or even to vendors (1998). Since then, there has been little change. For example, 10 years later, in his paper for the UTD Project Management Symposium, Pells (2007) stated that "The largest and most common mistake on many large programs and projects is the delegation of project management to lower levels of the

organization" (p. 3). The need for stricter and more predictable control methods continues to be recognized and attempts made to correct the status quo.

The IT Governance Institute (Hardy, 2003) has determined that there are five key dimensions that a governance regime needs to address for adequate project control. These are:

- Strategic alignment with the overall enterprise goals

- Value delivery – what value will the project provide to the organization

- Resource management – particularly in a multi-project environment

- Risk management – the protection of assets

- Performance management – assigning accountability and tracking of project deliverables

In Portland, Oregon, The Office of The City Auditor explored these five dimensions in an effort to determine governance best practices (Office of the City Auditor, 2005). While their emphasis was on IT centric projects, the findings could apply to any multi-project governance effort. Their key findings include the need for:

- An advisory board to oversee the alignment between projects and overall strategy

- All stakeholders need to be aware of the rationale behind decisions

- Transparency in the costs and value received

- Clear policies, procedures, decision making authority and accountability assignments

And in this same vein, Johnson, Joyner & Martin conclude that practices and methodologies must be followed consistently for successful project management across any number of multiple efforts (2002). It is this implementation of predictable and repeatable process control that fulfills one of the primary elements of governance: ensuring that an organization's project portfolio is aligned to the organization's objectives (Reid & Bourn, 2004).

PMOs and process control.

Much of the literature supports the position that whenever multiple overlapping projects exist, there is a need for an added governance structure that allows improved control of the project efforts. Hunte (2007) notes that consistent governance processes enable greater visibility of the project operations. "Without proper visibility, organizations are unable to see what is needed six months, three months, or even two months down the road, resulting in poorly constructed project plans that do not capture critical dependencies, including assigning project resources and key milestones" (p. 1). Kendrick supports this perspective in his defense of the PMO concept, arguing that with large or complex project programs, the PMO is required to ensure consistent planning across all projects (2006). In their research on governance regimes, Miller and Hobbs (2005) document repeated instances of an increased project failure probability in organizations that lack an adequate governance regime. They connect this to a lack of consistent control mechanisms applied across multiple and/or complex projects.

While the need for close governance and oversight of the financial affairs of public companies is commonly accepted, the same level of concern should be applied to the area of project management and the associated resources (Pells, 2007). Since projects represent such a major financial impact in most organizations (Rollins & Lanza, 2005; Weill & Broadbent, 1998), it is logical that the process control function provided by the PMO concept be considered (Kendra, & Taplin, 2004).

A primary PMO mission is to provide the tools associated with developing command and control processes and to aid in establishing the consistent practices for the management of the multiple project efforts (Johnson, et al., 2002). As a result, issues of command and control should be improved through the implementation of a PMO operation. It is through the use of a central

office that firms can develop the concept of building a portfolio of technology related business decisions and then manage them at a higher managerial level (Weill & Broadbent, 1998).

How to Plan for PMO Implementation

Thus far in the Review of the Literature, the PMO concept has been defined and a case has been made for enhanced project governance. Component three examines the requirements for PMO implementation planning. The selected literature is examined to identify both the roadblocks and enablers for bringing about this organizational change. Particular emphasis is placed upon the need for stakeholder support, especially at the executive level. The idea of a return on investment (ROI) is considered as well as the idea that a PMO is not automatically a solution to all project related concerns.

Implementing a PMO function may represent a significant change in organizational structure and culture. Institutions develop their unique culture because of the mix of individuals who have shared their common values and work ethics (Hauck, 2007). During the consideration of any organizational change, it must be recognized that these stakeholders should be involved in the decision making process for it to be successful. "Successful implementation of an IT governance framework requires coordination between the affected parties and may require incrementally implemented new processes" (Office of the City Auditor, 2005). Implementing a well designed governance process will take into consideration that there are multiple constituencies involved and that balancing their concerns and decision making rights is a key element (Weill & Broadbent, 1998).

When considering the many facets of controlling a project environment, many companies either fail to implement any meaningful controls or start on a narrow path and focus on one component such as compliance with Sarbanes-Oxley requirements (Selig, 2006). A balanced

approach is required, one consisting of both a top down framework and roadmap together with a bottom up implementation of a broad range of governance issues in a planned, coordinated, prioritized and cost effective manner. The Project Management Institute has developed detailed suggestions for a PMO planning framework, including guidelines for project documentation and organization. The framework is available in their publication "*A Guide to the Project Management Body of Knowledge, 3rd Ed.* (Project Management Institute, 2004). Part of this planning framework includes evaluating organizational maturity at the beginning so as to form a baseline for determining what value the PMO implementation might ultimately bring to the enterprise (Hunte, 2007).

The PMO Charter

Engle (2005) suggests that a key goal in developing a PMO program is to develop a structure that supports a systematic, repeatable and documented set of processes. A written charter is an important first step in the development of a well considered PMO/governance plan. As suggested by the Association of Project Management (2004), documenting the specific role of the PMO and following accepted professional guidelines, helps to prevent the following common causes of project failure:

- Lack of a clear link with key strategic priorities.

- Lack of clear senior management ownership and leadership.

- Lack of effective engagement with stakeholders.

- Lack of skills and proven approach to project and risk management.

- Evaluating proposals based on initial pricing, rather than on the long term value of money.

- Poor attention to breaking down development and implementation phases into manageable steps.

Every organization will develop a unique charter document, based on specific needs in relation to the risks listed above. At New Mexico State University (2007), for example, the key charter elements included:

- The scope, or area, of responsibility of the PMO.

- Specific goals for the PMO as well as what the office would not do.

- Clear expectations as to the responsibilities of the senior leadership.

- Specific metric for measuring the success of a project and of the PMO.

- Organizational structure, stakeholders and strategy.

In another example, a concise one page charter was developed at Comcast Corporation for their Enterprise Services Unit which provides project support services at the corporate level to their various operations. This document refers to the PMO as a cross technology Program Management Organization that strives to facilitate the effective execution of solution design and delivery services. The charter briefly list the entities served, the specific range of projects, stakeholders and success measures (Dave Beal, personal communication, Nov 6th, 2007).

Organizational Change

A critical component of the PMO planning process is to anticipate any changes that may be required. Proponents of the PMO concept are acting as "organizational change agents", working to bring about a more project friendly organization; these agents need to develop and implement a pathway that details the steps to implement the desired changes (Englund et al., 2003). The role of the change agent is one of leadership, to be an early adopter of what will follow (Nickles, 2001). Hunte (2007) describes this effort as a focus on determining where the organization

currently is, outlining the goal of where they want to be and then laying out a stepwise roadmap on how to get there, all while measuring the progress.

The need to plan for organizational change is further supported by Selig (2006), who reports the number of organizations that continue to struggle with sustaining formal process/project programs and yet fail because of the lack of flexibility or vision on the part of the incumbent culture and/or senior leadership. Selig (2006) believes that commitment by management is necessary not only during the planning and implementation stages but also as an ongoing element, adding that an effective change process "requires executive management sponsorship, a champion and a shared vision" (p. 16).

Parviz (2000) found that trying to implement the enhanced governance regime brought on by a PMO can be a daunting task. Disruptions to the existing culture should be anticipated as part of the planning process, so that potential threats to the status quo can be ameliorated before implementing the PMO (2000).

Establishing executive support.

A common theme throughout the literature is the importance of senior management leadership and support when trying to implement a PMO and the associated governance structure. The successful change agent must be able to influence others both below and above his position (Kendrick, 2006). It often becomes a matter of using strategy, as opposed to the power or force of position, to reach the desired goal (Hawkins & Rajagopal, 2005). In this case, the goal is to engage upper management in the planning stages, as a way to ensure support to implement and sustain a major structural change. Engle (2005) finds that one of the reasons that many projects fail is because of the lack of support from the senior management and the concurrent lack of planning support. Gaining this support should begin when the project is in the

conceptual stage. During the early phases, it is the executives who are in the best position to determine any conflicts, allocate the resources and set priorities (Paul, 2005). And as Sun Microsystems found during a study on IT governance, encouraging the senior team to take a leadership role in the planning process means that they have a greater stake in helping the project teams to achieve their goals (2007).

Conclusions

The intent of this paper was to investigate the specific role of the Program Management Office (PMO) in a multi-project environment, with an emphasis on how the PMO is purported to enhance governance for the promise of increased project success. The study is framed by first exploring the various aspects of project management as related to project control through the application of governance principals. In this study, governance is defined as "A methodology for aligning technology spending and labor costs with strategic business objectives" (Microsoft, 2005).

An initial review of research literature relevant to the subject indicates that, in spite of improvements in project management science, 66% of all project initiatives still fail to meet their intended goals (Hunte, 2007). Further research demonstrates that organizations are likely to experience this high probability of project failure, along with the associated negative impacts, because of the lack of a well structured governance regime (Miller & Hobbs, 2005). Conversely, Weill and Ross (2004) reveal that companies which have sound governance policies in place, along with specific project strategies, had profits 20% greater than organizations using similar strategies but lacking sound governance (2004).

These issues of control, corporate strategy and governance methods have become prominent in recent years due to the concerns of corporate responsibility, particularly in fiscal matters (Miller & Hobbs, 2005; Hobbs & Aubry, 2007). Both Santosus (2007) and The IT Governance Institute (2005) find that these considerations force companies to closely monitor project expenses and progress. The concern level becomes elevated in an environment of complex or multiple, overlapping projects (Project Management Group, 2007b). It is in this environment that the concept of the Project Management Office (PMO) has developed. Microsoft (2005), Zarrella,

et al. (2005) and Englund, et al. (2003) all contend that the PMO concept is of significant value in managing the multi-project environment so as to maximize project success rates.

The goal of this literature review is to determine how a PMO can facilitate the application of governance principals, in support of greater project success. The intended audience is broad, including: mid-level engineering managers, particularly within the telecommunications industry; functional managers who, while not directly involved in project management, might have their employees assigned to a project team; and anyone responsible for supporting project efforts and who is responsible for project performance.

The most prevalent and consistent theme throughout the review of the literature is that the PMO concept provides an opportunity to maximize the use of limited resources by strategically aligning project efforts with the greater organizational goals. Monteforte (2006) terms this as "Resource Optimization" (p.2). Other authors support the notion of the beneficial role of the PMO. Santosus (2003) addresses the option to provide the governance controls to standardize the accountability of funds to meet regulatory requirements while Kendrick (2006) notes that, at the same time, the PMO enables tighter process controls that lead to greater project success.

The need for calculating the return on any investment is a basic accounting principal. In a multi-project environment, it may be difficult to determine this ROI (Program Management Group, 2007a). Therefore, the greater ability to determine just what returns are being generated from each project is another key advantage of the PMO. It is this increased return from well planned projects, weighted against a decrease in project failures, which justifies the PMO concept (Parviz, 2000).

Another consistent theme in the literature is the idea that the positive impact on resources is rooted in the improvements in project controls brought about by enhanced governance.

Predictable and repeatable controls are a primary element used to standardize project efforts and to ensure they are aligned with the overall strategy. It is via the governance structure that management gains greater control over the projects (Hunte, 2007). Kendrick (2006), Miller and Hobbs (2005) and Pells (2007) agree that strong governance structures lead to decreased project failures.

The review of the literature also makes clear that the research on this topic in general is not yet complete. Much of the available work is focused on Information Technology projects, as opposed to project management in general. And certainly there is not total agreement on the success rate of the PMO. Hobbs & Aubry (2007) suggest that the PMO has been over-promoted as a cure-all. They question whether the cost, both initial and ongoing, is justified by the gains generated by the PMO, and propose that until more research is conducted, adoption may be premature. Whether or not the implementation of a PMO can guarantee project success in all cases may not be the right question. As Santosus (2003) notes, it is most likely all a matter of the desired goal (2003), i.e., of identifying the overall strategic goals and weighing them against the perceived costs and benefits of implementing a PMO.

References

Association for Project Management. (2004). A guide to governance of project management. Retrieved Oct 23rd, 2007 from www.apm.org.uk

Bonham, S. (2005). *IT project portfolio management*. Norwood, MA: Artech House.

Broadbent, M., & Kitzis, E. (2005). *The new CIO leader: Setting the agenda and delivering results*. Boston: Harvard Business School Press.

Dietrich, P., Järvenpää, J., Karjalainen, J. & Artto., K. (2006). *Successful management in multi-project environment.* Retrieved Nov 11, 2007 from http://www.cin.ufpe.br/~gmp/docs/papers/Successful%20management%20in%20multi-project%20environment.pdf

Doughty, K. & Grieco, F. (2005). IT Governance: Pass or fail? *Information Systems Control Journal, Vol 2, 2005.*

Engle, P. (2005). The project management office. *Industrial Engineer, 37*(1), 20.

Englund, R. L., Graham, R. J., & Dinsmore, P. C. (2003). *Creating the project office: A manager's guide to leading organizational change*. San Francisco: Jossey-Bass.

Fricke, J. (2007). Michigan's' project management and governance model executive summary. *An executive summary of a new governance model for state agencies.* Retrieved Oct 23rd, 2007 from www.nascio.org/awards/nominations/2006Michigan10.pdf

Gray, C. F., & Larson, E. W. (2006). *Project management: The managerial process* (3rd Ed.). Boston: McGraw-Hill Irwin.

Hardy, G. (2003). Coordinating IT governance – A new role for IT strategy committees. *Information Systems Control Journal, Vol 4, 2003.*

Hauck, C. (2007). How to choose the right project management office for your organization's culture. Retrieved Jan 14, 2008 from http://collegiateproject.com/Articles/PMO.pdf

Hawkins, D., & Rajagopal, S. (2005). *Sun Tzu and the project battleground: Creating project strategy from the art of war*. New York: Palgrave MacMillian.

Hobbs, B., & Aubry, M. (2007). A multi-phase research program investigating project management offices (PMOS): the results of phase 1. *Project Management Journal, 38*(1), 74-86.

Hunte, G. (2007). *Getting started with a project management office.*
A White Paper retrieved Oct 29, 2007 from
http://www.technologyexecutivesclub.com/PDFs/ArticlePDFS/startpmo.pdf

IT Governance Institute. (2005). *Governance of the extended enterprise*. Hoboken: J. Wiley and
Sons.

Ives, M. (2005). Identifying the contextual elements of project management within organizations
and their impact on project success. *Project Management Journal, 36*(1), 37-50.
Retrieved Dec 5, 2007 from
http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=16605727&loginpage
=Login.asp&site=ehost-live

Jachimowicz, V. A. (2005). Essential project investment governance and reporting: Preventing
project fraud and ensuring Sarbanes-Oxley compliance. *Project Management Journal,*
36(3), 64-64. (This is a review of the Rollins book listed below)

Jeffries, P. (2007). Project management charter. A document written at New Mexico State
University guiding the creation of a Project Management Office for the Enterprise
Application Services department of the university. Retrieved Jan 14th, 2008 from
http://ict.nmsu.edu/ict/reports/ICT_PMO_Charter_PMOCHTR_3_0_11-20-2007.pdf

Johnson, M., Joyner, T., & Martin, R. (2002). Process-driven project management office
implementation. Presented at the Association for the Advancement of Cost Engineering
(AACE) International meeting in Portland, Or on June 21-29, 2002. Retrieved Jan 14th,
2008 from http://www.pmolink.com/articles/440.4369aaCEPaper.pdf

Kalin, S. (2006). *Making IT portfolio management a reality*. Retrieved Nov 4, 2007 from
http://www.cio.com/article/21407/Making_IT_Portfolio_Management_a_Reality.

Kendall, G. I., & Rollins, S. C. (2003). *Advanced project portfolio management and the PMO:*
multiplying ROI at warp speed. Conyers, GA: J. Ross.

Kendra, K., & Taplin, L. J. (2004). Project success: A cultural framework. *Project Management*
Journal, 35(1), 30-45. Retrieved Dec 5, 2007 from
http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=13062360&loginpage
=Login.asp&site=ehost-live

Kendrick, T. (2006). *Results without authority: Controlling a project when the team doesn't*
report to you. New York: Amacom.

Kim, B., & Prescott, J. (2005). Deregulatory forms: Variations in the speed of governance
adaptation, and firm performance. *Academy of Management Review, 30*(2), 414-426.
Retrieved Dec 3rd, 2007 from
http://0web.ebscohost.com.janus.uoregon.edu/ehost/pdf?vid=4&hid=102&sid=a4f0990e-
5293-4066-8525-724ba3bf43c2%40sessionmgr108

Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design* (8th ed.). Upper Saddle River, NJ: Pearson.

Legris, P., & Collerette, P. (2006). A roadmap for it project implementation: Integrating stakeholders and change management issues. *Project Management Journal, 37*(5), 64-75. Retrieved Dec 5th, 2007 from http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=23858913&loginpage=Login.asp&site=ehost-live

Marlin, S. (2003). Getting the IT mix right. *InformationWeek,* 9(61), 64-68.

Melymuka, K. (2006). Remote control managing a project. *Computerworld, 40* (23), 39-41.

Meredith, J. R., & Mantel, S. J. (2000). *Project management: A managerial approach* (4th Ed.). New York: John Wiley & Sons.

Fricke, J. (2007). Michigan's' project management and governance model executive summary, *An executive summary of a new governance model for state agencies.* Retrieved Oct 23, 2007, from www.nascio.org/awards/nominations/2006Michigan10.pdf

Microsoft. (2005). Enterprise project management: IT governance and the program management office. Retrieved Oct 31st, 2007 from http://www.cwbah.com/pdfs/EPM_whitepaper_itgov.pdf

Miller, R., & Hobbs, B. (2005). Governance regimes for large complex projects. *Project Management Journal Research Quarterly, 36*(3), 8.

Monteforte, J. (2006). Align IT resources to improve project throughput. Retrieved Nov 19, 2006 from http://www.cioupdate.com/trends/article.php/11047_3626876_1

Nickles, L. (2001). *The change agents: The new workforce and the new workplace.* New York: St. Martin's Press.

Obenzinger, H. (2005). What can a literature review do for me? : How to research, write, and survive a literature review. Retrieved November 15, 2007, from http://128.223.179.107/aim/Capstone07/LiteratureReviewHandout.pdf

O'Connell, F. (1999). *How to run successful high-tech project-based organizations.* Boston: Artech House.

Office of the City Auditor. (2005). B*est practices for information technology governance: A report from the city auditor.* Portland, Ore. Found in Portland State Library main stacks under call # HJ9777.072 P8a No 314B

Parviz, F.R. (2000). Implementing a PMO. *Project Management Journal, 31*(4).

Paul, L. G. (2005). It's your move. *PM Network Magazine,* April 2005.

Pells, D. L. (2007). *Project management governance and oversight.* A paper presented at the 1st UTD Project Management Symposium, Plano, Texas on Aug 6, 2007.

Program Management Group plc. (2007a). *Governance in programme and project management* retrieved from http://www.pm-group.com/downloads/governanceinpmmanagement.pdf.

Program Management Group plc. (2007b). *Project Vs Program Management*. Retrieved Nov 11th, 2007 from http://www.pm-group.com/bestpractice/pdfs/projectvsprogram.pdf

Project Management Institute. (2004). *A guide to the project management body of knowledge* (3rd Ed). Newton Square, Penn: Project Management Institute

Reich, B. H. (2007). Managing knowledge and learning in IT projects: A conceptual framework and guidelines for practice. *Project Management Journal, 38*(2), 13.

Reid, B., & Bourn, J. (2004). *Directing change: A guide to governance of project management*. Retrieved 2004, from www.apm.org.uk.

Robinson, N. (2005). IT Excellence starts with governance. *Cross Currents* (23), 14-17.

Rollins, S. C., & Lanza, R. B. (2005). *Essential project investment governance and reporting: Preventing project fraud and ensuring Sarbanes-Oxley compliance*. Boca Raton: J. Ross.

Sambamurthy, V. (1999). Arrangements for information technology Governance: A theory of multiple contingencies. *MIS Quarterly, 23*(2), 261-290.

Santosus, Megan. (2007). Why you need a project management office. An online article from CIO.com, retrieved Nov 13th, 2007 from http://www.cio.com/article/print/29887

Selig, G. J., & Waterhouse, P. (2006). IT Governance - an integrated framework and roadmap: How to plan, deploy and sustain for competitive advantage. Retrieved Nov 20, 2007 from http://www.technologyexecutivesclub.com/Articles/itgovernance/govroadmap.php

Sullivan, J. (2005). Grassroots governance. *Computerworld, 39*(28), 42-44.

Sun Microsystems. (2007). The business of IT governance CIOs: Our fallen heroes? *Inner Circles.* Retrieved Dec 18, 2007 from http://www.technologyexecutivesclub.com/Articles/itgovernance/fallenheros.php

Taylor, D. & Procter, M. (2007). *The literature review: A few tips on conducting it.* Retrieved Oct 11, 2007 from http://www.utoronto.ca/writing/litrev.html

Weill, P., & Broadbent, M. (1998). *Leveraging the new infrastructure.* Boston: Harvard Business School Press.

Weill, P., & Ross, J. (2004). *IT governance: How top performers manage IT decision rights for superior results*. Boston: Harvard Business School Press.

Welman, J. (2007). The program management office: Establishing, managing and growing the value of a PMO. *Project Management Journal, 38*(2), 102-103.

Wheatley, M. (1994). *Leadership and the new science: Learning about organization from an orderly universe*. San Francisco: Berrell-Koehler

Zarrella, E., Tims, M., Carr, B., & Palk, W. (2005). *Global IT project management survey: KPMG.* Retrieved 11/3 from www.kpmg.com.au/aci/docs/irmpmqa-global-it-pm-survey2005.pdf

Appendix A – Search Results Documentation

Search Engine or Database Used	Key Words/Terms Searched	# of Hits/Useable Hits	Quality of Results	Comments - Useable Reference Found?	Relevance
UO Library Catalog/Journal Search	Project Management	15/1	Fair	Led to listing of journals but only 1 (the PMI publication) had full electronic text available. References Business Source Premier database with references back 10 years	Relevant to all aspects of paper
UO Library OneSearch Articles	PM + Business	217	Poor	Much too broad	
	+Education	103	Poor	Too broad, none relevant	
	+Philosophy	26/3	Fair	General background articles on change management, hi-tech project management & project life cycles	
	+Governance	22/3	fair	Found one excellent article with full text available (Deregulatory Forms by Kim & Prescott); Also references to articles on PMOs but no electronic text available	Deals with the internal response for the need for increased governance related to government regulation

Search Engine or Database Used	Key Words/Terms Searched	# of Hits/Useable Hits	Quality of Results	Useable Reference Found?	Relevance
EBSCO	PM Journal + Change	37/3	Good	Most articles fell outside of desired time frame and/or did not have full text available. 3 articles were both current and available	All three articles dealt with developing a cultural framework (or roadmap) for implementing changes in the project management process.
	PM Journal + PMO	3/3	Excellent	Led to articles by Welman, Hobbs and Parviz	All relevant to PMO aspects of review.
	PM + Governance	5/4	Excellent	Led to four articles (Reich, Miller, Hobbs, Jachimowicz)	
Google Scholar	Project Management Office	100s		Led to many "pay for view" subscription sites; same materials often available via UO portals	
Google Scholar	Enterprise + Governance	100s/1		"The Innovative Enterprise & Corporate Governance" from the Cambridge Journal of Economics	
World Cat Index	Project Management Office			Englund, R. L., Graham, R. J., & Dinsmore, P. C. (2003). *Creating the project office: A manager's guide to leading organizational change.*	Pertains to sub-topic B
Marylhurst Shoen Library Catalog	Project Management	11/4	Fair	O'Connell, F. (1999). *How to run successful high-tech project-based organizations*	Main Topic re: command & control, governance