Pmo Lite for Colorado Housing and Finance Authority

Sheri Lowrance

Regis University

Follow this and additional works at: http://epublications.regis.edu/theses

Part of the Computer Sciences Commons

Recommended Citation
Use of the materials available in the Regis University Thesis Collection (“Collection”) is limited and restricted to those users who agree to comply with the following terms of use. Regis University reserves the right to deny access to the Collection to any person who violates these terms of use or who seeks to or does alter, avoid or supersede the functional conditions, restrictions and limitations of the Collection.

The site may be used only for lawful purposes. The user is solely responsible for knowing and adhering to any and all applicable laws, rules, and regulations relating or pertaining to use of the Collection.

All content in this Collection is owned by and subject to the exclusive control of Regis University and the authors of the materials. It is available only for research purposes and may not be used in violation of copyright laws or for unlawful purposes. The materials may not be downloaded in whole or in part without permission of the copyright holder or as otherwise authorized in the “fair use” standards of the U.S. copyright laws and regulations.
Abstract

The focus of this professional project was to identify the appropriate services for a lightweight project management office (PMO) to implement at a company referred to with the alias Not-For-Profit Organization (NFPO), and then to complete the first phase of this implementation. NFPO had lower project success rates than desired. They wanted to integrate project management practices into their organization in order to be more effective in meeting their mission. In order to determine the best approach to do this, lightweight and heavyweight project management methodologies and PMOs were examined. Based on NFPO’s smaller staff size, their culture, managements’ desire to keep overhead low, and their low project management maturity state, a lightweight PMO (PMO Lite) with a supportive nature was tailored for NFPO’s needs.

This paper presents the results of the first phase of the PMO Lite implementation, which was to implement PMO Lite within the IT division. The next phase planned was to implement PMO Lite company-wide. For the first phase a PMO Lite Project Charter was completed. This document defined the goals and objectives, as well as high level responsibilities and resources for the PMO. A primary service of the PMO was to manage a project management methodology. Next, a simple project management methodology was developed to eventually be used organization-wide for all projects. It incorporated Scrum in a separate project management methodology for the IT application development projects. Document templates and a central document repository were created. IT staff were trained on these methodologies. A business case for NFPO’s PMO Lite was presented. The early results of the implementation were favorable. They included executive support of the PMO, IT staff trained on the project management methodologies, and the successful completion of two Scrum projects.
Acknowledgements

Various members of NFPO’s staff contributed to the completion of this project. Several executive staff helped clarify the issues to be addressed thru this project and gave their encouragement for the implementation of a more structure project management approach for all of NFPO to help address these issues. The staff included the Chief Operations Officer, Asset Management Director, Marketing and Strategic Development Director, Chief Financial Officer, and IT Director. The IT Director was also particularly helpful in championing this endeavor at NFPO and providing guidance for objectives and timelines for implementing PMO Lite. Some other members of the IT division that provided input into the approach or refinement of the project management methodology included the Infrastructure Manager, Solutions Manager, Chief Architect Consultant, and IT Consultant.

Another major contributor to the completion of this project was Shari Plantz-Masters, the thesis advisor, who spent many hours providing guidance and support in improving this paper and project.

A great deal of thanks is also owed to my family and friends who provided encouragement and made some sacrifices in the time and energy I needed to spend working on this thesis.
# Table of Contents

## CHAPTER 1 - INTRODUCTION

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPANY BACKGROUND</td>
<td>1</td>
</tr>
<tr>
<td>COMPANY HISTORY AND LINES OF BUSINESS</td>
<td>2</td>
</tr>
<tr>
<td>MISSION</td>
<td>3</td>
</tr>
<tr>
<td>ORGANIZATIONAL STRUCTURE</td>
<td>3</td>
</tr>
<tr>
<td>CULTURE</td>
<td>4</td>
</tr>
<tr>
<td>INFORMATION TECHNOLOGY GOVERNANCE</td>
<td>5</td>
</tr>
<tr>
<td>ORGANIZATIONAL INCENTIVES</td>
<td>6</td>
</tr>
<tr>
<td>REVIEW OF EXISTING SITUATION</td>
<td>6</td>
</tr>
<tr>
<td>ENTERPRISE-WIDE STRATEGIC PLANNING</td>
<td>6</td>
</tr>
<tr>
<td>PROJECT MANAGEMENT METHODOLOGY</td>
<td>7</td>
</tr>
<tr>
<td>STATEMENT OF PROBLEM</td>
<td>9</td>
</tr>
<tr>
<td>PROPOSED SOLUTION</td>
<td>10</td>
</tr>
<tr>
<td>PROJECT MANAGEMENT METHODOLOGY</td>
<td>10</td>
</tr>
<tr>
<td>WHAT IS A PMO</td>
<td>11</td>
</tr>
<tr>
<td>PMO LITE</td>
<td>12</td>
</tr>
<tr>
<td>PROJECT DEFINITION</td>
<td>13</td>
</tr>
<tr>
<td>PROJECT GOALS AND OBJECTIVES</td>
<td>13</td>
</tr>
<tr>
<td>SCOPE OF THE PROJECT</td>
<td>14</td>
</tr>
<tr>
<td>PROJECT DELIVERABLES</td>
<td>14</td>
</tr>
<tr>
<td>PROJECT CONSTRAINTS</td>
<td>15</td>
</tr>
<tr>
<td>SIGNIFICANCE OF STUDY</td>
<td>15</td>
</tr>
<tr>
<td>SUMMARY</td>
<td>15</td>
</tr>
</tbody>
</table>

## CHAPTER 2 – DIAGNOSING THE PROBLEM

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATEMENT OF PROBLEM (IT INDUSTRY-WIDE)</td>
<td>17</td>
</tr>
<tr>
<td>STATEMENT OF NFPO BUSINESS PROBLEM</td>
<td>18</td>
</tr>
<tr>
<td>NFPO’S IT PROJECT HISTORY</td>
<td>18</td>
</tr>
<tr>
<td>NFPO’S CORPORATE STRATEGIC INITIATIVES (NON-IT PROJECTS) HISTORY</td>
<td>20</td>
</tr>
<tr>
<td>NFPO’S POOR PROJECT MANAGEMENT</td>
<td>21</td>
</tr>
<tr>
<td>SUMMARY</td>
<td>23</td>
</tr>
</tbody>
</table>

## CHAPTER 3 – ACTION PLANNING (RESEARCH AND ALTERNATIVES)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>24</td>
</tr>
<tr>
<td>QUALITATIVE RESEARCH METHODS USED IN PAPER</td>
<td>24</td>
</tr>
<tr>
<td>ACTION RESEARCH</td>
<td>25</td>
</tr>
<tr>
<td>CASE STUDY</td>
<td>25</td>
</tr>
<tr>
<td>PROJECT MANAGEMENT ALTERNATIVES</td>
<td>25</td>
</tr>
<tr>
<td>HEAVYWEIGHT PROJECT MANAGEMENT</td>
<td>26</td>
</tr>
<tr>
<td>PMI’S PROJECT MANAGEMENT BOOK OF KNOWLEDGE (PMBOK).</td>
<td>26</td>
</tr>
<tr>
<td>LIGHTWEIGHT PROJECT MANAGEMENT</td>
<td>30</td>
</tr>
<tr>
<td>AGILE PROJECT MANAGEMENT</td>
<td>32</td>
</tr>
<tr>
<td>Chapter</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td><strong>Scrum Project Management</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Heavyweight versus Lightweight Project Management</strong></td>
</tr>
<tr>
<td>PMO Alternatives</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td><strong>Heavyweight PMO</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Lightweight PMO</strong></td>
</tr>
<tr>
<td>Tailoring Approaches</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td><strong>Developing the Correct Set of Requirements for PMO Lite</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td></td>
<td><strong>CHAPTER 4 – IMPLEMENTED SOLUTION</strong></td>
</tr>
<tr>
<td>Project Management Approach</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td><strong>NFPO-Wide Basic Project Management Framework</strong></td>
</tr>
<tr>
<td></td>
<td><strong>IT Development Scrum Project Management Methodology</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Lite Approach</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Mission</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Goals and Objectives</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Resources</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Functions</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Roles and Responsibilities</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Business Case for PMO Lite</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Project Management Benefits</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Agile and Scrum Project Management Benefits</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Lite Benefits</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Lite Benefits – PMO</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Lite Benefits – Tailoring</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Lite Benefits – NFPO’s PMO Functions</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PMO Lite Benefits – NFPO’s Cost/Benefit</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Implementation</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td></td>
<td><strong>CHAPTER 5 – PROJECT HISTORY</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Project Status</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Project Schedule Status</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Project Scope/Quality Status</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Project Budget/Resource Status</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Results</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Research Results</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Results of Attempt to Prove in the PMO Lite Approach</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Phase One Implementation Results</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Changes From Plan</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td></td>
<td><strong>CHAPTER 6 – LESSONS LEARNED AND NEXT EVOLUTION OF THE PROJECT</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Lessons Learned</strong></td>
</tr>
<tr>
<td></td>
<td><strong>What Worked Well</strong></td>
</tr>
</tbody>
</table>
List of Figures

Figure 1. Develop Project Management Plan: Inputs, Tools and Techniques, and Outputs
(adapted from PMI, 2004) ............................................................................................................. 29

Figure 2. The APM Process Framework ..................................................................................... 33

Figure 3. PMBOK Process Groups mapped to APM ................................................................... 35

Figure 4. The Scrum Framework ................................................................................................ 36

Figure 5. NFPO's Basic Project Management Framework ............................................................ 53

Figure 6. NFPO's IT Development Scrum Project Management Methodology ............................. 59
List of Tables

Table 1: Maturity Levels .................................................................................................................. 9

Table 2: Mapping of the Project Management Processes to the Project Management Process Groups and the Knowledge Areas (adapted from PMI, 2004, p. 70) ................................. 28

Table 3: When to Use Agile versus Heavyweight Methodologies (adapted from Khan, 2004, Table 2) .............................................................................................................................................. 40

Table 4: PMO Lite Costs ................................................................................................................... 78

Table 5: PMO Lite Phase One Scope From PMO Charter. ................................................................. 83

Table 6: Planned Professional Project Deliverables. ........................................................................ 84

Table 7: PMO Lite Implementation Phases ....................................................................................... 95
Chapter 1 - Introduction

A common struggle in many companies is the age-old problem of process versus productivity. When new processes are suggested, there is often a fear that productivity will be reduced. However, this fear is not warranted. Companies that lack formal processes are often less productive than they could be in the marketplace. The Standish Group’s Chaos Report (as cited in Rubinstein, 2007) showed software project success more than doubled from 1994 to 2006, which was largely attributed to improved project management. The purpose of this paper is to demonstrate the value of integrating project management practices into an organization.

One avenue to support this integration was implementing a Project Management Office (PMO) specifically designed to meet the needs and situation of a given organization. The organization in this case was a medium sized mission focused company. Since the Not For Profit Organization (NFPO) was not yet mature with project management methodology, it wanted to improve project success, and was concerned about unnecessary bureaucracy, the best approach was a lightweight PMO, referred to as PMO Lite, which will be explained more thoroughly.

Company Background

For a medium size organization, NFPO had a wide variety of lines of business, which added to the complexity of their projects. It was a mission based organization that served a strong public purpose. It had solid loan and funding processes, which was their primary business; however it was not as mature with implementing many of its strategic initiatives and related projects. For example, other than the IT initiatives, none of the other corporate initiatives had a predefined plan. No milestones and target dates were determined, only the final end dates. Tasks to be performed were primarily discussed during a monthly or bi-monthly meeting on an
ad-hoc basis. NFPO management desired to keep overhead costs low, especially by not adding unnecessary headcount. Yet, they also wanted to effectively and efficiently implement important projects. All of these factors were important when determining an appropriate Project Management Office structure and therefore are expanded upon in the following sections.

**Company History and Lines of Business**

NFPO was created to provide financing for affordable housing for the residents of their state. In addition to loan programs for home ownership and rental property, NFPO also administered two different federal housing programs. One was used for building or rehabilitating affordable rental housing. Another provided rent subsidies to low income tenants. NFPO also had business finance loan programs to help with economic development by providing loans to small businesses, which in turn created jobs in the state. Their final major income producing line of business was loan servicing, which included collecting loan payments, allocating those payments to principal and interest, and paying property taxes and insurance. Non-income producing unique lines of business NFPO provided included bond issuance, treasury management, and asset management to monitor properties’ adherence to loan compliance guidelines.

The end of 2008 NFPO had over 4 billion in assets. With this size of an asset portfolio to manage and the large variety of lines of business, NFPO had a lot of complexity to manage for an organization with a relatively small number of employees. Efficient and effective processes, such as those that could be provided through project management, became even more crucial in this environment.
Mission

NFPO’s mission was to increase the availability of affordable, decent, and accessible housing for lower income residents; and to strengthen the state’s economy by providing financial assistance to businesses. Being a mission oriented business resulted in a very different approach within an organization, from a profit oriented organization, and NFPO was no exception to this. Benefits of projects were often not evaluated against the expected revenues or decrease in costs but instead on the value it offered to the population of the public it serves. This was an important consideration when prioritizing NFPO’s projects. The vision statement set the end of 2004 by the Executive Director was to double the number of households served in five years. They were expected to meet that goal.

Organizational Structure

NFPO was governed by a board of directors. The head of NFPO was the Executive Director. The remainder of the executive team was the Chief Financial Officer, Chief Operating Officer, and General Counsel. There were seven Directors and a Controller, which were the leaders of the divisions. About 170 employees worked at NFPO, with 25 of those in management positions.

NFPO reorganized in 2004 for a flatter and more streamlined structure to increase operating efficiency and performance. It reduced two layers of management and eliminated administrative assistance positions. Since then NFPO had been cautious adding unnecessary positions, especially management positions.

There was not a division, department, or individual at NFPO specifically responsible for the oversight of projects or strategic initiatives at NFPO. The executive team determined the corporate strategic initiatives on an annual basis. The Director of Marketing and Strategic
Development informally assumed the responsibility to update the status of the initiatives on a quarterly basis.

*Culture*

Staff at NFPO were hard working and passionate about the mission of the organization. A primary reason they were motivated was because of the benefits their services provided to individuals, families, and businesses. The work environment was also generally fun, casual, and comfortable. NFPO supported a balance between work and family, encouraged staff to be involved in the community, and was supportive of staff’s professional development. They also encouraged self-direction, team work, and tried to push decisions down to the lowest reasonable level.

There were many smart, dedicated, and experienced staff at NFPO, who were especially knowledgeable in the affordable housing industry. The environment was non-bureaucratic; however, they were required to follow guidelines due to the government programs they administer. NFPO was mission focused, with less emphasis on profit, though financial health was important, often from the perspective of better serving the public. They had good policies and procedures in place for the loan and compliance process. However, their processes to implement new strategic initiatives were not as mature. Historically, there had not been much accountability to the executive team for the progress or on-time and budget completion of the strategic initiatives. The Executive Team also did not require or demonstrate much planning or control in the execution of projects.

Decisions were made at NFPO in a collaborative fashion. This often resulted in good buy into decisions; however the decisions often took more time to reach. There was not always structure around how decisions, new programs, or other initiatives were chosen. They rarely
performed any formal analysis, such as ROI or cost benefit analysis. They also did not usually gather many statistics or industry metrics to assist in choosing or evaluating the success of new undertakings.

*Information Technology (IT) Governance*

In 2001 a committee called the IT Governance Committee (ITGC) was formed. The purpose of this committee was to provide strategic direction regarding IT. In past years, the monthly committee meetings were not well attended, nor were the meetings held on regular basis. However, with the new IT Director, who was hired at NFPO in 2005, this improved. The committee consisted of division directors and was officially chaired by the Chief Financial Officer (CFO). The IT Director effectively led the ITGC monthly meetings. The committee was consulted regarding significant strategic decisions in IT, such as high-level technology architecture or IT’s investment philosophy, as well as technology planning. They provided input into the strategic IT projects to be placed on the annual project roadmap. The committee also reviewed Project Charters when new projects were ready to be started. During each meeting ITGC was provided a one page report summarizing the status of strategic IT projects. In 2008 they also began reviewing a brief report summarizing the project statistics and lessons learned when a strategic project completed.

Since NFPO was a quasi-government entity they were not subject to as many regulations as the private or publicly traded sectors. They needed to comply with the Gramm-Leach-Bliley Act to assure that their customers’ information was kept private. Since NFPO was not publicly traded, they were not required to comply with the Sarbanes Oxley (SOX) Act, which had strict requirements and penalties for maintaining the integrity relating to publicly traded companies’ financial information. However, NFPO did try to comply with SOX as a standard for best
practices. NFPO also adhered to Government Accounting Standards Board (GASB) for accounting guidance. NFPO had an internal auditor and a compliance manager who managed compliance to these regulations.

Organizational Incentives

A new bonus structure for NFPO management was implemented for 2008, which was significant to this project. Prior to 2008 bonuses were not directly tied to measurable performance criteria for strategic initiatives. The bonus structure in prior years were based on employees’ performance reviews, which were tightly linked with project metrics. In 2008 the bonus program changed. Non-management employees earned bonuses only for special recognition on unique activity, which were not always related to strategic initiatives. Management staff, on the other hand, earned a bonus if they meet all of their strategic initiatives. The interpreted definition of what the actual strategic initiatives meant, were influenced by this new bonus structure. When the initiative was suppose to be complete, the scope of the initiative was often reduced so that the management could say the initiative was complete. This reduced the effectiveness of the initiative.

Review of Existing Situation

Enterprise-wide Strategic Planning

In 2002 NFPO began its first efforts towards implementing a formal strategic planning methodology. Prior to this, the approach only focused on annual division goals rather than enterprise-wide strategic planning. The strategic planning tool chosen in 2002 was the Balanced Scorecard method. This “provides executives with a comprehensive framework that translates a company’s strategic objectives into a coherent set of performance measures. Much more than a
measurement exercise, the balanced scorecard is a measurement system that can motivate breakthrough improvements in such critical areas as product, process, customer, and market development” (Kaplan & Norton, 1993).

NFPO struggled with adhering to and expanding the use of the Balanced Scorecard method beyond setting initiatives at the corporate level. In 2007 they withdrew use of the Balanced Scorecard. They did not have as formal or structured of a methodology, but maintained corporate strategic initiatives, which were defined the beginning of each year.

Project Management Methodology

In 2002 the Information Technology division at NFPO hired their first full-time Project Manager. As a result, they slowly began using more formal project management procedures and documentation to implement software packages and develop software. The project management approach had similar aspects as that found with Project Management Institute’s (PMI) Project Management Body of Knowledge (PMBOK). Prior to this, the processes were not well defined and were ad hoc.

In early 2005 NFPO’s IT division made a failed attempt to start using Microsoft’s Solution Framework (MSF) for Project Management and software development. They originally started out by sending the Solutions team to an MSF class. No further structure, guidance, or direction was given other than the class, and consequently MSF was never implemented at NFPO.

In late 2005 a new large development project began and the project team decided to use an agile approach. The three contract programmers and a contract Project Manager/Business Analyst had used Agile before. A few NFPO staff involved in the project became familiar with this approach as the project progressed. However, there was no defined methodology, nor was
there any Agile training for the rest of the IT staff. The only distinction with the new agile methodology the IT Solutions team then followed was that it was an iterative development approach and they intended to make the documentation more lightweight. The iterations tended to last between six to eight weeks. The agile approach didn’t provide enough customer collaboration or team communication.

Beginning in 2006 NFPO hired experienced and dedicated contractors to implement important new IT software implementations. Without a well defined project management methodology, there had not been a great deal of consistency with the approaches and documentation used by the various contract Project Managers.

The remainder of NFPO did not use formal project management to implement new products or initiatives. Many NFPO staff were not aware of what project management involved or the benefits of its use. Each corporate initiative was managed in an ad-hoc manner. There was no long term project planning that occurred for the initiative. The typical process involved assigning an owner to an initiative and that person usually coordinated meetings to make strides to complete the initiatives. At those meetings the next action items for the project were typically determined.

Rad and Levin patterned a maturity model after the Software Engineering Institute’s Capability Maturity Model (CMMI) (2002, Section 5.2). Using this as a guide, NFPO’s IT management staff ranked their IT Support Department as a Level 2 and the IT Infrastructure Department as Level 1. IT management staff also ranked NFPO’s non-IT divisions at a Level 1. Table 1 shows these maturity levels.
Table 1: Maturity Levels.

<table>
<thead>
<tr>
<th>Level</th>
<th>Short Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Optimizing, Adaptive</td>
<td>Organizational Use of Quantitative Data to Conduct Continuous Improvement</td>
</tr>
<tr>
<td>4</td>
<td>Comprehensive, Managed</td>
<td>Organization Commits to a PM Culture and Captures Quantified Performance Data</td>
</tr>
<tr>
<td>3</td>
<td>Integrated, Organized,</td>
<td>Organization Implements PM Processes and Gives Recognition to Successful PM Processes</td>
</tr>
<tr>
<td></td>
<td>Defined</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Consistent, Abbreviated,</td>
<td>Localized Implementation of Formalized PM Processes</td>
</tr>
<tr>
<td></td>
<td>Repeatable</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Ad hoc, Initial</td>
<td>Inconsistent Procedures and No Formal Guidelines</td>
</tr>
</tbody>
</table>

Statement of Problem

The percent of NFPO’s IT projects completed on time, within budget, and within scope had been similar to the IT industry, which was only at about 35% (Rubinstein, 2007). As NFPO hired more experienced and dedicated IT project staff, the success rates improved. However, there was still room for improvement with IT projects. Also, NFPO’s management wanted all their corporate strategic initiatives to be successfully completed according to plan. There were delayed opportunities as a result of strategic projects not being fully implemented in a more timely manner. This thesis included determining the specific reasons for NFPO’s lower success
rates and recommended solutions to resolve these problems so that NFPO’s projects could be more successful.

Proposed Solution

Project Management Methodology

Project management includes “identifying requirements; establishing clear and achievable objectives; balancing the competing demands for quality, scope, time and cost; adapting the specifications, plans, and approach to the different concerns and expectations of the various stakeholders” (Project Management Institute, 2004, p. 8). Organizations can benefit greatly from developing a project management methodology to maximize the effectiveness of their resources relating to projects, and to increase the likelihood of success. The project management methodology should be adaptable based on the size, complexity, risks, and type of project. I proposed that NFPO have a more structured project management methodology, which expanded across most areas within NFPO, beginning with Information Technology.

Project planning is an important element to the success of a project. At a minimum, the project objectives and scope need to be established and documented. The project manager, as well as stakeholders impacted by the project should be identified. A project sponsor, who has decision making authority and can champion the project to senior management, should also be identified. Project team members with their roles and responsibilities should be documented and communicated to project team members. Other important items that should be documented include project success criteria, requirements, timeline, and project budget. Each of these best practices were recommended for NFPO.

Another recommended practice for projects is to archive project documentation and to include a post mortem analysis after project completion at least. Ideally, lessons learned should
be documented. Lessons learned should include what went well with the project and what could have been improved. This is helpful to achieve continuous improvement for future projects.

Some other project success criteria that are addressed with iterative agile approaches include strong collaboration with the customer to gather requirements as close to the development cycle as possible; adaptation to change; strong communication; prioritizing and then implementing the customer’s most important features; reducing time and costs spent writing or reading documentation that does not add a lot of value; and managing risks early in the project.

One of the lightweight project management approaches investigated through the course of this project to establish a PMO Lite at NFPO was Scrum. Scrum is a proven and flexible agile project management methodology that is widely recognized in the IT industry. Originally, this project began by developing and documenting NFPO’s own methodology. However, after further consideration, NFPO decided to use Scrum as a basis to this methodology since it was defined, proven, and met the recommended elements and practices mentioned above. Scrum and NFPO’s specific implementation are further explained in Chapter 4.

What is a PMO

Project Management Institute (PMI)’s *A Guide to the Project Management Body of Knowledge (PMBOK Guide), 3rd Edition* states that “a project management office (PMO) is an organizational unit to centralize and coordinate the management of projects under its domain” (p. 17). A PMO can provide many different project related services to an organization. These can include tools, such as project management software, training, standardized policies and procedures, high level oversight of projects, or direct end-to-end management of select projects.

Dr. Parviz F. Rad identified two major categories of functions of a PMO:
Those dealing with people, and those dealing with things. The people-related activities include leadership, conflict management, contract development, negotiations, and communications within the team and outside the team. Those activities dealing with things include skills and tools required in planning and managing scope, estimate, cost, schedule, and risk profile. Other things tools include monitoring procedures, auditing checklists, performance metrics, documentation templates, and reporting standards. (2001, p. 3)

Many publications interchange PMO for Project Management Office, Program Management Office, or Portfolio Management Office (Project Management Institute, 2004; Sliger, 2007; Tengshe, 2007). Celar (2007) states that today PMOs are dealing more with program management and portfolio management. This transition with a more enterprise-wide project management culture moves a tactical PMO into a strategic one (p. 135). In the future, NFPO may consider having a more strategic focus for their PMO and expanding the term to Program or Portfolio Management Office. But, for purposes of this project and paper, PMO refers to Project Management Office.

**PMO Lite**

PMO Lite is a lightweight approach that I formulated and recommended with input from NFPO IT staff, to be implemented at NFPO to manage important projects. A PMO should be implemented that is compatible with the culture of the organization. Given that NFPO was a medium sized organization that was averse to adding overhead, particularly with hiring new positions, did not have mature processes for managing initiatives, had a collaborative culture, and all staff did not yet fully see the value of the added structure introduced with project management, I suggested a scaled-down version of a PMO. The reasons for a scaled-down
version were that management was more likely to support a change that had low costs and was not too intrusive to normal business operations. A lightweight PMO helped foster a culture that values project management and provided the foundation for project management to be built upon. It also allowed the implementation of the PMO components that brought the most benefit for the least cost. The goal was to reduce the costs and bureaucracy associated with the PMO, while still improving the effectiveness of projects at NFPO.

The project documented in this paper is how the best components were determined to be included in a PMO for NFPO. A supportive rather than controlling PMO helped lend itself to a more lightweight approach that matched the culture and needs of NFPO and was more likely to be accepted. PMO Lite was assumed to help support a more consistent project management methodology that would bring significant benefits to NFPO. The specific elements of the PMO were determined through Active Research, which included staff interviews, and review of documents and text pertaining to the subject. The specific findings and recommended approach are explained in Chapter 4.

**Project Definition**

*Project Goals and Objectives*

The primary goal of this project was to design some process improvements in order to provide the structure to improve project success. This was planned to be accomplished by meeting the following project objectives:

- Standardize major components of NFPO’s project management methodology
- Determine the correct set of requirements for a PMO for NFPO
- Identify a phased PMO implementation plan
• Assure project management and PMO approaches are lightweight, requiring minimum overhead costs and processes
• Provide the structure to increase IT’s and ultimately NFPO’s project management maturity level

Scope of the Project

The scope of this paper includes formulating a PMO Lite approach by performing scholarly research, examination of NFPO’s project history, and interviews with NFPO staff. It also included building a business case for project management and for PMO Lite in order to receive approval for this initiative. The scope also included implementing the first phase of the PMO at NFPO, which included developing a project management methodology and creating some of the artifacts, such as project management document templates, to support that methodology.

The scope of this project did not include many of the detailed aspects of standardizing a project management methodology, nor did it include a detailed plan for implementing a PMO. The detailed organizational structure of the PMO was also not discussed. This project did not include comprehensive documentation samples or procedures. The scope of this project included documenting NFPO’s progress and results of the PMO Lite implementation at the time of completion of this project.

Project Deliverables

The following deliverables were planned as a result of this project:

• High level project management process diagram
- Project management document repository structure on SharePoint with major project document templates
- Project management training material
- PMO Lite business case
- PMO Lite Charter, including goals, objectives, high-level roles and responsibilities, budget, and timeline
- High level phased PMO implementation plan

Project Constraints

There were three primary constraints imposed for phase one of this project. The first was that only 10% of one full-time employee’s time could be utilized to implement the PMO. There was also no budget allocated for this project. The first phase of the PMO was also targeted to be complete by December 31, 2008.

Significance of Study

Besides the contribution to NFPO, this study showed how a PMO was tailored for a small-to-medium sized organization. It also presented NFPO as a case study in implementing both Scrum for project management and a new lightweight Project Management Office.

Summary

Adding additional standardization and structure to project management functions at a small-to-medium size organization, such as NFPO, provides significant value by improving project success. A PMO helps provide that structure, and a lightweight version is easier to sell to an organization that is at a lower maturity level in project management, and is concerned about
adding more overhead or bureaucracy. Determining the best components to include in the PMO should be based on the needs and culture of the organization, which are examined in this paper.
Chapter 2 – Diagnosing the Problem

Statement of Problem (IT Industry-wide)

Industry-wide, software projects historically have had low success rates, though there has been improvement in the last decade. The Standish Group has published The Chaos Report (as cited in Rubinstein, 2007) every few years since 1994. The Chaos Report is based on a survey of a large number of IT projects. In 1994 16.2% of projects were completed on time, on budget, and met the requirements. In 2006 this number increased to 35%. Projects identified as challenged, which meant they had time or cost overruns or did not completely meet the needs of the users, declined from 52.7% in 1994 to 46% in 2006. Rubinstein reported that Jim Johnson, chairman of The Standish Group gave three reasons for software quality improvement. These were improved project management, iterative development, and the Web.

The Standish Group estimated U.S. IT projects in 2002 wasted 140 billion dollars out of the 250 billion dollars in project spending (Business Wire, 2003). With this large amount of waste and lost or delayed opportunities, this is an important industry-wide problem to be resolved.

Boonzaaier and Loggerenberg (2006) cite various reasons for the low success rates of software projects. Some of these include insufficient project planning, poor communication, lack of a clear vision, project managers or users lacking appropriate skills or training, and not breaking down large and complex projects into manageable sub-projects. Some reports indicated poor results are mainly attributable to deteriorating collaborative working relationships in project teams, poor user involvement, and a gross lack of user and stakeholder involvement at the start of, and during the project lifecycle. (pp. 206-207)
Statement of NFPO Business Problem

Like many organizations, NFPO did not have an optimal success rate for all their projects. However, NFPO was successful in their business and was well respected in the affordable housing industry. They introduced innovative loan programs and funding structures, were financially successful, and met their public purpose very well. There was a general sense that NFPO was successful in enough of their projects. However, like all successful organizations, they wanted to continue to raise the bar and be even more successful.

The historical success rates of projects, or the lost opportunities or increased risks from unsuccessful projects was not known at NFPO because they did not keep a history of these, nor did they perform much analysis on quantifiable benefits of these projects. It was more difficult to assess the extent of the impact to the business due to these factors. In an attempt to provide these statistics and help build a business case, some anecdotal history was gathered, which is presented below.

NFPO’s IT Project History

A simple survey was sent to key NFPO staff that have knowledge of some of the IT projects in order to access the project success rates (see Appendix A). The survey asked if the respondent agreed with the statement that NFPO’s IT project success rate was comparable to the industry standard. The industry statistics provided were from the Standish Group who reported that in 1994 16.2% of projects were successful (as cited in Rubinstein, 2007). In 2006 this number improved to 35%. Success was defined as being completed on time, on budget, and meeting user requirements. The twelve staff who responded to the survey agreed that NFPO’s IT project success rates over the years was comparable to the IT industry standard, with the exception that two believed that NFPO’s success rate was higher in 2006 and recent years.
Since early 2006 NFPO completed more strategic IT development projects. This was mainly due to the new IT Director who improved IT leadership. A major contributor to IT’s ability to complete more strategic projects was the hiring of additional contract staff to work on the projects. The end of 2008, IT had 10 project contract staff and 14 full-time staff.

Since specific historical project information was not available, the project statistical information for 2007 and 2008 were examined.

The IT Solutions team originally planned 28 different projects for 2007. Only seven of these projects were completed successfully, which meant the approved scope of the project was completed within the approved budget and schedule. Each of the seven successful projects were classified as a strategic project and therefore received the most attention. There were 10 IT strategic projects. This represented a 25% success rate for all the projects, and a 70% success rate for the strategic projects. Eleven of the 28 projects were cancelled. Ten of the 28 were delayed and did not begin in 2007.

In 2007 the Infrastructure department planned to complete 38 projects. Of these, one was considered strategic. This strategic project was completed. However, only about 24% of the remaining IT infrastructure projects were completed in 2007. No reliable statistics were available on if these completed projects were on time and within budget.

In 2008 NFPO decided to classify seven IT project as strategic. For these projects, the goal was to be within 10% of the schedule and within budget. The project budgets had an additional 30% added for contingency. 100% of these IT projects met the budget and schedule goals; however, the project scope was often reduced to achieve these targets. In 2008 a roadmap was not created for the other non-strategic projects, so no statistics were available for those.
Some reasons cited for the more recent IT projects’ lack of success were turnover in team members, insufficient IT staff resource plans, inadequate availability of business staff for project work, lack of midcourse corrections as new information became apparent, poor scope management, inadequate definition of business requirements, insufficient testing, and risks that were not adequately planned, especially as it related to underperforming software vendors.

**NFPO’s Corporate Strategic Initiatives (Non-IT Projects) History**

NFPO did not keep a readily available written history of the successfulness of their corporate strategic initiatives prior to 2008. In an attempt to quantify these figures, a senior executive provided statistics for the 2007 and 2008 initiatives. Ten of the 15 initiatives in 2007 met their goal of 67%. In 2008 there were 14 initiatives. Twelve of the initiatives met their goal. Two initiatives did not meet their goal. This was a success rate of 86%. NFPO expected all corporate strategic initiatives to meet their goals; therefore these statistics were deemed not satisfactory.

Some of the reasons executives stated for the lower success rate on non-IT strategic initiatives included ad-hoc process that lacked organization; lower visibility into initiatives and their status, which lead to a reduced sense of connection to the initiative; poor planning, which resulted in important issues left unaddressed; and staff resource constraints.

Return on Investment (ROI) and other cost-benefit metrics were not yet gathered for NFPO projects. Therefore, there were no statistics available regarding the business impact regarding the low success rates of NFPO projects. The impact of the missed opportunities from the five strategic initiatives that did not complete in 2007 and two in 2008 fell into three main categories including direct impact on households served, process improvements, and employee satisfaction or development.
Two unsuccessful initiatives directly impacted the number of household’s NFPO served. One was to develop a Private Activity Bond management strategy. This initiative completed one year behind schedule. At completion over 52 million dollars in capital was created, which was estimated to increase about 500 households served. The other initiative in this category was to expand taxable product offerings, increasing taxable production by 30%, which accounted for over 18 million dollars, and was estimated to increase households served by about 170.

Two unsuccessful initiatives related to process improvements. One was to develop a system to track progress to goals and another was to implement forums to promote innovation. The lost opportunities for these failed initiatives were hard to quantify, except to say there likely was some reduction in innovation and effectiveness in meeting goals.

The third category of unsuccessful initiatives were related to employee job satisfaction and development. The impacts of these missed opportunities included lower employee morale and reduced skills or knowledge, which ultimately impacted NFPO’s overall success.

*NFPO’s Poor Project Management*

NFPO did not have a well defined project management methodology that was followed consistently for most of their projects. Even within the IT Solutions department, which had the best project management within NFPO, the project management processes and documents varied significantly between projects. In fact, some of the IT Solution’s projects were managed in an ad-hoc manner, not having a project schedule, project status reporting, nor proper monitoring of project progress. Without a standardized methodology team members dis not understand the process as well and they were not as efficient. Also, without a defined methodology, the structure was not in place to record project management processes to be enhanced or practiced in order to assure continual process improvement.
The Infrastructure division of IT had very poor project management approaches. They did not have any defined process that they followed on any of their projects, with the exception of the few that involved contractors. Many of their projects were of a smaller scope and did not involve more than a few staff on the project. So for the most part, they were able to get by with their more ad-hoc approach to project completion. However, by following some best practices with project management, their success rate could have been improved.

For NFPO’s non-IT projects, there was no project management approach used. Most of the executives and managers at NFPO were not familiar with project management. A few years prior NFPO began assigning a primary contact for each of the dozen or so annual strategic initiatives, as well as defining metrics or projects, to achieve these initiatives. Most of the initiatives did not have timelines, other than to be complete by the end of the year. Each of the non-IT projects did not have a specific budget, but instead were incorporated within the entire division or corporate budget. There were no other forms of project management or control, such as for resources, risks, scope, or quality. Often the status of some of the initiatives were discussed during the monthly management team meeting. There was no formal closeout of corporate projects, nor any discussion of lessons learned to improve future endeavors.

A significant area for improvement that would have increased the quality of the projects delivered for all of NFPO was better definition of the scope of the project and accountability to meet the scope criteria. Typically, of the triple constraints of a project, cost, time, and scope (or quality), scope is typically the most important. However, at NFPO, this was the one variable that was not measured when assessing if a project was successful. The reasons stated by key staff for this was that scope was too hard to measure. However, this could have been improved.
Summary

NFPO’s successful completion of corporate initiatives and IT projects showed significant room for improvement. Management was not satisfied with the success rates for their projects and wanted to raise the bar to achieve greater success. The opportunity costs from the prior two years of projects not completed had considerable impact to NFPO’s business and the customers they served. These opportunity costs included reduced business efficiencies, decreased external customer satisfaction, increased financial risk, increased system maintenance cost for IT infrastructure, increased IT infrastructure risks, lower employee development and morale, and most importantly, a reduction in the number of households served. NFPO’s project management could have been improved in order to help projects be implemented sooner, with reduced costs, and improved quality.
Chapter 3 – Action Planning

Introduction

There are various project management approaches that can be executed with varying levels of rigor to help improve project success. These approaches are categorized into lightweight or heavyweight approaches. A PMO can provide the structure to support the chosen project management method. The structure of PMO can also be classified as lightweight or heavyweight. The most effective project management and PMO for an organization should be adapted to best fit their needs and culture.

In most literature, lightweight approaches are often associated with agile methodologies. However, in reality there is a distinction between agile and lightweight. Agile generally means that it is easily adapted to change. Lightweight approaches do not have a lot of bureaucracy. Heavyweight, on the other hand, may have many checkpoints and processes or extensive documentation. “Agilists believe that you cannot achieve agility with heaviness. According to them, ‘Heavy Agile’ is an oxymoron. One has to be light to be called agile, and the reason for this lightness is to counteract change” (Khan 2004). In this paper, the terms agile and lightweight approaches are used interchangeably.

Qualitative Research Methods Used in Paper

In order to determine the best approach to improve project success at NFPO, two qualitative research methods of action research and a case study were used. “Qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. Examples of qualitative methods are action research, case study research
and ethnography. Qualitative data sources include observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher’s impressions and reactions” (Myers, 2008).

Action Research

The first qualitative research method used in this project was action research. Research of documents and texts relating to project management, PMOs, and lightweight methodologies were performed first. With this knowledge at hand, interviews were conducted with some of NFPO’s executives to clarify problems related to project success at NFPO. Next, progressive problem solving began with NFPO’s IT department staff to solidify objectives and define a project management framework. This reflective process continued to also define the important elements of a lightweight PMO for NFPO and how best to implement these changes.

Case Study

NFPO was used as a case study for determining the best approach for improving project success in a small to medium size organization. The process of determining the best approach, as well as the successfulness of the specific approach, were each researched and presented in this paper. The implementation of a PMO Lite was not well seasoned by the conclusion of this project. Therefore, the evaluation of the successfulness of the PMO Lite is not comprehensive.

Project Management Alternatives

There are a variety of project management approaches available with thousands of books and articles discussing variations on these approaches. The most widely recognized project management method in the United States is Project Management Institute’s (PMI) *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*. This framework is presented under
the category of heavyweight project management. Two lightweight approaches presented are Agile Project Management and Scrum Project Management.

**Heavyweight Project Management**

According to Hataria, the following are characteristics of heavyweight methodologies: detail plan oriented, detailed documentation, predictive and repeatable approach, process oriented with specific roles and tasks associated with those roles, and tool oriented (2006). Any methodology can become heavyweight. Capability Maturity Model Level 3 practices can also increase bureaucracy, making it harder to get things done (Schwaber, 2004, p. 33).

A couple of the main project management approaches that are considered heavyweight by many are PRINCE2 and PMI’s PMBOK. Since the one most commonly known in the U.S. is PMI’s *PMBOK Guide*, it is reviewed below in more depth.

*PMI’s Project Management Book of Knowledge (PMBOK).*

The PMBOK framework identifies generally accepted best practices for project management. The correct application of these techniques are said to increase the chances for success for a wide variety of projects. These best practices are identified through processes, which are grouped into five process groups and nine knowledge areas. Each process includes inputs, tools and techniques, and outputs identified by PMI. (PMI, 2004)

The five project management process groups include initiating, planning, executing, monitoring and control, and closing. These process groups are somewhat performed in order; however, there is overlap in the execution of these groups of processes.

The nine project management knowledge areas consist of the following: project management integration, project scope management, project time management, project cost
management, project quality management, project human resource management, project communications management, project risk management, and project procurement management. The processes within these knowledge areas, also categorized by process group, are illustrated in Table 2. For example, the project management integration knowledge area includes the process to develop project charter, develop preliminary project scope statement, and develop project management plan, among others.
Table 2: Mapping of the Project Management Processes to the Project Management Process Groups and the Knowledge Areas (adapted from PMI, 2004, p. 70).

<table>
<thead>
<tr>
<th>Knowledge Area Processes</th>
<th>Project Management Process Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management Integration</td>
<td>Develop Project Charter; Develop Preliminary Project Scope Statement</td>
</tr>
<tr>
<td>Project Scope Management</td>
<td>Scope Planning; Scope Definition; Create WBS</td>
</tr>
<tr>
<td>Project Time Management</td>
<td>Activity Definition; Activity Sequencing; Activity Resource Estimating; Activity duration Estimating; Schedule Development</td>
</tr>
<tr>
<td>Project Cost Management</td>
<td>Cost Estimation; Cost Budgeting</td>
</tr>
<tr>
<td>Project Quality Management</td>
<td>Quality Planning</td>
</tr>
<tr>
<td>Project Human Resource Management</td>
<td>Human Resource Planning</td>
</tr>
<tr>
<td>Project Communication Management</td>
<td>Communications Planning</td>
</tr>
<tr>
<td>Project Risk Management</td>
<td>Risk Management Planning; Risk Identification; Qualitative Risk Analysis; Quantitative Risk Analysis; Risk Response Planning</td>
</tr>
<tr>
<td>Project Procurement Management</td>
<td>Plan Purchases &amp; Acquisitions; Plan Contracting</td>
</tr>
</tbody>
</table>
The PMBOK Guide identifies process inputs, tools and techniques, and outputs for each process within each knowledge area or process group. There are 44 different project management processes identified in PMBOK. The process to develop the project management plan includes the following 4 inputs: preliminary project scope statement, project management processes, enterprise environmental factors, and organizational process assets. Figure 1 contains a sample from the PMBOK Guide for the develop project management plan process.

Figure 1. Develop Project Management Plan: Inputs, Tools and Techniques, and Outputs (adapted from PMI, 2004).

The 44 processes with their unique associated inputs, tools and techniques, and outputs are quite complex. The PMBOK Guide is a comprehensive framework containing all the project management best practices. For a critical and very large project, following each of these practices can help assure all important elements are properly planned, controlled, and executed. The additional time and expense it would take to perform these tasks could well be worth it for multi-million dollar projects with a lot of risk or a very large number of team members.

It is not the intent of PMI that every project follows all of these practices. ”The project manager, in collaboration with the project team, is always responsible for determine what processes are appropriate, and the appropriate degree of rigor for each process, for any given project” (Project Management Institute, 2004, p. 37). However, making this determination from
all the material in the Guide can be a daunting task, especially for newer project managers. It is easy to see why this could be viewed as a heavyweight framework.

The PMBOK Guide also states “many of the processes within project management are iterative because of the existence of, and necessity for, progressive elaboration in a project throughout the project’s life cycle” (p.8). This iterative quality is one of the guiding principles of agile methodologies. PMI proponents argue that PMBOK principles can also be used in agile projects (Sliger, 2007; Udi & Koppensteiner, 2003).

**Lightweight Project Management**

Lightweight, or agile project management, is based on agile principles which began with software development. There are a variety of agile software development methods. Some of the most popular include eXtreme Programming (XP), Scrum, Dynamic Systems Development Method (DSDM), Feature Driven Development (FDD), and Adaptive Software Development (Khan, 2004).

The primary values associated with agile approaches can be seen in the Agile Manifesto, which was created in 2001 by a group of 16 agile representatives from different agile approaches. The Agile Manifesto states:

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan
That is, while there is value in the items on the right, we value the items on the left more. (Agilemanifesto.org, n.d.).

The group that created the Agile Manifesto is well known and respected in the agile world. They also defined 12 principles behind the Agile Manifesto. The agile principles that apply to project management are as follows:

1. Satisfying the customer thru early and continuous deliver is our highest priority
2. Welcome changing requirements
3. Developers and business people must work together daily
4. Projects are built around motivated and trusted individuals
5. Face-to-face conversations are the most effective and efficient method of communication
6. The primary measure of progress is working software
7. Simplicity is essential
8. Self-organizing teams produce the best architectures, requirements, and design
9. Reflection and adjustments by the team to become more effective occurs at regular intervals

(Agilemanifesto.org, n.d.).

Each of the nine knowledge areas presented within PMBOK can support and benefit from these agile principles. Communication management could include more face-to-face conversations. Scope management is more agile when it is more flexible towards changing requirements. Agile principles also help the risk management knowledge area. For example, the agile principle of reflection and adjustments at regular intervals helps plan for and adapt to project risks.
Project management documentation and processes can also be more agile by being kept simple and lightweight. Agile advocates creating just enough documentation to serve the purpose (Highsmith & Wysocki, 2006). Interpersonal communication and teamwork is substituted for more extensive documentation or formal signoffs (Coldewey, Eckstein, & McBreen, 2000).

Sliger (2007) points out that plan-driven and agile projects recognize the triple constraint of cost, schedule, and scope. However, a key difference with the agile approach is that since scope changes occur often, then schedule and cost should be fixed. In contrast, plan-driven approaches lock down requirements. This is a significant paradigm shift from traditional project management. It is a lot easier to meet the cost and schedule constraints when these are set than it is to determine which features can be accomplished within those constraints.

*Agile Project Management*

Jim Highsmith, who is one of the authors of the Agile Manifesto, wrote a book titled *Agile Project Management* (2004). In this book he outlined an adaptable methodology to follow for iterative development of a product or software. He noted that this framework can be scaled and used for large projects also. Agile Project Management (APM) includes the following six primary guiding principles: keep it simple; processes are to be generative, not prescriptive; maintain alignment with agile values and principles; keep focused on delivery and adding value, not compliance; focus on the minimal set, doing just enough to get the job done; and remain mutually supportive, which involves having a system of practices to support these guiding principles and the success of the project.
Highsmith outlined five stages for APM, which included Envision, Speculate, Explore, Adapt, and Close (see Figure 2). Each of the phases included recommended practices and sub practices.

![Figure 2. The APM Process Framework.](image)

Note. From *Innovation & quality in healthcare IT: The Agile revolution* by J. Highsmith, 2004, Figure 4.1. Copyright by Jim Highsmith. Reprinted with permission.

The first phase is Envision, which fits well with the first process group from PMI. PMI’s Initiation group includes defining important project elements in the Project Charter and the Scope Statement. The Envision phase of APM has four primary practices. During the first practice, Product Vision, Highsmith recommends the team create a vision box and elevator test statement to help solidify the primary customer benefits and company goals for the project. The product architecture is also defined in the form of a Feature Breakdown Structure (FBS), along with the guiding principles to be used for the project. This information is then documented in a Project Data Sheet. The second practice in the Envision phase is defining the objectives and
constraints, which define the project scope. The third practice is project community, which includes getting the right people on the team. And the last practice in this phase is approach, which includes tailoring the process and practices for this particular project.

The second phase, Speculate, further refines the features and develops a release plan. This correlates with PMI’s Planning group. With APM, a feature list is developed and then a card is created for each feature. The card defines various elements about the given feature, including a description of the feature, the planned iteration, dependencies, requirement uncertainty level, and estimated work effort. Release planning is the second practice in this phase. In the initial pass of this phase, it includes developing a high level plan, including releases, milestones, and iteration plan. For each iteration, these elements are defined further for the features to be included in a particular iteration.

Just like PMI’s Executing group, the Explore phase is repeated for each iteration and is where the features are developed and tested. The three Explore practices include deliver on vision and objectives, which involves workload management; technical practices, which focuses on low-cost change; and project community. Project community sub-practices include coaching and team development, daily team integration meetings, participatory decision making, and daily interactions with the customer team.

The Adapt phase is also repeated for each iteration and includes just one practice. The practice is product, project, and team review and adaptive action. During this practice, project status reports are created, and the team performs evaluations of the team performance, as well as identifying any areas for improvement in the processes for this given project. The Adapt phase corresponds to the Controlling group of processes of PMI.
The Close phase is also a single practice. Just like PMI’s Closing group, this phase is just performed once at the end of a project. It includes a celebration, releasing resources, and performing an entire project retrospective, whose purpose is to pass on knowledge for future projects.

Sliger (2007) shows how the PMBOK practices are compatible with agile practices, which is illustrated in Figure 3.

![Figure 3. PMBOK Process Groups mapped to APM.](image)


**Scrum Project Management**

Ken Schwaber and Jeff Sutherland introduced Scrum as a development methodology in 1995 (Ramsin & Paige, 2008). Scrum is an agile development approach that also defines a project management approach. It is a commonly used agile methodology. VersionOne, a
software vendor for Agile project management tools, found from their 2008 survey of over 2,300 global respondents that 71% use Scrum as their agile methodology (2008). The basic tenets emphasized in Scrum are very similar to all agile methodologies, which include the following: iterative, incremental process skeleton; cross-functional, self-managing, and self-organizing teams; time-boxing; and visibility. See Figure 4 for a view of the Scrum Process.

Figure 4. The Scrum Framework.


The primary artifacts in Scrum include the Product Backlog, Sprint Backlog, and increments of potentially shippable product functionality. The Product Backlog is an emerging prioritized list of functional and non-functional requirements. Included with this is a burn-down chart which shows the number of outstanding requirements. The Sprint Backlog is a list of work or tasks that the team defines to complete the Product Backlog selected for that iteration, which
is referred to as a Sprint. A unique element of Scrum is the potentially shippable product functionality, which is a complete and tested product or system features delivered at the end of each Sprint. (Schwaber, 2004, p. 10-13).

Like APM, the flow of Scrum begins with the development of the vision of the system. A Sprint planning meeting kicks off a Sprint, which is typically 30 days. The meeting involves the Product Owner and Team collaborating on what features to include in the next Sprint. The meeting is time-boxed at eight hours. The first four hours is spent with the Product Owner presenting the highest priority features in the Product Backlog. The second four hours is spent planning the Sprint, including determining the initial list of features for the Sprint Backlog. (Schwaber, 2004, p. 7-9). This critical meeting is a condensed version of PMI’s Planning activities. Due to the highest priority product features identified by the Product Owner being included early in the Scrum project, early delivery of business value is maximized. According to Sutherland (2001) "Experience has shown that SCRUM project planning will consistently produce a faster path to the end goal than any other form of project planning reported to date, with less administration overhead than any previously reported approach."

PMI has a Project Communication Management knowledge area which has activities during the Planning, Executing, and Controlling groups. Besides the planning meetings, another way Scrum meets the communication activities is by holding 15 minute daily meetings for each team member to state what they did since the last meeting, what they plan to do that day, and any obstacles to them completing their tasks. Agile approaches focus much more on verbal communication than PMI, which contains many written forms of communication.

PMI’s PMBOK (2004) advocates the plan-do-check-act cycle as a basis for quality improvement (p. 193). Agile methods like Scrum build in this introspection at the end of each
iteration. Scrum has a Sprint Review Meeting at the end of each Sprint, which includes a retrospective to adapt and improve future Sprints. This final step in the iteration fits with PMI’s Closing process group.

There are three primary roles in a Scrum. The responsibilities for each of these roles are described below:

- **Scrum Master (project manager)**
  - Responsible for the Scrum process
  - Teaches Scrum to everyone involved in the project
  - Implement Scrum so it fits within an organization’s culture and still delivers the expected benefits

- **Product Owner (customer)**
  - Representing the interests of everyone with a stake in the project & its resulting system
  - Achieves initial and ongoing funding
  - Creates initial overall requirements
  - Creates return on investment (ROI) objectives
  - Creates release plans based on frequently prioritizing and using the Product Backlog to produce most valuable functionality first

- **Team**
  - Develop functionality
  - Figure out how to turn Product Backlog into increment of functionality within an iteration (creates Sprint Backlog)
  - Manage their own work to deliver agreed upon functionality
Since PMI’s PMBOK Guide is a comprehensive framework, nearly all project management methodologies can fit into the framework, and Agile is no exception. Performed properly, both APM and Scrum performs all the general activities mentioned in the PMBOK with some minor exceptions. These agile methodologies do not specifically address budgeting or procurement. However, they are easily adapted within the methodologies. For example, budgeting and procurement related activities could be requirements or tasks placed in the Product and Sprint Backlogs. Both APM and Scrum are simpler methodologies to learn and to follow. However, PMI’s plan and documentation driven approach are considered by some, to be more appropriate in certain situations, which is addressed in the next section.

Heavyweight versus Lightweight Project Management

Not everyone is a proponent of agile methodologies for many projects. Barry Boehm, prefers plan-driven methods when requirements can be determined in advance and when they are relatively stable. Boehm (2002) advocates finding the sweet spot for how much planning is enough based on varying risk levels for projects. Factors such as a large installation base, stable product line, large teams, and safety critical systems would indicate the need for a more heavyweight plan-driven approach.

Kahn identifies several indicators for when to use agile methods versus heavyweight methods, as presented in Table 3.
Table 3: When to Use Agile versus Heavyweight Methodologies (adapted from Khan, 2004, Table 2).

<table>
<thead>
<tr>
<th></th>
<th>Indicators for Agile Methods</th>
<th>Indicators for Heavyweight Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td>Rapid value</td>
<td>High assurance</td>
</tr>
<tr>
<td>Scope</td>
<td>Subject to change; largely emergent; unknown, uncertain</td>
<td>Well known; largely stable</td>
</tr>
<tr>
<td>Resources</td>
<td>Uncertain budget; money tight</td>
<td>Sufficient budget</td>
</tr>
<tr>
<td>Time</td>
<td>Unclear and not well defined milestones</td>
<td>Clear and defined milestones</td>
</tr>
<tr>
<td>Risks</td>
<td>Unknown risks; major impact; new technology</td>
<td>Well understood risks; minor impact</td>
</tr>
<tr>
<td>Architecture</td>
<td>Design for current needs</td>
<td>Design for current and future needs</td>
</tr>
<tr>
<td>Developers</td>
<td>Agile; co-located; collaborative</td>
<td>Process-oriented; adequately skillful</td>
</tr>
<tr>
<td>Customers</td>
<td>Collaborative; dedicated; co-located; knowledgeable</td>
<td>Knowledgeable; representative; collaborative</td>
</tr>
<tr>
<td>Cost of Change</td>
<td>Inexpensive</td>
<td>Expensive</td>
</tr>
</tbody>
</table>

Acceptance by staff can also be a challenge for team members, especially if their communication skills are poor. “[Project staff] are used to the heavy-weight methodology and - though many of them do not like heavy documentation – often do not know how to work successfully in an environment that works with less (or even without) documents.” “Lightweight processes usually depend on good communication skills of the team members” (Coldewey et al., 2000, p. 131).
Project Management Offices’ typical purpose is to define, implement, and centralize standardized project management processes across an organization. They support the premise that sound project management processes empower an organization to better reach their goals and objectives. They offer services and tools to support the project management infrastructure. Due to the centralized nature of the structure, they can also help coordinate project related functions that occur across multiple units of an organization.

Rad and Levin (2002) identify augment by filling gaps in team resources, mentor novice team members, and consult with occasional validation and assistance as project-focused functions. They also present the following non-exhaustive list of areas of project task assistance a PMO can provide:

- Establish standards for managing projects
- Standardize report forms
- Select, operate, and support project management software
- Define and implement proposal development methodology
- Draft proposals
- Provide project start-up assistance
- Prepare project charters and scope statements
- Facilitate project kickoff meetings
- Conduct project risk assessment
- Maintain project visibility room
- Track and record changes made to project requirements
- Maintain project workbook or library
Lowrance

- Improve accuracy and timeliness of timesheets
- Administrative assistance
- Standardize project reviews
- Promote issue resolution
- Support project closeout

For purposes of evaluation of appropriate functions of a PMO at NFPO the three categories of people, process, or tools were used. People processes include providing a person to fill the roll of a PMO lead, providing a pool of project managers, training staff on project management, coaching Project Managers, and performing project resource management tasks.

Process related activities of a PMO include several areas. One is methodology management, which includes maintaining project document templates and written procedures, and auditing projects to assure they follow defined procedures. Another area is project prioritization, which consists of determining projected return on investment, or other business value assessments, and creating and maintaining a prioritized list of projects. Another process activity is communication management, which includes gathering and reporting metrics, such as earned value analysis to assess project progress. A PMO can also create project status reports, or roll up key information from various projects into a consolidated report. A PMO can perform post project reviews, such as facilitating project closeout meetings, documenting lessons learned, and assessing the actual attainment of projected project benefits. Other processes a PMO can perform include risk management, timeline management, budget management, procurement management, and contract management.
Tools is the third category of PMO functions. A PMO often manages a document repository of project templates, procedures, and archived documents from completed projects. The PMO can also implement and management enterprise project management tools.

Two main options for PMOs evaluated in this paper are a heavyweight approach and a lightweight approach, which is explored next.

_Heavyweight PMO_

A comprehensive PMO that offers most of the PMO functions listed in the previous section is considered a heavyweight PMO. Based on the extra documentation, processes, and checkpoints of a heavyweight PMO, it follows that heavyweight PMOs can be more controlling, rather than supporting.

A heavyweight PMO requires more staffing and budgetary resources. Stanleigh (2006) states that data from 750 firms indicate PMOs cost an organization about 500,000 dollars a year. He found that 75% of PMOs are shut down because they do not demonstrate enough value to justify the cost. For a small to medium size organization, such as NFPO, the benefit of a large PMO’s additional overhead cost would be harder to justify. Clear business value that aligns with the corporate strategic objectives would need to be established. The corporate culture would also need to be supportive of the added bureaucracy a heavyweight PMO would afford.

A PMO that fills a controlling role rather than a supportive one would include processes to assure that project management standard and processes are strictly followed. They would have a more pervasive role in the management of projects across the organization. Functions could include such services as providing approval for projects to proceed, auditing projects during the project lifecycle, gathering individual team members’ project time sheets, oversight of change control procedures, and risk management information gathering and reporting.
Another heavier alternative for a PMO is one that sets standards, procedures, and documentation that are more stringent and time consuming to perform. These processes could focus more on up-front detailed planning, comprehensive documentation, and frequent or stringent checkpoints with required signoffs and formal reviews. These processes are contrary to those found with agile project management.

These heavyweight PMO approaches require more staff and higher costs to manage the functions. It would also likely meet much stronger resistance from the project management staff, project team members, and management. For smaller size organizations, the value-add also may not be justifiable.

*Lightweight PMO*

A lightweight PMO is just the opposite of the heavyweight PMO. It is more supportive than controlling and supports lightweight project documentation and processes. Using some of the agile principles, a lightweight PMO embraces simplicity, self-organizing teams, continuous improvement, and focusing on the areas that provide the most business value with just enough effort.

Supportive versus controlling activities include project management and agile training, lightweight documentation templates and procedure guidelines, project management support, coaching, and maintenance of tools and a document repository. The PMO can also develop a knowledge management system for the company, with an archive of problems encountered in past projects. It could also help provide staff augmentation, mentoring, and consulting regarding project management activities. As needed, it could also help prepare various project documents, such as project charters, or facilitate project kickoff meetings, provide project administrative assistance, and support project closeout. (Rad & Levin, 2002)
Boonzaier and Van Loggerenberg (2006) present a case study of an organization that implemented a supportive PMO rather than a controlling project office. The case study is of South African Reserve Bank (SARB).

Project managers were still able to follow their instincts and exploit their own project management skills however, as long as they complied with the minimum standards and procedures as set out by the project office. The project office gave direction to project managers and support when needed, including facilitating scoping workshops, creating network diagrams and project schedules (p. 212).

In the case study many benefits were noted, including improved standardization, planning, risk management, information management, among others. Most notably, they reported a decrease in project failures and an increase in user satisfaction due to the implementation of a project office.

Sliger (2007) addresses some considerations with PMOs. She stated that the PMO activities should welcome change. It also should adjust best practices based on the lower formality for an agile environment. The PMO should be the “keeper of the process” rather than policing the activities. She also stated it should provide agile methodology training. Management should work as a team to prioritize the project or program backlog items and implement changes in an incremental and iterative fashion.

Tegnshe and Noble (2007) presented how Capital One Auto Finance converted their supportive Portfolio Management Office to an agile PMO. Scrum was their chosen agile approach. The services their agile PMO provided included conducting agile training; starting up new agile teams, encouraging team empowerment; transforming existing roles, artifacts, and process to be more agile; capturing project and portfolio metrics and creating management
reports. They had a top-down approach with upper management support. Their PMO was instrumental in creating an atmosphere of acceptance for agile and moving the organization to an improved perception of IT due to quicker delivery of business value. They started with a goal to increase customer satisfaction and to reduce their time-to-market. They achieved these goals with a 100% customer satisfaction rating on project planning, execution, cost management, collaboration and results. They also had a 50% improvement for time-to-market.

Tailoring Approaches

No single methodology will meet the needs of every project or organization without some modifications. Both Agile practitioners and those advocating heavier approaches support process tailoring. Highsmith (2004) stated “modifying an existing methodology is easier than creating a new one and is more effective than using one that was designed for a different situation” (p. XXV). He also wrote “as project size increases, a slight increase in formality and documentation is necessary to help teams handle these dependencies” (p. 247).

PMI (2004) stated “there is no single best way to define an ideal project life cycle” (p. 20). And they advised “the project manager, in collaboration with the project team, is always responsible for determining what processes are appropriate, and the appropriate degree of rigor for each process, for any given project” (p. 37).

For large projects that have a high degree of complexity or risk, a hybrid project management approach that is agile but with more documentation for the complex or risky items may be the best method. The experience level of staff, whether a similar project has been performed in the past, complex integrations with other systems, and the importance of a project can also dictate the documentation and processes chosen. Keenan (2004) stated that “agile approaches to development … suggest that process be tailored for different situations” (Section
such as scale, scope, and technical challenges. He presented three main strategies for this tailoring provide a comprehensive process framework, define a set of process templates for different types of project and select the best match, and define a process which blends best practices and local experience.

The PMO structure should also be adapted to fit well with the organizational culture. Bonham (2005) identified sizing and tailoring of a project office as one of the keys to successfully rolling out a new PMO (Section 4.4.2). The various functions that a PMO can fill should be determined based on those that are most important to the organization, meet the objectives of the PMO, and those that bring the most value for the cost.

The PMO should also define a standard project management framework that the project manager and team can adapt to meet their needs within the constraints of the framework. The framework should identify minimum acceptable standards that may be different for small versus large projects. (Highsmith, 2004, p. 118, 121) The templates and documented project management approach can help support the different rigor desired for a given project.

*Developing the Correct Set of Requirements for PMO Lite*

Bates (1998) recommended interview and documentation reviews to assess the correct requirements for a PMO. The level of executive support and what their goals and objectives are for the PMO needs to be determined, along with how the organization wants the project environment managed. Another important determinate is the corporate growth stage. Bates also recommended determining if the PMO position and visibility is likely to increase or decrease over five years. The current project management methodologies, procedures, processes, and existing or planned systems also need to be determined. The current vision of a PMO also should be evaluated. Much of this research was performed to help define NFPO’s PMO. For the
new areas to be defined, the technique used was to provide the IT project management team information from research gathered, and to reach solutions in a collaborative fashion in order to reach the best solution and to achieve buy-in.

Past IT projects, as well as some strategic enterprise-wide projects, were recorded and evaluated to help identify areas for improvement as it related to NFPO’s projects. There were not many metrics previously gathered to assist with this analysis. In most cases, memory had to be relied up to recreate this data. To help confirm that there indeed were some project problems to be resolved, as previously noted, staff were asked to confirm that NFPO’s project success rates were comparable to the low rates reported by The Standish Group. They confirmed this, which helped determine that there was agreement regarding the need for improvement of projects.

Since NFPO’s project management approach was not standardized or well defined, a key initial aspect of establishing a PMO was defining a project management methodology. In order to determine this methodology, key IT project staff members were involved in defining NFPO’s preferred approach. Since some of the IT development projects used an agile approach that was not consistently followed, yet had worked well in some high visibility projects, it was determined to use that as a basis. Key elements that worked well in the past were incorporated in a framework. During this time some of NFPO’s IT staff attended a Scrum Master course and were then Certified Scrum Masters. After explaining Scrum to key IT project staff members, the IT project management team decided to define a project management framework around Scrum, while still incorporating some of the lessons learned from other projects. A brief introduction to Scrum training session was held for IT Solutions staff. Later, the NFPO project management
framework was presented to the IT Solutions staff for their feedback and suggestions. This framework is explained in Chapter 4.

To determine the functions of the PMO, select NFPO senior management staff were interviewed or surveyed to define the project related issues to be addressed. The IT Director, IT Solutions Manager, and IT Infrastructure Manager were then interviewed to determine the objectives and specific PMO functions that were most desirable, and the approximate timeframe for implementing these functions. These items were then incorporated in a PMO Lite Charter for the IT Director’s approval in order to help obtain his initial commitment. This is included in Appendix B.

Summary

Since there is no prescriptive approach that works best for every organization or for every type of project, an adaptable approach based on the particular circumstances and environment is the best course of action. There are a variety of sound lightweight and heavyweight project management approaches that work best in different cases. For a small to medium size organization, when there are a variety of unknown requirements, which is the case for the majority of software implementation projects, then an agile methodology is likely to work best. If a small project has a team of just one or two members, without the need to gather requirements from customers, such as what is usually the case for many IT Infrastructure projects, then a simple lightweight approach is likely best.

For an organization the size of NFPO, a lightweight PMO can help provide the support and structure to foster an environment that utilizes project management to maximize the successfulness of projects. Tailoring the functions the PMO performs can help assure that those that are most valuable to an organization are incorporated. The overhead costs from a
A heavyweight PMO that performs a wide range of tasks would be harder to show enough value-add to justify the cost.
Chapter 4 – Implemented Solution

Project Management Approach

Based on research and discussions with NFPO staff, a project management approach that was adaptable for the project team and the complexity of the project was recommended and then implemented. An adaptable approach provides more structure with additional documentation and steps for those projects that are more complex or where the project team is larger. Due to the limited financial and staffing resources for projects, it was imperative that the documentation and processes be as lightweight as feasible so as not to add unnecessary overhead. Since IT development projects were more complicated and the IT Solutions staff were more mature in their project management than the rest of NFPO, an agile methodology with additional structure was implemented. In contrast, NFPO IT infrastructure and non-IT projects typically were simpler. Since those teams were not as familiar with project management, a more traditional and simpler core framework with some agile elements was implemented for those groups. This framework was designed to be adapted to provide more rigor for more complex or critical projects, and to be easily adapted to a more agile methodology, such as the one recommended for IT development projects.

NFPO-Wide Basic Project Management Framework

There are some basic core elements of project management that should be incorporated into any project management framework. The core elements include the following: receiving management approval for the project and clarifying the project objectives; planning the project, including resources, tasks to be performed, and estimates for completion; assigning and
performing the tasks; monitoring the completion of tasks; and finally, completing the project and releasing the project team. These traditional project management elements can be classified in PMI’s process groups of initiating, planning, executing, controlling and closing. Other project management methodologies, such as Scrum and Agile Project Management, may use other terminology, but they still involve these basic elements. For example, Agile Project Management has envision, speculate, explore, adapt, and close processes.

There are also some best practices that should be considered when planning nearly any project. When they are not considered, then the project is less likely to be fully successful. PMI, Scrum, Agile Project Management, and other approaches, all include steps to define and document the vision of the project, receive approval from the project sponsor, commit to key delivery dates, track progress towards those dates, communicate well throughout the project, and perform steps to improve in future project success. Many of the most basic of these practices are contained within the recommended basic project management framework for NFPO. Refer to Figure 5 for an overview of the NFPO project management framework.
Figure 5. NFPO’s Basic Project Management Framework.
NFPO’s basic project management framework contained 11 activities classified as critical. These are colored in black in Figure 5. Eight activities were classified as important, but optional for simpler projects. These steps are colored in grey in Figure 5. Many of these optional but important activities could occur in a more ad-hoc and less formal manner. For example for simple projects, the project status could be communicated to management verbally, rather than an actual project status report. The identification of a project as simpler was left to the discretion of the project manager and the project sponsor. However, the following were generally considered criteria for simpler projects: project was not a corporate strategic initiative; project team was two or less members; project budget was under 10,000 dollars; project duration was a month or less; there was not a new vendor involved in the project; project did not have a significant impact on external customers; the project did not significantly impact a large number of NFPO staff; the team members had performed very similar project activities successfully in the past; and the technology involved had been used by team members in the past.

The initiating group recommended and implemented for NFPO had four critical core project management practices. The first step was research, which was also referred to as discovery. This was where NFPO first investigated various aspects of the project. It included tasks identifying initial project elements, such as the business problem to be resolved, project benefits, project objectives, potential project scope elements, or feasibility analysis. The second practice was defining project objectives, or the project vision. The third was preparing the Project Charter. This document defined the high level project scope, schedule, budget, and other required resources, such as project team members. It also identified the project sponsor and documents project objectives. Ideally, the Project Manager was also identified in this document,
however if this had not been determined yet, such as if a contractor was to be hired for the position, then this decision could be delayed until after the project was approved. The Project Charter was then used for the fourth and final practice in this group, which was to receive project approval for project resources. When the project was an IT strategic project, then approval was sought from the IT Governance Committee (ITGC). Otherwise, the Project Sponsor, who was usually a division director, provided this approval.

The next project management group was planning. This group was broken down into two parts. One was categorized as initial planning and was typically performed once during the project. The second was iterative planning and was performed repeatedly. Initial planning contained two critical steps and two important, but optional steps. The first critical practice was determining the team members, defining their roles, and communicating their responsibilities. The next critical practice was identifying the high-level tasks to be performed during the project, determining a rough level of effort estimate, or the time to complete the task, and assigning a priority to the task. The first non-critical step was preparing the Project Management Plan. This document was used to plan the majority of the project elements, such as human resources, communication, quality, scope management, risk management, and training or rollout. If this document was not actually created, it was very important that these elements at least be thought through and accounted for when necessary. These items became more important when the project size increased or the project was complex. The final optional, but important practice during initial planning was a project kickoff meeting to determine or discuss the project planning elements with the team. This meeting included all the project team members and was used to familiarize the team with the project and their respective roles.
Project planning occurred throughout the project. One critical planning activity was updating the document used to track the detailed tasks to be performed, who was assigned to complete the task, and the status of the task. For larger projects, it was recommended to use Microsoft Project to track this project schedule, but this could also be done in Microsoft Excel. An even simpler, but effective approach often used with agile methods, was a task board with post-it notes with handwritten notes identifying the components of the task. The task could also be placed in a different section of the task board indicating its status, such as not started, in progress, and complete. An optional but important project activity was to track and resolve project issues, which could include important project risks that could interfere with the success of the project.

The next project management group was executing. This was where the majority of the actual project work occurred. This group included just two practices, which were both critical, and were also repeated throughout the project. The first was performing the project tasks, which could include a large variety of activities necessary for the project. The second critical activity was communicating often in order to gather or exchange information to properly complete project tasks. Since NFPO’s projects usually had a matrix structure, where the team members cross multiple divisions, often new communication channels needed to be developed, which was often accommodated thru additional ad-hoc or planned meetings.

NFPO’s fourth project management group was called monitoring. The activities in this group also were iterative, occurring repeatedly throughout the project. Activities included two critical processes and two important, but optional activities. The first critical activity was regular meetings. These were necessary to track the status of important project activities, make group decisions, and to communicate important project elements. Two important, but optional topics
discussed during project meetings were project risks and adjustments to make to the project. The second critical activity in this group was proactively managing tasks and action items. This also included managing changes. A few examples of changes included requested new features or tasks that could change the scope of the project, or changes in project team members’ availability for the project. The first of the two optional important practices in this project group was creating Project Status Reports. At a minimum these reports reflected the actual versus planned project scope, schedule, and budget. Ideally the report also included any critical decisions, issues, and risks. Another optional important activity was updating the project web site with project documents or notifications. NFPO used Microsoft SharePoint, which they called Polaris, as their collaboration tool.

The final group was closing. The activities in this group were only performed at the end of the project. The first of three optional activities was creating a Project Closeout report. This documented important elements of the project, including the final scope, schedule, and budget, as well as lessons learned. The intent of this document was for reference for future projects to support continuous improvement. The second optional step was archiving important project documents, such as the Project Charter, Project Management Plan, Project Schedule, and Project Closeout report so that these could be used for future reference. The final optional, but highly recommended step was an official project celebration.

*IT Development Scrum Project Management Methodology*

The project management methodology for IT development projects incorporated the same core elements as the recommended framework for all of NFPO. It also included some additional practices that were particularly useful for computer systems involving programming changes, such as more system requirements gathering and testing. Since the Solutions department staff
were more familiar with project management, it was also warranted to include some additional elements beyond the simple framework for all of NFPO.

IT Solution department staff were involved with defining the project management methodology for IT development projects. Specific project activities were placed in the methodology based on lessons learned from prior projects and the desires of management, such as for certain additional meetings. Shortly after this effort the IT Solution department began to use Scrum as the basis for the methodology used for software application projects. The primary reasons noted were the lack of any established agile methodology, Scrum was becoming more popular in the IT industry (VersionOne, 2008), and the perceived benefits of the approach, such as improved team communication and simple processes. The IT Solutions Manager and IT Director decided to use Scrum on a trial basis for two small projects. The Solution team’s methodology was then adapted to incorporate Scrum, while still keeping many of the non-conflicting elements with the newly defined methodology. See Figure 6 for a summary page of this methodology.
Figure 6. NFPO's IT Development Scrum Project Management Methodology.
The IT development methodology used the basic elements of Scrum as explained in Chapter 3’s Scrum section, as well as NFPO’s project management framework. Additional unique elements added for the IT development methodology included three meetings and several processes. The first additional meeting was referred to as the IT Management Meeting and occurred about every other week. This project status meeting included IT management and project leads. The second additional status and decision meeting was held for IT strategic projects only. It was a monthly Executive Steering Committee (ESC) meeting for senior management associated with the project. The final additional meeting was for business readiness meetings to manage non-technical business activities to prepare the business for the changes due to the project.

IT’s project management processes, unique from standard Scrum and NFPO’s core framework, were incorporated into one of three different categories. These included sprint zero, which involved tasks performed at the beginning of the project; stabilizing sprint, which was performed at the end of the project; and business readiness, which could be considered a different somewhat independent scrum, that was solely focused on non-IT project activities specific to the business. These activities prepared the business for the impacts from the project. These included activities involving business partners, internal business process changes, or external customers.

The IT development unique project practices performed during sprint zero included developing the foundation and initial requirements. Developing the foundation involved defining the architecture for the solution and developing some of the core elements required prior to development of specific system functions. During this time, the Business Analysts began working with the business to define high priority system requirements.
The unique practices performed during the stabilizing sprint at the end of the project included various testing processes, feature or code freezes, training users, and a stabilization period after going live with the system. The testing processes began with a freeze of any feature changes. Then, there was a testing process called white-box testing, where the developers performed system testing. Iterative beta testing and bug fixes were then performed until all important bugs were resolved. This was confirmed with a final beta testing process. At this point, more users would be trained for participating in user acceptance testing. Once it was confirmed the system was ready to go live, the system was deployed to the production environment. The next unique step was stabilization, which was when production support was provided, and unanticipated critical fixes were made as needed. This stabilization time period was typically one month.

A unique role associated with Scrum is that of the Scrum Master. It is similar to a Project Manager, except that this role acts more as a facilitator for the self organizing team, rather than as a manager providing direction. NFPO was not comfortable with the Scrum Master term, so another alternative suggested was Project Leader. Project Manager was often preferred by NFPO staff, however to emphasize the change in responsibilities from a typical project manager to a facilitator, a different term was recommended, but not typically used. Another unique Scrum role is the Product Owner. NFPO did not have predefined product managers in their organizational structure. They also did not have many staff within the business units that had positions that could be focused on new products or computer systems. Finding a business staff person to fill this role was challenging, especially when it required a large time commitment. Therefore, NFPO established an IT Functional Architect role that worked closely with the business to determine their needs and designed the required functionality. The person in this role
partnered with the business manager and other business subject matter experts to fill the Product Owner role. At NFPO, the Project Leader, Functional Architect, and Business Analyst roles were usually filled by the same IT staff member.

Besides the typical Product Backlog and Sprint Backlog used with Scrum, another project artifact not specifically associated with Scrum, but commonly used are story cards to define the system functions and tests. With the transition to Scrum, IT development projects began using Post-It notes for story cards to identify and plan around required system functionality. They briefly noted the functionality, priority, a number relative to the level of effort, and notes on specific testing elements in order for the feature to be met. These story cards were then used to visually see the status of these features, as they were moved to different categories to indicate those not yet assigned to a sprint, those in process, those in test, and those that are complete. NFPO recorded the feature on the story card in Microsoft Team Foundation Server (TFS) as requirements, which the programmers then used with the Visual Studio source control for the programming. The IT Business Analysts also recorded the specific test scripts in an Excel spreadsheet to be used for testing the system.

Once IT becomes more comfortable with Scrum, some of this redundant documentation may be modified or eliminated, especially for simpler projects.

IT staff were still struggling with determining how much documentation to create. A point Tengshe and Noble (2007) made regarding Capital One Auto Finance’s conversion to an agile PMO was the challenge with team members still wanting to use the prior waterfall artifacts, such as the requirements document, system specifications, design specifications, and test plans. They noted how with an agile environment these heavyweight documents do not add value.
Instead, the artifacts they were instructed to use were User Stories in conjunction with the Product Backlog.

As IT project teams become more successful with the new Scrum methodology, the methodology is likely to change. Some of the steps they identified from prior lessons learned, such as some of the redundant testing or meetings may be eliminated.

**PMO Lite Approach**

Bonham (2005) identified four keys to a successful implementation of a new IT PMO. They included a good business case, assessment of the organization’s cultural readiness to provide resources to a PMO, sizing and tailoring of the project office, and executive commitment (Section 4.3.2). The recommended approach for NFPO’s PMO Lite incorporated each of these elements.

The assessment of NFPO’s cultural readiness for a PMO indicated that management was not yet willing to allocate staffing resources specifically for a PMO. They also were not willing to have the PMO act as an authority that controlled the project management processes, but instead wanted a PMO that acted as more of a support mechanism for project management. Since all NFPO executives had not fully embraced project management approaches for corporate strategic initiatives, implementing the PMO corporate wide was not planned until a later phase, in order to first achieve more executive support for project management beyond IT.

The PMO Lite approach was also sized and tailored for the functions NFPO was ready to accept. Specific features were chosen based primarily on the desires of the IT Director. These features were based on a more supportive role of the PMO rather than a controlling function. The approach planned to be phased in, allowing for more progressive adoption of various project management roles and features.
The final key that Bonham recommended was executive commitment. The IT Director, who was part of the executive team, supported a lightweight PMO. He approved the PMO Lite Charter, which is included in Appendix B. Many of the other executives were involved in interviews relating to the PMO Lite. They were very supportive of the PMO Lite to help improve the use of project management company-wide.

**PMO Mission**

NFPO’s PMO Lite mission was to provide a common, company-wide project management structure and support to promote the use of enterprise-wide project management in order to improve the successfulness of projects. This mission statement stated the primary purpose of the PMO. It served as the vision to inspire and provide direction for PMO related decisions and strategies.

**PMO Goals and Objectives**

NFPO’s PMO Lite goals were to increase NFPO’s project management maturity level and project success. The following PMO objectives were identified in the PMO Lite Charter:

- Standardize major components of NFPO’s project management methodology
- Determine the correct set of requirements for a PMO for NFPO
- Identify a phased PMO implementation plan
- Implement the first phase of the PMO at NFPO
- Assure project management and PMO approaches are lightweight, requiring minimum overhead costs and processes
- Provide the structure to increase IT’s and ultimately NFPO’s project management maturity level
Implementing a supportive rather than controlling PMO included providing resources to make project management easier and more successful while still providing the project managers autonomy and flexibility in how they managed their projects. The PMO helped to streamline some of the project management efforts by providing templates and tools for easier implementation of project management. The PMO also supported integrating project management functions within the organization through training and continual promotion for a structured project management approach for major initiatives.

One of the long-term goals was to move all of NFPO’s IT division to a Maturity Level 3 or 4 in about three years, and to move all of NFPO to a Level 3 in three to five years. Level 3, as defined by Rad and Lavin is integrated, organized, and defined. Level 4 is comprehensive and managed. (2002, Section 5.2). A supportive PMO could help provide some tools and resources to help NFPO reach this goal.

**PMO Resources**

Due to the difficulty in obtaining approval by NFPO’s Board of Directors for adding new positions, and to keep overhead costs low, the IT Director authorized no more than 10% of one full-time employee for the PMO. There also was no budget specifically allocated for the PMO. Tools or office supplies needed were only those that were typically required, even if there was no PMO.

**PMO Functions**

Previously 17 typical functions provided by different PMOs were described. Of those, seven specific major PMO Lite functions were recommended to meet NFPO’s objectives. Given the major PMO resource constraint, only those PMO functions that were anticipated to provide
the most value while utilizing the least amount of PMO staff time were recommended for
NFPO’s first phase of implementing a PMO. Another consideration when selecting functions for
NFPO’s PMO Lite was avoiding functions perceived as controlling rather than supportive. The
services selected included the following: 1) methodology management; 2) project management
training; 3) project management coaching; 4) communication management; 5) post project
reviews; 6) repository; 7) and project tools management. The major functions not yet
recommended for NFPO’s PMO Lite include the following: pool of project managers, resource
management, project prioritization, risk management, timeline management, budget
management, quality management, procurement management, and contract management.
Providing these features would have required more staff and overhead.

The first major PMO function recommended for NFPO and implemented during phase
one was management of the project management methodology. It was the primary purpose of
the PMO. It included defining a project management framework that was flexible and adaptable
depending on the project size, complexity, and team composition. It also included creating and
providing easy access to project document templates, and documentation for project management
procedures. The basic framework, along with the relevant document templates and procedures
were required early in the implementation of the PMO. A sub-function included in this category
that NFPO’s PMO was not planning on performing was auditing projects. Auditing projects
required more resources than available and also did not match the desired supportive versus
controlling role, therefore it was not chosen.

There were numerous document templates that were provided as a part of the project
management framework. These included project charter, project management plan, project
schedule, budget to actual spreadsheet, product backlog, sprint backlog, user story, burn-down
chart, test scripts, project closeout report, project status meeting agenda, and project status report. See Appendix C for a sample document template, which is the simple version of the project management plan. Some of these documents had more than one template, such as one that was comprehensive, and one that was simple. The comprehensive document was used for large or complex projects. There were also other optional project document templates that could be used for larger or more complex projects, such as a change request form, change tracking log, risk tracking log, and issue tracking log. The documents chosen were selected based on those that were typically used to manage projects.

The second major service provided by NFPO’s PMO was project management training. This was necessary in order for the staff to learn the recommended project management tasks. Initially, the IT staff were trained on the new frameworks. IT Support departmental staff were trained on Scrum and NFPO’s newly defined agile framework for development projects. Next, IT Infrastructure departmental staff were trained on NFPO’s basic project management framework. The third major function of the PMO was providing project management coaching to help reinforce use of NFPO’s project management methodology and to provide assistance to new Project Managers. During training, staff members were informed that they could receive additional project management assistance or coaching from IT Project Managers.

The fourth PMO Lite function implemented was communication management. The main sub-function within this group was providing support for generating project status reports. The PMO provided a template for reporting individual project status, to be used by the project manager or lead. The PMO also performed roll-up reporting of strategic IT projects. This particular task was performed by the IT Solutions Manager.
The fifth functional group recommended for NFPO’s PMO Lite to have some responsibilities was post project reviews. The PMO was anticipated to be used as a resource for assistance with project closeout. This service was offered on an as requested basis, however during the phase one implementation, this service had not yet been requested. Examples of assistance that could be provided include helping facilitating final project retrospective or lessons learned meetings, or providing input on identifying areas to adapt future project management practices to improve project success. Having someone other than the Project Manager perform these tasks provided a different unbiased perspective. A sub-function within this group that the PMO was not responsible for was post project reviews and documenting lessons learned. This was the responsibility of the Project Manager. Another service not covered in the PMO was assessing the actual project benefits attained after the project has been fully implemented so as to compare these to stated expected benefits.

The sixth function implemented for NFPO’s PMO Lite was managing the document repository. A central document repository on SharePoint was created for the PMO. This was for all the project management procedures, document templates, training material, and other resource material, such as useful articles relating to project management or PMOs. There were also folders for archiving major project documents, which were to be used for planning projects or as samples for creating new project documentation. Another sub-function of the PMO was to assure that all major project documents were archived properly in this document repository after the project was complete. The PMO also maintained a spreadsheet with one row for each project summarizing major characteristics of the projects. This could be used as a starting point for other project managers to find similar projects and then know where to look for project documentation. It could also be used for determining high level or to aggregate project statistics.
The seventh and final PMO Lite function was managing project tools. Microsoft Office, including Microsoft Project, as well as Microsoft SharePoint were NFPO’s primary project management tools. The PMO had some responsibilities with maintaining a dashboard showing the high-level status of IT projects. The strategic IT project dashboard was maintained by the IT Solutions Manager. A sub-function within this group that the PMO was not responsible for was managing an enterprise project management tool, such as Microsoft Project Server.

PMO Roles and Responsibilities

There were four primary roles that were related to NFPO’s PMO Lite. These included the PMO Sponsor, PMO Lead, IT management, and project leads. Each of these had responsibilities relative to project management and specifically to the PMO. These roles were implemented during phase one of NFPO’s PMO Lite.

The PMO sponsor was the IT Director. This role served as a project management champion to help promote basic project management approaches company-wide. This helped cultivate a climate that embraced project management practices. In order to get to that point, the IT Director helped sell the value to the business to the C-level executives. As mentioned previously, adoption of the PMO and project management practices across all of NFPO was much more feasible with this upper management support. Another responsibility of the PMO sponsor was providing necessary resources and support for the PMO. The time commitment for this role was minimal, totaling less than an hour a month.

Another important role within NFPO’s PMO Lite was the PMO Lead. The primary functions for this position was to provide project management and PMO support. Specific functions included performing the tasks relative to all the PMO functions mentioned in the previous section. A few exceptions existed, such as where the IT Support Manager was
performing roll-up reporting for strategic IT projects and maintaining the dashboard to display this information. During the first phase to define and implement the PMO the time commitment during NFPO business hours was no more than two to four hours each week. The time commitment was expected to average between two to eight hours a month.

IT management staff had responsibilities within the PMO. Their primary responsibility was to promote and provide resources for project management. As mentioned above, they could also help perform certain specific tasks for reporting project status, or items such as coaching or helping establish procedures or standards relative to project management. The time commitment for this role was expected to be no more than an hour a month.

Another major role relative to the PMO were all the project managers or project leads that managed the various projects at NFPO. Their responsibilities relative to the PMO, besides managing their respective projects, was to provide project status needed for roll-up reporting, and to archive major project documents in the central project repository after the project was complete. The project managers or project leads were also be requested to provide assistance as needed, such as to offer project management advice to other project team staff, or to provide suggestions on improving processes or document templates.

**Business Case for PMO Lite**

The business case for the fully implemented PMO Lite for NFPO had several facets. First presented below are benefits of project management, then specifically agile project management. Next, the focus shifts specifically to Project Management Office benefits. This includes research findings on PMO benefits, tailoring a lightweight PMO, benefits for PMO services recommended for NFPO, and finally, bottom line anticipated benefits for NFPO.
Project Management Benefits

Using project management provides numerous significant benefits to an organization. Some of these include the following: reduced project costs, better scheduling, improved quality, enhanced risk management, and overall improved use of company resources. A study by the Center for Business Practices performed a survey of senior practitioners knowledgeable about their organization’s project management efforts and results. They found that 97% of the respondents said that project management adds value to their organizations. They cited significant improvements with financial, customer, and process measures (DM Review Editorial Staff, 2003).

Cost savings alone can justify the use of improved project management processes. “Gartner Group reported that the average savings from using a project management process is 30%; Software Engineering Institute concludes that using project management processes reduces project costs by 35%” (Sienkiewicz, 2004). For just the IT projects at NFPO in 2008, a 30% savings is over 1 million dollars. Since project management was already being used for NFPO’s larger IT projects, it was difficult to measure what portion of this savings could be attributed to improved project management processes. Another major benefit includes faster time to market with the new product or service resulting from the project, which would assist NFPO to more quickly meet their vision of doubling the number of households served.

As mentioned previously, Standish Group’s Chaos Reports (as cited in Rubinstein, 2007) showed a more than doubled improvement in software project successes from 1994 to 2006, which the Standish Group’s chairman, stated were attributed to improved project management and iterative development. NFPO’s IT development projects saw this improvement. Expanding
use of project management for IT Infrastructure projects and corporate initiatives should also improve their success rates.

Mullaly and Thomas (2008) conducted a $2.5 million study of 65 organizations across the globe over three years and found that project management delivers value. The principal components where it provided value was in customer and project manager satisfaction, alignment with the organization, consistent practices, process outcomes, and business outcomes. Specific intangible benefits also included better collaboration between teams, diminished silos within the organization, process improvements, sense of accomplishment, improved reputation of the business, improved corporate culture, improved regulatory compliance, and improved employee retention.

Project management benefits can help resolve some of the issues NFPO faced, such as staff turnover’s impact on projects, insufficient project resources, poor scope management, insufficient system testing, lack of repeatable processes, and reduced number of projects completed on time. It can also help NFPO accomplish more important business objectives by clarifying project scope and providing visibility and accountability into meeting the project goals to achieve the objectives.

**Agile and Scrum Project Management Benefits**

Lightweight methodologies, such as agile development and project management provide strong successes as found from various studies. A survey conducted by Shrine Technologies in Australia found that over 83% stated that productivity, quality, and business satisfaction was better or significantly better with agile methods. (Shine Technologies, 2003). In 1998, Standish Group International performed a study of 23,000 projects (as cited in Khan, 2004). They found
that shorter time frames with earlier and frequent delivery of components increase success rates
of projects. The study heavily endorses agile software development.

Dyba and Dingsøyr (2008) identified 36 agile software development empirical studies
that sited various benefits from agile projects. These benefits included improved knowledge
sharing, more accurate estimations of work, a positive effect on collaboration, increased
customer satisfaction from improved communication, and improved team characteristics, such as
better respect, responsibility, trust, and quality of their working life. They also identified studies
that noted improvements in developer productivity and improved product quality.

Software development projects are notorious for being late and over budget. It is very
difficult to accurately project costs and timelines for complex projects, such as these. Assuring
that the features of most value to a business are completed first, such as is accomplished with
Scrum, pushes to the end those items that are not as important, and may not get completed.
Agile approaches also adapt to important changes, which are very common in complex software
projects. They also increase communication, which increases success rates due to clearer
understanding of requirements (Sutherland, 2001; Sharp, 2004). Also, by providing components
quicker, testers and the customer can provide improved and timelier feedback, which improves
results. The self organizing teams, quicker achievement of results, and increased visibility in
project activities are also very motivating for team members, which increases staff satisfaction
and employee retention. (Highsmith, 2004).

The benefits achieved from Agile principles and processes has helped NFPO be more
successful with their more complicated software application projects. Each of the benefits help
NFPO, such as more customer involvement, early delivery of the most important system
features, improved team work and satisfaction, and enhanced communication.
**PMO Lite Benefits**

Given that project management poses significant benefits, one of the best ways to integrate usage of project management with the business is through the focus and structure provided by a Project Management Office. The specific features tailored for NFPO’s lightweight PMO provide their own unique value to NFPO. These ultimately will help NFPO reach some clear bottom line benefits.

**PMO Lite Benefits – PMO**

Rad and Levin (2002) state the benefits of the PMO are to attain formalized and consistent project management throughout the organization and to realize improvements in project performance in the areas of cost, schedule, scope, and people. Additional benefits are recognition of the project management discipline and improvement in organizational profitability. It can enable the organization to realize a competitive advantage through reduced project costs (Section 1.2).

Bonham, Scudder, Morrato, & Pashak (2006) present a case study of Coors Brewing Company, who’s creation of a PMO improved their success rates of IT projects from about 65% to 95%. The primary method they used to improve project success rates throughout the enterprise was to create an organization to support projects, rather than merely create a lessons learned document. The PMO provided this support thru a standardized business case template, organizing projects thru categorization, providing a standard project methodology, offering project management training and career paths, and a process for extending IT strategies to three years.

As noted earlier, Boonzaaier and Van Loggerenberg’s (2006) case study of the South African Reserve Bank’s supportive project office resulted in concrete benefits. The
implementation of the project office resulted in project operations being more effective, with a
decrease in project failures, and increased user satisfaction. (pp. 212, 217)

**PMO Lite Benefits – Tailoring**

Tailoring processes and organizational structures to meet the culture or needs of a
particular company increase the likelihood of acceptance and successfulness of the change. The
methodology should also be as simple as possible. Staff will resist following requirements that
are a burden rather than helpful (Lewis, 2001). Keenan (2004) provided the following three
process tailoring strategies that were very relevant for NFPO’s PMO: supply a comprehensive
process framework; define process templates for different types of projects; and blend ideas from
best practices and experience to define a process.

Lightweight methodologies, such as those found with agile development and project
management have proven to be a very effective approach, especially for projects the size of
NFPO’s. A lightweight PMO should also provide similar cost effective value, concentrating on
those elements that will provide the best return for the cost.

**PMO Lite Benefits – NFPO’s PMO functions**

Each of the seven PMO functions selected for NFPO support the PMO’s vision of using
project management enterprise wide to improve project success. They do this by providing the
foundation and reinforcement for a project management methodology, and then performing
select project management functions best performed by a centralized resource.

NFPO’s PMO functions that helped build and support the project management
foundation included methodology management, training, and coaching. These activities
solidified and standardized the project management methodology and support staff using this
methodology. The management of the methodology included creating standardized document templates, which sped up the process of creating the documents, as well as assured important elements are not missed, and that a standard look and feel exists. This helped improve the quality and ultimate success of projects. Standardizing the documents also improved readability and comprehension for those who reviewed the same documents for other projects. Training and reinforcement of the project management methods helped assure that the process was understood and increased the likelihood of it being followed.

Some project management functions are best performed by a central resource rather than a specific project manager. This can either be due to there being no clear single owner of a project item or in order to have an objective third party separate from the project. These PMO tasks include creating a roll-up status report for multiple projects, updating an executive dashboard for strategic projects, maintaining the central document repository, and maintaining a historical summary sheet of all major projects. This centralized function could help NFPO fill the gap with not having someone responsible for these functions. The PMO’s maintenance of a consistent project reporting format makes it easier for management to quickly understand the reports and consequently improve decision making. The PMO can also serve as a neutral party to facilitate lessons learned meetings in the middle or at the end of projects.

The centralized methodology, related documents, and centralized task responsibilities provide a structure to make adjustments to improve future projects from lessons learned. For example, if it is determined that using multiple vendors in a project increases the importance for risk management or alternated communication mechanisms, then the project management procedures and templates can be modified to serve as a placeholder and reminder to consider this
issue. With out this structure, lessons learned may not help to provide NFPO continuous improvement, which was one of the goals to reach a higher process maturity level.

**PMO Lite Benefits – NFPO’s Cost/Benefit**

Costs for NFPO’s PMO were minor, including mainly occasional staff time. Implementing the first phase of the PMO totaled about 70 NFPO business hours of staff time over approximately 4 months. Additional time was spent developing procedures and documentation, however there was no incremental cost for this time. Using staff’s average salary plus benefits, but not other overhead costs, the total costs for implementing the first phase of NFPO’s PMO was around 5,000 dollars.

Ongoing costs for NFPO’s PMO included about 250 hours of total staff time a year. About 60 hours of this was for the PMO Lead spending an average of 5 hours a month on PMO activities. It included an estimate of six project leads attending a monthly meeting, which totaled 72 hours annually. It included three IT managers spending about an hour a month, totaling 36 hours. And finally, 80 hours were for four hours of project management training for 20 staff each year. There also was an estimated $100 for training supplies or books. The total annual PMO cost was estimated at 11,700 dollars. These PMO Lite costs are displayed in Table 4.
Table 4: PMO Lite Costs

<table>
<thead>
<tr>
<th>Expense Description</th>
<th>4 Months Implementation Cost</th>
<th>Annual Ongoing Hours</th>
<th>Annual Ongoing Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMO Lead (1 staff)</td>
<td>$2,750.00</td>
<td>60</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Project Leads (average 6)</td>
<td>$270.00</td>
<td>72</td>
<td>$3,240.00</td>
</tr>
<tr>
<td>IT Management (3 staff)</td>
<td>$360.00</td>
<td>36</td>
<td>$2,160.00</td>
</tr>
<tr>
<td>Misc Staff (interviews)</td>
<td>$210.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Training (avg. 10 staff each class; 2 classes per year)</td>
<td>$1,410.00</td>
<td>80</td>
<td>$3,200.00</td>
</tr>
<tr>
<td>External Training &amp; Supplies</td>
<td>$1,410.00</td>
<td></td>
<td>$100.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$5,000.00</strong></td>
<td><strong>248</strong></td>
<td><strong>$11,700.00</strong></td>
</tr>
</tbody>
</table>

NFPO’s expected tangible benefits from project management and a PMO were difficult to measure. However, with the implementation and first year costs totaling only 16,700 dollars, it was estimated that the benefits would outweigh the costs. For example, using just one strategic initiative that was delayed one year, mainly due to poor project management, the benefits can be surmised. NFPO’s 2007 initiative to develop a Private Activity Bond (PAB) management strategy was delayed until 2008. When the project was completed a year later, NFPO had generated an additional $52 million in capital. This PAB strategy can be used on an ongoing basis to generate capital; however NFPO cannot recover the lost capital from 2007. Using a very conservative estimate of only one percent loan origination fees, this was a loss of 520,000 dollars.
in income in 2007. This alone is over 3000% return on investment. There were also other fee incomes associated with the servicing of the loans that were not considered here.

In addition to tangible benefits from improved project management, there were also many anticipated intangible benefits. The corporate initiative of NFPO each year was to foster employee development and a culture of accountability. By having the PMO provide project management procedures, tools, and training, the PMO helped NFPO address this initiative. Good project management has also been shown to improve employee job satisfaction, strategic alignment with the organization, consistent practices, improved process and business outcomes, improved collaboration between teams, reduction in silos within the organization, and better sense of accomplishment (Thomas, 2008). All of these benefits were important to NFPO’s executives and were expected to be achieved with a successful implementation of the PMO.

Implementation

It was recommended that NFPO implement their PMO in phases. The first phase was recommended to include IT only. Since the IT Solutions department was more mature in their use of project management, they were the group most likely to adopt the use of the procedures and document templates. They were also able to provide useful input into ways to improve the approach and tools. The first phase included developing the procedures, document templates, and document repository. It also included Solutions staff receiving Scrum training, and IT Infrastructure staff receiving basic project management training. The PMO also identified sources for additional more extensive project management training. The PMO was also offered to help with creating consolidated IT project roadmaps for annual project planning. Another task the PMO began performing in the first phase was helping assure major IT project documents were archived properly in the new document repository after project closeout. The PMO also
helped update the historical project summary sheet for important projects. As part of the PMO, the Solutions Manager was also responsible for updating a dashboard for the status of strategic IT projects. During the first phase, the IT Director was the PMO Sponsor.

A second and third phase was recommended to further improve NFPO’s project management and their PMO. The recommended elements of these phases are presented in Chapter 6 in the next evolution of the project section.

Summary

Project management has been slow to offer significant tangible and intangible benefits to NFPO. A lightweight PMO helped increase project management competency and the use of project management organization wide. This helped NFPO better meet their mission to finance the places where people live and work throughout their state. However, this could not be accomplished without executive support for the goals of the PMO. It is anticipated that once all the phases of the PMO Lite implementation are complete at NFPO, that the organization will experience even more noticeable benefits that will better help NFPO be more successful in obtaining their mission.
Chapter 5 – Project History

Project Status

Project Schedule Status

The idea for implementing a PMO Lite at NFPO was presented to NFPO’s IT Director in May, 2006. Upon his agreement that this would be a useful research to perform and potentially implement at NFPO, this project began. Research began shortly after this and stalled for over a year. The project work resumed May, 2008 by finalizing the research and beginning to define the PMO objectives and requirements. At this time, a project schedule was created with an anticipated completion date for implementing the PMO Lite phase one by December 31, 2008. The final deliverable for phase one was completed January 7, 2009, one week behind schedule.

Project Scope/Quality Status

The PMO Charter specified PMO objectives, responsibilities, and conditions of satisfaction, which all clarified the scope and quality expectations for the first phase of the PMO. These are listed in Table 5. All six of the objectives were met. These included developing the core components of the project management methodology, in a lightweight manner; determining the requirements and phases for the PMO implementation; and implementing the first phase.

All four of the PMO responsibilities for phase one were also performed. These included someone taking the PMO lead role, training IT staff on the project management methodology, developing and managing the methodology, and performing roll-up reporting of IT projects for the IT Governance Committee. The later task was performed by the IT Solutions Manager.
There were four PMO conditions of satisfaction. Each of these were met. These conditions should indicate more growth in the satisfaction level as the PMO matures and more staff begin using the methodology. The first condition of satisfaction was NFPO’s staff increasing their competency level in project management. For this phase of the PMO implementation this item applied to the IT staff. Another condition was that the document and procedures were readily available. IT staff were told where to find these items, which were on a portal shared by IT staff. The newly defined document templates were starting to be used, though not extensively. About half of the IT Solutions staff were using Scrum for their projects. The foundation was built for the basic project management procedures to be used by the Infrastructure staff and they had started using the defined approach.
Table 5: PMO Lite Phase One Scope From PMO Charter.

<table>
<thead>
<tr>
<th>PMO Scope</th>
<th>Complete?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMO Objectives</td>
<td></td>
</tr>
<tr>
<td>Standardize major components of NFPO’s project management methodology</td>
<td>Yes</td>
</tr>
<tr>
<td>Determine the correct set of requirements for a PMO for NFPO</td>
<td>Yes</td>
</tr>
<tr>
<td>Identify a phased PMO implementation plan</td>
<td>Yes</td>
</tr>
<tr>
<td>Implement the first phase of the PMO at NFPO</td>
<td>Yes</td>
</tr>
<tr>
<td>Assure project management and PMO approaches are lightweight, requiring minimum overhead costs and processes</td>
<td>Yes</td>
</tr>
<tr>
<td>Provide the structure to increase IT’s and ultimately NFPO’s project management maturity level</td>
<td>Yes</td>
</tr>
<tr>
<td>PMO Responsibilities in Phase One</td>
<td></td>
</tr>
<tr>
<td>PMO lead role</td>
<td>Yes</td>
</tr>
<tr>
<td>Train IT staff on Project Management</td>
<td>Yes</td>
</tr>
<tr>
<td>Methodology management</td>
<td>Yes</td>
</tr>
<tr>
<td>Roll-up reporting of IT projects for monthly IT Governance Committee</td>
<td>Yes</td>
</tr>
<tr>
<td>PMO Conditions of Satisfaction</td>
<td></td>
</tr>
<tr>
<td>NFPO’s staff are increasing their competency level in project management</td>
<td>IT Staff - Yes</td>
</tr>
<tr>
<td>Project documentation and procedures are readily available</td>
<td>Yes</td>
</tr>
<tr>
<td>Project management processes are being used more consistently</td>
<td>IT - Mostly</td>
</tr>
<tr>
<td>Quality project management training is provided on at least a bi-annual basis</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The original plan for this thesis included six deliverables, which were delivered. These include project management process diagrams, document repository and document templates (see Appendix C), training material (see Appendix E), PMO Lite Business Case, PMO Lite Charter, and a high-level PMO implementation plan. These are listed in Table 6.
Table 6: Planned Professional Project Deliverables.

<table>
<thead>
<tr>
<th>Professional Project Deliverables</th>
<th>Complete?</th>
</tr>
</thead>
<tbody>
<tr>
<td>High level project management process diagram</td>
<td>Yes</td>
</tr>
<tr>
<td>Project management document repository structure with major project</td>
<td>Yes</td>
</tr>
<tr>
<td>document templates</td>
<td></td>
</tr>
<tr>
<td>Project management training material</td>
<td>Yes</td>
</tr>
<tr>
<td>PMO Lite Business Case</td>
<td>Yes</td>
</tr>
<tr>
<td>PMO Lite Charter</td>
<td>Yes</td>
</tr>
<tr>
<td>High-level Phased PMO Implementation Plan</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Project Budget/Resource Status

The project did not have direct outlays of expenses, but was estimated to account for $5,000 for implementation costs. This did not include allocation of costs for time spent outside of normal work hours, which accounted for the majority of the project work. The specific number of hours spent by NFPO staff relative to refining the project management methodology and PMO was not tracked, but was estimated to be in line with the resource plan. However, time spent on the project outside of normal work hours was significantly more than anticipated, exceeding estimates by around 200 hours. This was attributed to additional research, creation of procedures, and document templates for a new separate agile project management methodology.
Results

Research Results

The research performed for both different project management methodologies, as well as for Project Management Offices, was critical to the success of this project. The research that was performed as part of this project include article reviews, taking a Certified Scrum Master class, attending PMO and project management sessions at the PMI Global conference, interviews of NFPO staff, and review of NFPO’s past project material. The lightweight project management research was especially valuable in improving the agile approach for software development projects at NFPO.

Interviews not only helped define the problem and the recommended solution, but also were a big factor in gaining support for the project. The interviews also served as a forum for informally educating senior management on the value of project management and how NFPO might benefit from additional project management structure.

Results of Attempt to Prove in the PMO Lite Approach

The research helped build the case to be able to recommend the PMO aspects that would be most useful and compatible with NFPO’s culture. It also helped to define a lightweight project management methodology to be implemented, for both the agile application development approach, and the basic project management framework. The PMO Sponsor, the IT Director, was knowledgeable about the benefits of project management. Therefore, a structured presentation of the benefits from a PMO was not necessary.

The IT Director’s support for this endeavor was invaluable. Due to his support, the Solutions Manager and Infrastructure Manager were more supportive and willing to allocate
some staff time to the efforts. It also was necessary to be able to receive support from the other executives interviewed as part of the research.

*Phase One Implementation Results*

Major milestones and deliverables for phase one of the implementation included the following: approved PMO Charter; 22 project document templates; four project management procedure documents for agile and basic project management; repository for PMO Lite material; Scrum overview training material; Solutions team Scrum overview training; basic project management training material; and Infrastructure team basic project management training.

As mentioned previously, the PMO Lite implementation was not expected to be fully implemented by the end of the project; therefore a comprehensive analysis of the benefits could not be formulated. However, there were some benefits achieved already from the first phase of implementing the PMO. Two agile projects were completed since NFPO’s PMO Lite was introduced. The results of these projects are summarized next.

One of the Scrum projects’ purpose was to implement a new program to sell loans to Fannie Mae. NFPO’s Fannie Mae Account Manager stated that this project was completed quicker than other new Fannie Mae implementation. The team members also stated that the process greatly improved communication among the cross functional team. Another stated benefit was that it helped assure high priority functions were completed first. There was also great collaboration among the team members, which increased the quality of the results and reduced risks.

The second project that used Scrum was for a project where the requirements were not known by the users due to a brand new bond status that occurred with the credit crisis, which resulted in bonds not being purchased by investors. The new bond status required significant
customizations to the application system used to manage these bonds. The Scrum team was able to quickly make adjustments to the design and programming, as system requirements were clarified. The project team believed that the project was more successful due to the use of Scrum. Some of the reasons stated for these improvements included shorter two week iterations; more verbal communication and collaboration on requirements and design, requiring less time spent documenting, yet increasing the quality of the communication; validating the completed changes with Subject Matter Experts as soon as development for specific functions were completed; and daily 15 minute meetings planning the day’s events.

There also had been another Scrum project in progress that had not yet been completed. The Project Lead for that project stated that using Scrum on the project had helped hold everyone accountable for the success of the delivery. The developers liked the constant contact with end users and the ability to verify sooner that what they were building was accurate.

All of Solutions team received basic Scrum training. However, not all Solutions department projects were using Scrum. One of these projects did not involve any custom development. The other project was for Business Intelligence. The project managers for these two Solutions projects were not yet incented by the Solutions Manager to use the newly defined project management methodology.

The Infrastructure team completed their training and had just starting to use the basic project management framework for their major projects. These projects had not yet progressed far enough to measure their success from the new training and process. However, IT was making progress towards their goal of increasing their project management maturity level.

Interest in using project management organization-wide had been piqued with some of the senior management staff interviewed as part of this project. The IT Director also briefly
discussed PMO Lite with executive staff. They were enthusiastic about all the managers receiving the project management training. This rollout to all of NFPO was part of Phase Two.

Changes From Plan

Changes to the plan for this project did occur. It took longer to complete the project than was originally anticipated when the idea was first formed. Once a schedule was finalized, then there was only a one week deviation from that schedule. This was mainly due to some increase in the scope, but also because of some unanticipated delays due to the availability of the IT Infrastructure staff for their project management training. There were also changes required in the number of hours to complete the project, again due to the increase in scope.

Some additional deliverables were completed as part of this project, beyond what was originally planned. These included not only a basic project management process and related documents, but also a separate project management process for agile projects and a couple of extra document templates specifically used by Scrum. This change in scope required some delays in the completion of the project, as well as some additional hours needing to be spent by the author of this paper.

Summary

The anticipated benefits of NFPO PMO Lite had so far exceeded expectations, due to the benefits that occurred as a result of the use of Scrum for agile project management within the Solutions department. The most significant test for the value will be seen once the areas that previously did not use project management begin using the new processes. These areas include the Infrastructure department and the remainder of NFPO.
Chapter 6 – Lessons Learned and Next Evolution of the Project

Lessons Learned

What Worked Well

There were several factors that improved the successfulness of this project. A vital factor was sponsor support. Seeking and assessing the IT Director’s interest in formulating a PMO Lite for NFPO was the first step. Without his support the adoption of the PMO would not have been possible. His involvement in defining the PMO objectives and functions, and then documenting these items in a PMO Charter were also very helpful. These actions helped obtain the support from the other IT managers, as well as the other NFPO executives.

Interviewing key executives to ask their input on how a more formal project management approach might help their strategic initiatives also worked very well. It not only provided an opportunity to obtain important information on the value this effort could provide to non-IT strategic projects, but it also served as a forum to educate them on the value of project management. This proved to be helpful in receiving their support towards the second phase of the PMO, which is rolling it out for all of NFPO.

Another factor that worked well with this project was the research of PMOs and lightweight methodologies. The agile research was particularly useful since it resulted in the implementation of Scrum for IT development projects. The research provided a solid foundation to be able to make recommendations for project management and PMO approaches.

An aspect of this project that improved the final product for NFPO was the ability to change the scope and timeline for this project. The original scope of this project was to merely
identify a methodology to use for PMO Lite at NFPO. It expanded to include developing a project management methodology, including Scrum for development projects. And, the thesis also expanded to include the implementation of the new project management methodology and the first phase for PMO Lite. Since meeting a firm deadline was not a project constraint, the ability to include these additional elements, resulted in an improved delivery for NFPO. Without the scope being increased there was a significant risk that the actual implementation of these new methodologies would not have occurred.

What Could Have Been Improved

There were several ways that this project could have been improved. It could have been completed sooner if there had been more deadlines imposed and more accountability imposed in meeting those deadlines. An example of how accountability could have been increased was reporting status to NFPO’s IT Director on a regular basis, such as monthly. If there had also been stronger controls to not change the scope of the project, then it also would have been completed sooner. However, as mentioned, the value of the deliverables would not have been as significant.

Creation of an official project team to define and implement a PMO, including the refinement of the methodology and associated document templates would likely have increased commitment from the team for the PMO, and the quality of the deliverables. I worked fairly independently on this project, seeking involvement on an ad-hoc basis, not as part of a team. The impact from this was that the buy-in with the team was not as strong as it would have been otherwise. Also, contrary to what was recommended, the Solutions Manager chose not to assign an official responsibility for the PMO Lead going forward. The risk with this was that some of the PMO tasks may not continue, such as a focus on continual improvement of the project
management methodology, additional training, and maintaining items on the repository, such as
the summary of projects for historical purposes if no one is tasked with the responsibilities.

Next Evolution of the Project

Phase 2

The second phase of implementing PMO Lite at NFPO is to expand project management
and PMO functions from the IT focus in phase one, to all of NFPO. The first step is to adjust the
documentation to assure it is relevant for non-IT projects. It is recommended that a team be
developed to perform this step. The PMO portal also needs to be moved from the IT team site to
a more central location. Project management training material needs to be updated for non-IT
staff. The first training in phase two will be for project oversight and product owner training for
NFPO managers. Next, half day basic project management training will be provided at least
annually for all interested NFPO staff.

During the second phase, an important element will be obtaining executive staff’s full
support for the PMO through the realization of the value project management brings to the
organization. At this point, it is recommended that one of the C-level executives become the
PMO Sponsor. This would help facilitate a culture that supports and uses project management
enterprise wide.

One important avenue recommended during phase two is to provide support for project
staff, and to reinforce and expand staff’s project competency by holding a monthly meeting for
any staff involved with projects that are interested in discussing and improving their projects.
This would provide a forum for staff to discuss any project management issue and for staff to
received project management coaching and mentoring. A guest speaker or a member of the
group could also briefly discuss one of many different subjects relating to project management.
Another recommendation during this phase where the PMO is rolled out to all of NFPO is to encourage and support management in applying basic project management aspects to all strategic initiatives. This includes critical items, such as developing timelines with clear milestones, clarifying and refining specific scope of initiatives, and defining a more structured process to monitor progress towards completing each initiative.

If NFPO staff requests assistance with project management functions, such as reviewing project plans, questions regarding using Microsoft Project, or other simple tasks, then the PMO can also provide this service. The PMO can also create more frequent roll-up reporting for strategic IT projects. A dashboard could also be updated by the PMO to provide more visibility into strategic IT initiatives.

An important success factor for the PMO is to be able to demonstrate the value that the PMO brings to NFPO. As much as feasible, the PMO should help to quantify the benefits of improved project management and of the PMO by using any available statistics and translating it into business benefit. This should be performed on a continuous basis, not just after the PMO is first implemented. The historical project summary sheet should be able to help provide some of these statistics.

**Phase 3**

The third phase is recommended to be mainly comprised of activity to improve the project management processes, the PMO, and NFPO’s adoption of a project management approach. An assessment should be performed with input from management staff and project managers on ways that the PMO or project management process can be improved to facilitate improvements. Then, an action plan should be devised to prioritize and then implement the most important improvements.
If determined to be important, during this phase the PMO could perform more functions, such as roll-up reporting of more important projects and updating the dashboard, and perhaps review of project plans or other critical documents for designated projects. Another area for improvement could be clearly identifying different processes or documents tailored for projects with different scale, scope, technical challenges, or teams involved, such as if they are a team new to project management, or experienced. Whatever improvements are chosen, they should continue to foster an enterprise-wide project management culture, and expand upon the foundation built so far with the PMO. There should also continue to be a focus on simplicity and keeping processes lightweight. Any additional documentation or processes added should be clearly justified and expected to bring the appropriate business value.

The PMO should continue providing basic project management training on at least an annual basis. For more comprehensive training, the PMO should maintain information on external training. If needed, the PMO can also arrange for more extensive onsite training by an external party. Another idea is the creation of a NFPO Project Management Certificate for NFPO staff that complete the certificate requirements. This could include completing a half day NFPO basic project management class, completing one other NFPO project management scheduling class, and completing an actual NFPO project deliverable, such as a Project Charter or project schedule. Two options have been discussed with the IT Director for the project management scheduling classes. One would focus on a tools approach with Microsoft Project, and the other would focus mainly on project scheduling concepts, independent of the scheduling tool, using Microsoft Excel as an example. There also could be a continuing education requirement to maintain the certificate. This could be fulfilled by attending a select number of NFPO Project Management User Group sessions a year.
See Table 7 for an overview of the various PMO functions and the corresponding phases.
Table 7: PMO Lite Implementation Phases.

<table>
<thead>
<tr>
<th>Category</th>
<th>Function</th>
<th>Sub-function</th>
<th>PMO Lite Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>PMO lead role</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Train IT staff on Project Management</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify and recommend training courses</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Train and educate management on project oversight and product ownership functions</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Train non-IT staff on Project Management</td>
<td>2 and 3</td>
</tr>
<tr>
<td></td>
<td>PM Coaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 and 3</td>
</tr>
<tr>
<td>Process</td>
<td>Methodology management</td>
<td>Maintain project document templates</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maintain high level PM written procedures or guidelines</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Improve documents and procedures based on Lessons Learned, etc.</td>
<td>2 and 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Update documents and procedures and roll out methodology to all of NFPO</td>
<td>2</td>
</tr>
<tr>
<td>Project prioritization</td>
<td>Consolidate IT project roadmaps for annual project planning</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Communication management</td>
<td>Roll-up reporting of IT projects for monthly ITGC</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bi-weekly roll-up reporting for strategic IT projects (and possibly other projects)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roll-up reporting of all of NFPO’s strategic projects</td>
<td>3</td>
</tr>
<tr>
<td>Quality management</td>
<td>Project closeout involvement</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Tools</td>
<td>Repository</td>
<td>Create and manage document repository</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assure all major project documents archived properly after project closeout</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Project tools management</td>
<td>Dashboard for IT strategic project status</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dashboard for more IT project status</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dashboard for all NFPO strategic projects’ status</td>
<td>3</td>
</tr>
</tbody>
</table>
Conclusion

The goals of this project were met, which were to create a standardized lightweight project management methodology for NFPO, determine the requirements for a lightweight PMO, identify a phased PMO implementation plan, and to provide the foundation and structure to ultimately increase the successfulness of NFPO’s projects through an increasing level of maturity with project management. This added structure can help NFPO’s effectiveness in meeting their mission to increase availability and accessibility for affordable and decent housing for lower income residents; and to strengthen the state’s economy thru financial assistance for businesses.

As presented, there is a strong business case for increasing NFPO’s use of project management, and a way to promote and support this endeavor, is thru a lightweight PMO tailored to meet the needs of NFPO. NFPO had completed the first phase of their PMO Lite implementation. After the first phase, the results were favorable, especially in regards to their use of a more defined agile process. In order to achieve the full business benefits of improved project management, there needs to be continual improvement of the PMO and the project management processes. As project management becomes more integrated into the organization, productivity should increase, business opportunities will be realized sooner, and NFPO will be better able to meet their mission to their state.
References


Email survey sent August 29, 2008 to key NFPO staff:

The Standish Group reports that in 1994 16.2% of projects were successful. In 2006 this number has improved to 35%. Success is defined as being completed on time, on budget, and meeting user requirements. Based on your experience or knowledge of IT projects at NFPO during this time period (1994 to 2006; or the period of time you’re aware of within this range), would you agree with this statement: “NFPO’s IT project success rate was comparable to the industry standard”.

Please select Agree or Disagree buttons above (or respond to this email). If you disagree with this statement, please let me know what statement do you think would be more accurate.

Respondents:

9  Agree
2  Agree, but believe success higher in 2006
0  Disagree
PMO Lite

Project Charter

Version 1.0

October 6, 2008

Description

The goal of the PMO Lite is to provide a common, company-wide project management structure and support to promote the use of enterprise-wide project management in order to improve the successfulness of projects.

Unique Terminology and Acronyms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMO</td>
<td>Project Management Office</td>
</tr>
<tr>
<td>MS</td>
<td>Microsoft</td>
</tr>
</tbody>
</table>

Objectives

The objectives of the PMO are:

- Standardize major components of NFPO’s project management methodology
- Determine the correct set of requirements for a PMO for NFPO
- Identify a phased PMO implementation plan
- Implement the first phase of the PMO at NFPO
- Assure project management and PMO approaches are lightweight, requiring minimum overhead costs and processes
- Provide the structure to increase IT’s and ultimately NFPO’s project management maturity level
Scope of Responsibilities of the PMO

The PMO will be responsible for the following functions, as rolled out in the stated phase:

<table>
<thead>
<tr>
<th>Category</th>
<th>Function</th>
<th>Sub-function</th>
<th>PMO Lite Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>PMO lead role</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM Training</td>
<td>Train IT staff on Project Management</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Train non-IT staff on Project Management</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Train and educate management on program oversight or project sponsorship functions</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PM Coaching</td>
<td></td>
<td>2 and 3</td>
</tr>
<tr>
<td>Process</td>
<td>Methodology management</td>
<td>Improve documents and procedures based on Lessons Learned, etc.</td>
<td>1 then refine after</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Update documents and procedures and roll out methodology to all of NFPO</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Communication management</td>
<td>Roll-up reporting of IT projects for monthly ITGC</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bi-weekly roll-up reporting for strategic IT projects (and possibly other projects)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roll-up reporting of all of NFPO’s strategic projects</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Quality management</td>
<td>Project closeout involvement</td>
<td>2</td>
</tr>
<tr>
<td>Tools</td>
<td>Repository</td>
<td>Assure all major project documents archived properly after project closeout</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Project tools management</td>
<td>Dashboard for more IT project status</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dashboard for all NFPO strategic projects’ status</td>
<td>3</td>
</tr>
</tbody>
</table>

The PMO will NOT be responsible for:

- Maintaining a pool of project managers
- Managing project resources, or determining if staffing resource plans are properly allocated for the various projects
- Auditing projects
- Managing the prioritization of projects
- Gathering project statistics or related metrics, (nor Earned Value Analysis to assess progress)
- Risk management
- Timeline management
- Budget management
- Procurement management
 spit this text into paragraphs

- Contract management
- Post project reviews, such as conducting post project reviews and document lessons learned, nor Project benefits attainment assessment
- Enterprise-wide project management tools

**Conditions of Satisfaction**

The PMO will be viewed as successful when the following conditions are met:
- NFPO’s staff are increasing their competency level in project management
- Project documentation and procedures are readily available
- Project management processes are being used more consistently
- Quality project management training is provided on at least a bi-annual basis

**Resources**

**People**

a. **PMO Sponsor**
   - General Responsibilities: act as a project management evangelist and provide support for PMO
   - Time Commitment: .5 - 1 hour per month
   - Staff Member to Fill Role: Rod Hardin, IT Director

b. **PMO Lead**
   - General Responsibilities: provide project management and PMO support
   - Time Commitment: 2 to 4 hours per week during Phase 1 and then 2 to 8 hours per month in subsequent phases
   - Staff Member to Fill Role: Sheri Lowrance

c. **IT Management**
   - General Responsibilities: promote and provide resource for project management
   - Time Commitment: 1 hour per month
   - Staff Member to Fill Role: Rod Hardin, Kelly Becker, and Steve Perkins

d. **Project Leads**
   - General Responsibilities: Provide project management for assigned projects.
   - Time Commitment: 10 - 40 hours per week for each lead

**Tools**

- SharePoint will be used as a document repository and collaboration tool
- MS Excel will be used to summarize project history
- MS Word will be used for status reports and similar documentation
- MS Project will be used for project schedules

**Financial**

There is no budget for the PMO.

**Other**

Meeting rooms, office supplies, and projector.

**PMO Lead Authorities**

The PMO Lead will perform the following duties:
- Maintain project document templates and procedures on the PMO Lite portal
- Assure that major project documents are archived on the PMO Lite portal after project closeout for at least each IT strategic projects
- Provide project management training for 2 different audiences, which include IT and staff for non-IT specific projects
- Serve as a resource for project management consulting or coaching or other functions on an as needed basis, such as facilitating project retrospective or lesson learned meetings

**Schedule for PMO Phases**

Appendix C – Project Management Document Repository Structure With Major Project

Document Templates

PMO Lite Folder Structure on SharePoint site:
- Completed Project Document Archives (folder)
- Good Samples (folder)
- PMO Lite Communication (folder)
- Policies and Charters (folder)
- Procedures and Guides (folder)
- Templates (folder)
- Training (folder)
- All Projects Historical Matrix.xls
- Document Templates and Instructions Matrix.xls

Procedure and Guidelines sub-folder:
- Incomplete Versions (folder)
- Obsolete Versions (folder)
- NFPO Agile PM Process Flow.ppt
- NFPO’s Basic Project Management Framework Diagram.ppt
- Project Management Checklist.doc
- Project Management Glossary.doc

Templates sub-folder:
- Checkpoint Meeting Agenda.doc
- NFPO’s Basic Project Management Framework Guide.doc
- Document Templates and Instructions Matrix.xls
- Issues Tracking Log.xls
- Product Backlog and Sprint Backlog.xls
- Product Backlog.xls
- Project Budget.xls
- Project Charter – Basic.doc
- Project Charter.doc
- Project Closeout Report
- Project Management Plan – Basic.doc
- Project Management Plan – Full.doc
- Project Management Plan – Scrum.doc
- Project Schedule – Basic.mpp
- Project Schedule – Scrum.mpp
- Project Status Report.doc
- Scrum Retrospective Meeting Agenda.doc
- SDLC Tailoring Doc Matrix.xls
- Sprint Burndown.xls
• Sprint Planning Meeting Agenda.doc
• User Acceptance Testing Checklist.doc
• User Story Card.doc
Appendix D – Project Management Plan – Basic (Sample of a Document Template)

Project Name

Project Management Plan (Basic)

Version 1.0
[Date of this version]

Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Comments</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>[Date]</td>
<td>Initial draft</td>
<td>[Project Manager’s name]</td>
</tr>
</tbody>
</table>

Description

[This section includes a brief overview of the project. Insert a copy from the Project Description section of the Project Charter; for example: the purpose of this project is to implement XXX system]

Objectives

[This section explains “why” the project is needed. Often expressed in terms of improving customer service, saving staff time, reduced processing costs, enhances market positioning, etc. If there are quantifiable benefits, those should be included also. Often the items in the Business Value section of the Project Charter can be inserted here, possibly with a little more detail.]

Scope

[This section explains the scope of the project. The scope is the work that must be done to deliver a product with the specified features and functions. This should include a description of what the project is and what it is-not. Often the items in the Project Scope section of the Project Charter can be inserted here, with more detail or clarification.]

Success Criteria
[This section is optional since it is in the Project Charter; it is only needed here if the criteria change from the charter; the initial list can be copied from the Success Criteria section of the Project Charter]

- [Major measurable item that must be complete to show that project was successful; these requirements should clearly be able to be answered true or false].
- [Criteria 2, for example system is installed and working as designed, no downtime during business hours due to installation,]
- [Criteria 3, for example backup takes less than 4 hours]
- [Criteria 4, for example training was held for [YYY] staff]
- System passed testing of checklist items

**Project Team Members**

[Most of this can be copied from the Key Roles section of the Project Charter]

<table>
<thead>
<tr>
<th>Team Member’s Name</th>
<th>Project Role</th>
<th>Position/Organization</th>
<th>Time Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Usually a business executive or manager’s name]</td>
<td>Project Sponsor</td>
<td>[Title of staff member or if other than NFPO, company short name]</td>
<td>1 hour / month</td>
</tr>
<tr>
<td>[IT staff’s name, such as Rod Hardin or Steve Perkins]</td>
<td>Technical Sponsor</td>
<td>[Title or company]</td>
<td>1 hour / month</td>
</tr>
<tr>
<td>[Staffs’ names]</td>
<td>Steering Committee [only for strategic projects]</td>
<td>[Title or company]</td>
<td>1 hour / month</td>
</tr>
<tr>
<td>[Staff’s name]</td>
<td>Project Manager / BA</td>
<td>[Title or company]</td>
<td>2 hours / week</td>
</tr>
<tr>
<td>[Staff’s name]</td>
<td>Technical Lead</td>
<td>[Title or company]</td>
<td>10 hours / week</td>
</tr>
<tr>
<td>[Staff’s name]</td>
<td>Developer</td>
<td>[Title or company]</td>
<td>20 hours in [month]</td>
</tr>
<tr>
<td>[Staff’s name]</td>
<td>User / SME / Tester</td>
<td>[Title or company]</td>
<td>2 hours / week plus 8 hours last week</td>
</tr>
<tr>
<td>[Staff’s name]</td>
<td>[Other role]</td>
<td>[Title or company]</td>
<td></td>
</tr>
</tbody>
</table>

**Roles and Responsibilities**

[This section should include the tasks that each team member filling a project role should perform. ]

<table>
<thead>
<tr>
<th>Role</th>
<th>Major Responsibilities</th>
<th>Deliverables</th>
</tr>
</thead>
</table>
| Project Sponsor | • Champion the project  
• Make strategic decisions for the project  
• Monitor the project’s progress at a high-level | Project Charter signoff |
| Technical Sponsor | • Make strategic technical decisions for the project  
• Monitor the project’s progress at a high-level | Project Charter signoff |
| Steering Committee [for strategic projects only] | • Make strategic decisions for the project  
• Resolve escalated major project issues  
• Monitor the project’s progress at a high-level | |
| Project Manager | • Create and maintain project documents  
• Oversee the progress of the project, ensuring it is on schedule, within budget, and within scope. If variations are needed, obtain approval from Project Sponsor. | Project Management Plan  
Project Status Memos or Reports  
Project Schedule |
## Major Responsibilities

- Communicate project status to management, key stakeholders and others on a regular basis.
- Ensure that project team members have the tools, skills, resources needed to complete project tasks.
- Conduct regular project status meetings with various constituencies.
- Coordinate project deliverable & acceptance
- Raise issues to steering committee or management as needed

### Deliverables

Issues, Decision, Bug, Risk and Change Tracking [optional]

## Business Analyst / SME / Tester

- Provide or document functional requirements
- Create Testing Checklist from requirements and input from technical staff
- Test items on the Testing Checklist
- Raise issues affecting the project to the Project Manager

### Deliverables

Functional requirements Testing Checklist

## Technical Lead

- Assessing the current system state and system requirements
- Coordinate or perform technical tasks
- Raise issues affecting the project to the Project Manager

## Developer

- Provide requirements or design input
- Develop programs
- Unit test programs

## Approach

- [High level important steps or overview of approach to project, such as leverage existing systems, minimize impact to the business, implement in phases, utilize contract staff to perform majority of the work, diagramming business processes to identify areas to improve …]
- [Another important approach or critical step]
- [Etc.]

## Communication Plan

[This section should include the information and communications needs of the project stakeholders: who needs what information, when they will need it, and how it will be given to them.]

<table>
<thead>
<tr>
<th>Audience (Role)</th>
<th>Deliverable</th>
<th>Objective</th>
<th>Frequency</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Documentation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Sponsor, Technical Sponsor</td>
<td>Project Charter (project initiation)</td>
<td>Receive project approval</td>
<td>Once at beginning of project</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Project Team (except Steering Committee)</td>
<td>Project Management Plan &amp; Updates</td>
<td>Communicate overall project plan, risks, goals, &amp; broad schedule</td>
<td>Ideally, whenever significant changes occur that impact the project plan</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Project Team (except Steering Committee, Project Sponsor)</td>
<td>Project Schedule</td>
<td>Communicate project schedule and status</td>
<td>Monthly</td>
<td>Project Manager with input from team leads</td>
</tr>
<tr>
<td>Steering Committee, Technical Sponsor, Project Sponsor</td>
<td>Project Status Report</td>
<td>Provide project status</td>
<td>Monthly or bi-weekly for strategic projects</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Project Team</td>
<td>Meeting Agenda &amp; Minutes</td>
<td>Efficient and effective meetings</td>
<td>Whenever there is a meeting</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Project Team (except sponsors and Steering Committee)</td>
<td>Issues Log</td>
<td>Track &amp; manage questions with answers, issues, &amp;</td>
<td>Bi-weekly, moving to weekly as tasks increase</td>
<td>Project Manager</td>
</tr>
</tbody>
</table>

---

Lowrance 110
<table>
<thead>
<tr>
<th>Audience (Role)</th>
<th>Deliverable</th>
<th>Objective</th>
<th>Frequency</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Team</td>
<td>Project Portal</td>
<td>Collaboration and visibility</td>
<td>As documents created or updated</td>
<td>Project Team</td>
</tr>
<tr>
<td>Project Team and future project managers</td>
<td>Project Closeout Report</td>
<td>Record completion &amp; continuous improvement for projects</td>
<td>Once at end of project</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Meetings</td>
<td>Status/Checkpoint Meeting</td>
<td>Keep project team on track with project plan and determine status</td>
<td>Weekly at beginning and end; bi-weekly middle</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Management and project leads</td>
<td>Leadership Meeting</td>
<td>Inform management of status and issues</td>
<td>As requested by management</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Project Sponsors and Project Manager</td>
<td>Executive Steering Committee (ESC) Meeting (optional)</td>
<td>Inform management of status and receive their decisions</td>
<td>Monthly</td>
<td>Project Manager</td>
</tr>
</tbody>
</table>

**Quality Assurance Plan**

The procedures or methods that will be used for assessing and controlling quality associated with this project are as follows:

- Requirements and design will be validated with [staff positions or names].
- Demonstrations will be provided [when] by [whom] to [what group]
- Testing of [functionality changed thru this project] will be performed [how] and [when] by [whom]
- Testing of [functionality not directly thru this project, but may be impacted] will be performed [how, such as testing items on a checklist] and [when] by [whom]
- Problems or changes identified thru these process will be tracked [how] and by [whom]. Resolution of [these or just critical] items will be completed prior to [going live with the system or completing the project].
- When significant deviations occur, or there is a high risk of occurrence, that impact the project schedule, budget, quality, or scope this will be promptly discussed with the Project or Technical Sponsor to identify appropriate adjustments
- After the completion of the project, the conditions of satisfaction will be reviewed to determine if each of those items were met. The Project Closeout Report will also be completed with input from all of the key stakeholders of the project. This evaluation process should assist in improving future project management endeavors.

**Change Management Plan**

Changes are defined as any item that was not included in the original project plan, which if included now may impact costs or other resources, quality, schedule, project scope, or risk.

The procedures to be followed for managing changes to the project are as follows:

- A written request for approval for a change will be provided to the Project Sponsor and/or Technical Sponsor. It will include the following:
Lowrance

• What the change is
• Why it is needed
• What the impacts are to the timeline, budget, scope, quality, or risk
• What the cost or resource requirements are for the change
• How the change will be implemented, if applicable

• Once change is approved:
  • If the change significantly changes the Project Management Plan, then ideally this document should be updated and versioned accordingly
  • If there may be many changes, then these ideally should be tracked in a log, such as with the issues log, but noted that it is a change item
  • Changes impacting the team should be communicated to the team

Risk Management Plan

Risks are defined as any uncertain event or condition that, if it occurs, has a negative effect on a project’s objectives.

Risks will be managed as follows:
• Major risks with a high likelihood of occurrence will be noted in status reports
• Major risks will be discussed in Steering Committee meetings, as necessary
• [Optional: If there are major risks associated with this project and the project is a strategic project, then more formal management of risks may occur. These include such items as listing each risk, along with its impact, likelihood of occurrence, and the mitigation plan, which may include how to avoid the risk, how to mitigate the risk to reduce the likelihood of it occurring or to reduce its impact, or the contingency plan if the risk occurs. These items could be listed here or a separate document can be created.]

Training or Rollout Plan

[This section should include the procedures or methods that will be used for rolling out the project to the users. It could include important documents that will be created, such as user guides, training material, deployment documentation. It should include how training will be provided to the end users.]

The system will be rolled out to end users as follows:
• Deployment documentation will be created by the [Technical Lead] prior to final rollout
• User documentation [is not needed or will be created by …]
• Training will be provided [thru a brief 1 hour session with the XXX person and YYY]

Budget

Major budget line items approved for this project are as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>0</td>
</tr>
<tr>
<td>Software</td>
<td>0</td>
</tr>
<tr>
<td>Contractors</td>
<td>0</td>
</tr>
<tr>
<td>Training</td>
<td>0</td>
</tr>
<tr>
<td>Travel</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>0</td>
</tr>
</tbody>
</table>

[A link can be included to a Budget to Actual spreadsheet showing the percent of budgeted items that have actually been paid.]
Schedule

The high-level schedule of planned milestones and their target dates for this project are as follows:

<table>
<thead>
<tr>
<th>Milestone Description</th>
<th>Start Date</th>
<th>Finish Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter and plans documented &amp; approved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[List major activity]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[List major activity]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[List major activity]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[List major activity]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create documentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go-live</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[A link can be included to the actual Project Schedule for this project.]
Infrastructure Project Management Training Agenda

Introduction
- Training Objectives
- Scope (agenda, handouts, take-aways)
- Schedule
- Budget
- Roles & Responsibilities
- Success Criteria
- Issue Tracking
- Quality/Risk Management

Core training
- Project & project management
- PM overview
- Project Initiating
- Project Planning
- Project Executing
- Project Monitoring
- Project Closing
- Program management or project oversight

Checkpoint (schedule, objectives, & changes)

Break

Review

Review documents with a mock project
- Identify a project
- Project Charter
- Project Management Plan
- Project Schedule
- Checkpoint Meeting
- Project Status Report
- Project Closeout Report

Closeout
- Training take-aways
- Review objectives & success criteria
- Survey will follow
- Questions, comments, and discussions
Other Training Material on the PMO Lite SharePoint Site:
- NFPO’s PMO Lite.doc
- Intro to PMO Lite.ppt
- Intro to Project Management – Infrastructure Team.ppt
- Introduction to Scrum for IT Solutions Team.ppt
- Introduction to Scrum.ppt
- PM Training Resources.xls
- Project Management Glossary.doc
- Scrum Summary.doc
- Training Agenda.doc

Procedures and Guides Placed in a Notebook Handed Out to Trainees:
- NFPO Agile PM Process Flow.vsd
- NFPO’s Basic Project Management Framework Diagram.vsd
- NFPO’s Basic Project Management Framework Guide.doc
- Project Management Checklist.doc
- Project Management Glossary.doc
Annotated Bibliography

The authors from the Technical Research Centre of Finland provide a well researched and an effective comparative analysis of nine agile methods using the following five perspectives: SDLC, project management, abstract principles versus concrete analysis, universally predefined versus situation appropriate, and empirical evidence.

This article discusses the value of using agile processes that are flexible and adaptable to changing circumstances. It provides some unique information from other resources in it’s inclusion of the impact of globalization on software development.

A statement of values and principles deemed important for agile methodologies, which was created by many individuals considered authorities within the agile realm. It is frequently quoted and relied upon in agile literature.

This brief article records a panel discussion regarding the contributor’s opinions on impacts of the role of the project manager with agile projects, given the self-directed nature of agile projects. Most of them discuss how an agile project leader is still needed for either forward looking responsibilities or providing direction or administrative managerial functions.

This article provides some good high-level principles for agile project management by discussing six practices for managing agile development projects. It also presents an overview of a case study of a financial services company’s large product-development project using XP development with Agile Project Management (APM).

Bates provides sound support regarding the importance of a project management office to the effectiveness of the project management functions of an organization. He also specifies various good recommendations for establishing a PMO, such as roles and responsibilities, and steps to perform during the assessment, planning, and implementation phases to establish the PMO.

Barry Boehm is a Professor of Software Engineering at the University of Southern California. He is known for his known for his many contributions to software engineering. In this article he provides some contrasting views for when to consider plan-driven versus agile methods for implementing software.


This book’s author is a well regarded professional in the industry. It is a unique resource that details how project portfolios can be aligned with a frequently changing marketplace by using a central strategy which maximizes ROI while balancing the risk across an organization.


This article presents a thorough case study of Molson Coors’ implementation of a Portfolio Management Office (PMO), which included a Global PMO. It outlines the history, architecture, specific PMO responsibilities and implementations, challenges, and successes of the progression to a more mature PMO.


The authors do a good job of presenting a case study on the Information and Communication Technology (ICT) Department of the South African Reserve Bank, which determines that the establishment of a project office was a successful step to address typical problems encountered with ICT projects. The Bank implemented a supportive project office, allowing project managers to still follow their instincts as long as they complied with minimum standards and procedures. The analysis involves surveys of Bank managers and clients to determine factors attributed to improvements. The paper also includes project management and project office literature reviews.


This on-line article reports the findings from the Standish Group International’s 2003 CHAOS research study on 13,522 IT projects. It is frequently referenced in project management literature.

The authors do a good job of presenting the immaturity of PMOs and that establishing a PMO is an evolutionary process for an enterprise. A unique topic with this article is the presentation of transitioning to a more strategic PMO by creating an enterprise project management culture.


This brief article documents some techniques workshop participants found useful when deploying lightweight processes. One of the points made is that software projects do not need a lot of heavyweight processes and deliverables to be successful, but that good communications skills are important.


This often cited publication explains a model of essential elements of effective processes, which include five maturity levels. The model is intended to assist with accessing performance and guide process improvement.


This publication explains the upgrade from CMMI Version 1.1, which is primarily the new concept of “constellations”, which is a set of components to meet the specific needs of an area of interest.


The Center for Business Practices is a knowledge center that captures, organizes, and transfers business practice knowledge to project stakeholders. They performed a study of senior practitioners knowledgeable about their organizations’ project
management efforts and results. This article briefly discusses the survey results that show the value project management provides to an organization.


eProject, Inc. (2006). PMO ToolKit 2.0. eProject is now daptiv, which is a software tool for project portfolio management. Since they are selling a product, this shows some bias in the material. This contains 5 short whitepapers on PMOs. They include the following: Four Ways to Create a More Successful Project Management Office, Project Management Office White Paper, PMO – Where to Start?, PMO and Project Management Dictionary, and PMO in a Box Overview.

Forward, A. & Lethbridge, T. C. (2002, November 8-9). The relevance of software documentation, tools and technologies: a survey. *DocEng ’02*. 2002 ACM. The paper highlights a software professionals survey meant to determine the relevance of software documentation, as well as the tools and technologies to maintain and verify such documents. The survey participants were divided into those where agile versus conventional software process used.

Gartner (2005). *Gartner consulting says companies should implement critical program management for independent supervision on important IT initiatives*. Retrieved August 12, 2008 from http://www.gartner.com/it/page.jsp?id=492137. Gartner is leading IT research and advisory company. In this 2005 press release Gartner Consulting stresses the importance of having a program management service with an independent qualified third-party to provide formalized supervision of critical program management. This can be self-serving advice since in this press release they were announcing their plans to provide more consulting services in this area.

Hallett, D. & Butlin, R. (2006). *How do you Scrum?* Canheat. Retrieved July 19, 2008, from http://canheat.ca/2006/presentations/Butlin.ppt#553,64,How do you do Scrum? In this PowerPoint slide deck two members of Queen’s University, Information Technology Services, present why traditional plan-based methodologies did not work for their software development and how Scrum did. As is typical with slide decks, the material is not explained in depth.
In this paper Thelma Hataria, from the University of North Florida, provides a good overview and comparison of heavyweight and lightweight methodologies. She presents three heavyweight methods, including waterfall, Spiral Model, and Unified Rational Process. Three lightweight methods she presents are Extreme Programming, Scrum, and Crystal.

In this book Jim Highsmith provides a helpful explanation of the Agile Project Management (APM) framework, with practical tools and techniques to apply each of the processes and sub processes to support the framework. APM guiding principles are also well integrated with the methodology.

An article excerpted and modified from Highsmith’s book Agile Project Management: Creating Innovative Products. It highlights the agile methodology with “focus on quick starts, iterative exploration, delivering customer value, low-cost iterations, frequent feedback, and intense collaboration.”

Results from a thorough survey are presented to show an increase in the level of agility for organizations’ software environments based on the agile methods practiced. The article also includes data supporting that agile methods are also impacting portfolio management in organizations.

The report explains how agile software development practices were extended to deal with multi-product development at the VeriSign Managed Security Services. It discusses the challenges found with adopting agile and how the program management office helped with this transition.

This brief article presents the problem of processes either being partly defined or becoming out of date due to changes in the environment during the project. It then proposes a solution of an Emergent Process Design approach that guides the extraction and adaptation of a project-specific process that is also adaptable for a dynamic environment. The actual process is not explained adequately in this article.

Contains a good explanation of the Balanced Scorecard, which is the strategic planning tool NFPO attempted to implement.

Keenan provides support for his research hypothesis that tailoring of development processes for individual circumstances can improve software engineering. He presents the following three main strategies for this tailoring: provide a comprehensive process framework, define a set of process templates for different types of project and select the best match, and define a process which blends best practices and local experience. The article only introduces the research that is to occur, so does not yet contain much useful substance.

This brief article gives an overview of the Extreme Programming (XP) project planning approach with marginally useful feedback from degree students.

Khan, a student, provides a thorough literature review and critique of heavyweight methods, such as waterfall, Unified Process and CMM, and compares them to agile methods, such as extreme Programming, SCRUM, DSDM, FDD, and Adaptive Software Development. His study on which methodology is more reliable for various web sites and provides results from a survey questionnaire of 15 software industry practitioners is marginally useful. This paper is referenced in other scholarly articles.

This book covers Lewis’ core methods, principles, and practices of managing projects. His 5 phases include “definition, planning strategy, implementation planning, execution and control, and lessons learned”, which is also know as the closeout phase. The material is similar to traditional project management methodologies.

This slide presentation at a Gartner event presents considerations regarding supplementing project-based resources and services. Without the notes associated with the slide presentation, the material is not very useful.

The authors perform a good literature review as well as surveys of 129 IS project relationships to ascertain relationships between project size, complexity, various project management practices, and the influence on a PMO on the use of standardized project practices and performance.

Mullaly, M. & Thomas, J. (2008). The Value of Project Management. Session at PMI Global Congress, North America, October 21, 2008. The session presented the findings from a $2.5 million study of 65 organizations across the globe over three years. The research team was commissioned by PMI and conducted thru Athabasca University in Alberta, Canada. Mark Mullaly and Janice Thomas were the principal investigators of the research team. These research findings are also in their book Researching the Value of Project Management. The research revealed that project management provided significant value to organizations.


PMOSStep - Project management office framework – The PMO startup service (n.d.). Retrieved August 1, 2008 from http://www.pmostep.com/0.0.0PMOSTepHomepage.htm. This web site contains a comprehensive amount of information regarding a framework for setting up a PMO. The site’s content is provided by an consulting company that provides services to help an organization establish a PMO using a TenStep internal methodology.

Project Auditors, LLC (2004). Organizational project management maturity model (OPM3). Retrieved May 29, 2008, from http://www.projectauditors.com/Consulting/OPM3.html. This web site provides some brief information about the Project Management Institute’s Organizational Project Management Maturity Model (OPM3), which is a tool for companies to assess their project management maturity, as compared to best practices. The site also provides a simple calculation to project the potential savings that could be realized by increasing an organization’s project management maturity.


This publication explains what the Organizational Project Management Maturity Model is that is published by Project Management Institute (PMI). It explains that OPM3 is an authoritative maturity model for project management, program management, and portfolio management.


Rad presents well the benefits of a PMO, including success with scope, cost, schedule, and customer satisfaction. He states that an organization is a good candidate for a PMO if the costs of runaway projects are higher than the organization is willing to incur.


This book provide a thorough description of a PMO, explaining a variety of features to determine those most appropriate for a given situation. It also has a good explanation of maturity levels for project management.


This PowerPoint slide deck provides an overview of Agile development, metrics, and recommendations on how to get started using Agile. It provides a good introduction to Agile, along with supporting data regarding the benefits of Agile.


Ramsin and Paige provide thorough abstracts on various object-oriented software development methodologies, which are well researched. The methodologies include those that are seminal, such as RDD and Booch; integrated, such as RUP/USDP and EUM; and agile, which includes DSDM, Scrum, XP, ASD, dX, Crystal, and FDD.


This whitepaper, which was written by the organization that developed this process, presents an overview of the Rational Unified Process (RUP). RUP is a software engineering process with guidelines and templates for software lifecycle activities.


This article summarizes some useful statistics on the successfulness on software projects as found from The Standish Group’s 2006 Chaos Report as contrasted with The Standish Group findings in 1994.

Ken Schwaber is a well respected authority in the agile community and is one of the originators of Scrum. In his book, he describes in an easy to understand manner, the Scrum project management methodology and the functions of a Scrum Master, which is the equivalent of a Project Manager. Various examples of Scrum principles as applied with a variety of companies and situations are presented.

Sharp, T. C. (2004). *Lightweight project management methodologies (doing more with less)*
In this slide deck presentation Todd Sharp contrasts traditional versus lightweight project management approaches. He also highlights the primary tenets of lightweight approaches including the following: frequent delivery, responsive to change, enhanced collaboration, improved communication, empowered team environment, and simplicity. The presentation provides some useful high level points regarding the value of lightweight methodologies.

This white paper from Shine Technologies in Australia presents the results from a global web-based survey on agile methodologies. The survey had 10 questions and 131 valid submissions at the time of the paper.

In this article Sienkiewicz presents support regarding how a PMO can increase the value of shareholders, as well as a PMO adding value to companies in the public and voluntary sectors.

This whitepaper focuses on how a project manager can transition to the self-managed team environment present in the agile software development project. It contrasts agile versus plan-driven development, as well as a good comparison of PMBOK practices to agile practices. It also provides some input regarding program management offices.

In this text Smith explains the basics of flexible product development. It provides tools the enhance flexibility and explains how to support an organization into changing its values and embracing this method of operating. It is a good resource for explaining some of the basic tenants for agile projects.

Stanleigh stresses the importance of strategic focus within the PMO, including more business strategic alignment. He provides some statistics on failed projects and PMOs. He also presents four main suggestions for success, including the following: ensure that all projects are strategically aligned, create a culture that supports a project management environment, project management best practices, and create a project measurement system. They studied over 750 organization’s project management practices, however the suggestions are not tied to this study or results relating to these practices.


This article is a well recognized introduction of action research as a method to correct the deficiencies of positivist science.


Sutherland, one of the fathers of Scrum, explains Scrum and provides examples thru five companies where he used Scrum to show that Scrum can improve communication and delivery of working code when used with companies of different sizes and technologies. The companies include the first company to use Scrum, a senior management Scrum, the first Internet Scrum, a large-scale development environment, and a Scrum project integrated with Extreme Programming.


Szulewski reviews *Agile Project Management: Creating Innovative Products* by Jim Highsmith, 2004 and *Agile Project Management with Scrum* by Ken Schwaber, 2004. He presents well his favorable recommendation for both of these books, which is also based on application for his clients, and his identification of a few areas for improvement in the books.


The article discusses how a traditional PMO was converted to an agile PMO that was staffed by agile coaches that supported the portfolio and agile project teams. It provides some useful advice and lessons learned from Capital One Auto Finance’s experience.

This article discusses the findings of the global $42.5 million study Thomas and Mullaly performed to determine the value of project management. Some useful statistics are reported for tangible and intangible benefits of project management. This article also reports that companies do not gather enough statistics to report an actual Return on Investment (ROI) for project management.


This is a very good article that contrasts and compares agile approaches and values to PMI’s PMBOK. It provides a good overview of each of the major agile methodologies. It also provides a good comparison of PMBOK and agile for each of the PMBOK process groups and knowledge areas.


VersionOne is a software vendor that provides Agile project management tools. This whitepaper reports the findings from their 3rd annual survey. This survey is from 2,319 completed surveys from 80 counties. It reports on practices performed by companies currently using agile development approaches.


This paper explains well four agile methodologies, including Extreme Programming, Crystal Methods, Scrum, and Feature Driven Development.