STATE OF NORTH CAROLINA

PERFORMANCE ASSESSMENT

ENTERPRISE PROJECT MANAGEMENT OFFICE

JULY 2007

OFFICE OF THE STATE AUDITOR
LESLIE W. MERRITT, JR., CPA, CFP

STATE AUDITOR

PERFORMANCE ASSESSMENT

ENTERPRISE PROJECT MANAGEMENT OFFICE

JULY 2007

STATE OF NORTH CAROLINA
Office of the State Auditor

Leslie W. Merritt, Jr., CPA, CFP
State Auditor

2 S. Salisbury Street
20601 Mail Service Center
Raleigh, NC 27699-0601
Telephone: (919) 807-7500
Fax: (919) 807-7647
Internet
http://www.ncauditor.net

July 19, 2007

The Honorable Michael F. Easley, Governor
Members of the North Carolina General Assembly
Mr. George Bakolia, State Chief Information Officer
Ms. Sharon Hayes, Director, Enterprise Project Management Office
Mr. Bob Giannuzzi, Acting Director, Enterprise Project Management Office

Ladies and Gentlemen:

This report represents the results of a performance assessment of the *Enterprise Project Management Office*. Berry, Dunn, McNeil & Parker performed this assessment under contract with the Office of the State Auditor.

The objective of the assessment was to evaluate current standards and accountability measures of the Enterprise Project Management Office and determine how effectively they have been implemented in accordance with best practices. Specifically, the contractor was to determine whether the current policies, procedures and practices significantly improve the likelihood that a given information technology project will be brought in on time and on budget. Their report answers these questions and offers recommendations for improvement.

The State Chief Information Officer reviewed a draft copy of the contractor's report. His written comments to each of the individual findings are incorporated into the contractor's report. Mr. Bakolia's general observations regarding the Enterprise Project Management Office as well as comments on the opportunities for improvement identified by the contractor are included as a separate section of this report.

This engagement was performed by an outside professional service provider and is a nonaudit service as defined by Generally Accepted Government Auditing Standards. As a result, this report does not constitute an audit, examination, or a review as described in professional standards governing those types of services.

We wish to express our appreciation to the staff of the Enterprise Project Management Office and other involved agencies for the courtesy, cooperation, and assistance provided us and our contractor during the assessment.

Respectfully submitted,

Leslie W. Merritt, Jr.

Leslie W. Merritt, Jr., CPA, CFP
State Auditor

TABLE OF CONTENTS

Section 1

Contractor’s Report

(with agency responses to individual findings)

STATE OF NORTH CAROLINA
OFFICE OF THE STATE AUDITOR

Enterprise Project Management Office Assessment

Report of Findings and Recommendations

July 19, 2007

State of North Carolina
Office of the State Auditor

Table of Contents

Executive Summary

Overview

The North Carolina General Assembly addressed the need for better planning, budgeting, and management of information technology (IT) in state government by the ratification of Senate Bill 991 (SB991) in July 2004. The legislation assigned oversight duties to the State Chief Information Officer (SCIO); however, agencies retained broad responsibilities and accountability for their management of IT projects. The SCIO has implemented tools, staffing, and processes to assist agencies and his office to meet these expanded expectations and SB991. The adoption of appropriate standards as well as reporting and monitoring procedures for significant IT implementation projects is led by the Office of Information Technology Service's (ITS) Enterprise Project Management Office.

The Office of the State Auditor (OSA) for the State of North Carolina engaged Berry, Dunn, McNeil & Parker (BDMP) to provide an independent assessment of the State of North Carolina's Enterprise Project Management Office (EPMO) to assess the design and implementation of the EPMO and determine if it is significantly improving the likelihood that projects will be successful.

BDMP has completed an independent assessment of the EPMO. Based upon our experience and knowledge of industry best practices, interviews with representatives of twelve sample projects (see Appendix A for a list of the selected projects), information gathered during the course of our work, and an independent and objective review of the design and implementation of the EPMO, we conclude that the EPMO has improved the likelihood that projects will be successful. Projects are more likely to be brought in on time and on budget with the required functionality now than they were prior to the implementation of the EPMO.

Section 1 of this report provides an overview of this project's objectives, background, and work performed. Section 2 provides a context for this report and the EPMO's work with a discussion of the evolution of the Project Management Office (PMO) and PMO models and functions. Section 3 presents our findings and recommendations. Specifically, Section 3.2 lists some of the EPMO's accomplishments and Section 3.4 provides detailed findings and recommendations based upon our assessment of the design and implementation of the EPMO and a review of current policies, procedures and practices. Findings are grouped by six topic areas: Organization; Resources; Standards and Accountability Measures; Policies, Procedures, and Practices; Communication; and PPM (Project Portfolio Management) Tool. The discussion of each finding includes a description of the problem and its impact, as well as applicable best practices and recommendations for improvement.

Summary of Key Accomplishments and Opportunities for Improvement

The EPMO has been designed and implemented with considerable thought, stakeholder input, and effort. It has increased accountability by implementing a process that supports commitment of State resources to information technology projects based upon comparison of performance against approved project timeline, budget and scope. The EPMO has raised the awareness of the value of project management and expanded project management as a professional discipline across state agencies.

Backed by the legislative mandate contained in SB991, the EPMO is in the position of having both the visibility and the authority to serve as the State's leader in promoting project management best practices and therefore, successful IT projects. EPMO should capitalize on its unique position and lead by example, using the EPMO itself as a learning laboratory for testing and modeling project management best practices in the enterprise environment.

The following is a summary of other key opportunities for the EPMO to increase its efficiency and effectiveness, and optimize its impacts on the likelihood of project success (more detail can be found in Section 3.4):

Undertake an EPMO strategic planning process with stakeholder and customer input, and widely disseminate the results.

- Revisit the EPMO mission statement and objectives for continued relevance, given its level of organizational maturity.
- Develop a vision statement, action plan, resource allocation plan, multi-year timeline, and milestones.
- Benchmark organizational maturity, and measure and report on progress.
- Review the plan annually, and update as needed to maintain alignment with stakeholder needs.

Refine EPMO job roles and activities, and certain EPMO practices, to enable the Project Management Advisor (PMA) to focus more on activities that have the greatest potential to influence project success.

- Enable PMAs to mentor and advise Agency project managers in key areas, such as planning and risk management, and spend less time "policing," "advocating," and managing PPM Tool data entry.
- Determine thresholds for optimal PMA workloads.
- Eliminate redundancy with Quality Assurance Team and empower Agency project managers.

Articulate the value of the EPMO to stakeholders.

- Periodically survey agencies to assess awareness and communication needs. Use results to develop and revisit the EPMO's communication strategy and plan.
- Provide standard reports on EPMO successes and benefits, as well as project portfolio performance, to key stakeholders.
- Document, widely disseminate, and leverage lessons learned, both project-based (Agency) and process-based (EPMO).
- Demonstrate the EPMO's value to stakeholders by recognizing agencies and project teams that have successfully applied project management principles and best practices to bring projects in on time, on budget and with the needed functionality.

Given where the EPMO is in its maturity, the apparent trend toward general improvement in project success indicators should be considered with cautious optimism.

- Establish a culture of continuous quality improvement, refining, monitoring and reporting on key indicators of project success on a regular basis.
- Set associated goals and strategic objectives, and use them to help guide program development and resource allocation.

Despite the intentions of SB991 and EPMO's efforts, it is important to recognize that there are factors outside the EPMO's direct control that can impact a project's success. The following key factors may impact the EPMO's ability to influence a project:

- Nature and extent of PMA and Agency project manager interaction
- Agency staff and project manager issues and performance
- Vendor performance
- Project/product solution fit to challenge
- State Approval process controls

Readers of this report should understand that many observations and comments are critical in nature since one of our primary objectives was to identify areas of improvement for the EPMO. We have included a list of EPMO accomplishments in Section 3.3; however, it is important to note that this list does not reflect all the EPMO strengths we noted during our work. We expect that, given time and the appropriate resources, the issues we have identified can be adequately addressed by the EPMO and state agencies.

Finally, we would like to take this opportunity to acknowledge and thank the Office of the State Auditor, Information Technology Services management, EPMO staff, and Agency participants for the courtesy and cooperation extended to us during the course of our work on this project.

1. Project Overview

1.1 Project Objective

The Office of the State Auditor (OSA) for the State of North Carolina engaged Berry, Dunn, McNeil & Parker to provide an independent assessment of the State of North Carolina's Information Technology Services (ITS) Enterprise Project Management Office's (EPMO) policies, procedures, and practices to determine if it is significantly improving the likelihood that information technology (IT) projects will be successful.

Specifically, the scope of this effort is as follows:

- Evaluate the standards and accountability measures created and monitored by ITS.
- Determine and provide answers to the following question: Are the current policies, procedures, and practices of the ITS EPMO significantly improving the likelihood that a given project will be brought in on time and on budget?
- Assess the design of current policies, procedures, and practices of the EPMO and determine how effectively they have been implemented in accordance with best practices.
- Evaluate the success of the EPMO's efforts to bring projects in on time and on budget with the needed functionality.
- Prepare a report that answers these questions and that offers recommendations to improve the current policies, procedures and practices of the ITS EPMO which would help to eliminate project implementation delays and budget overruns.

1.2 Background

The North Carolina General Assembly expressed the need for better planning, budgeting, and management of information technology (IT) in state government by the ratification of Senate Bill 991 in July 2004. The legislation assigned oversight duties to the State Chief Information Officer (SCIO); however, agencies retained broad responsibilities and accountability for their own IT project management.

The SCIO has implemented tools, staffing, and processes to assist agencies and the State Chief Information Officer to meet these expanded expectations by creating a new unit within ITS called the Enterprise Project Management Office (EPMO). The EPMO established an approval process for major IT projects in May 2005 with a budget greater than $500,000, and a project portfolio management tool in August 2005. The EPMO uses Microsoft's Portfolio Manager™ product, previously owned by UMT Consulting, for its project portfolio management. Throughout this report it is referenced as the "PPM Tool." The adoption of appropriate project management standards, as well as reporting and monitoring procedures for significant IT implementation projects, is led by the EPMO. Section 2.3 of this report provides additional historical context for the creation of the EPMO.

1.3 Work Performed

BDMP conducted this assessment using a structured, proven methodology that involved gathering information from several sources, including (but not limited to) stakeholder interviews, documentation reviews, and observations of processes and systems. An overview of our approach to conducting this engagement follows. This assessment was structured to be a consulting engagement utilizing the fact-finding tasks with State personnel, independent research, best practices, and our experience. This project was not structured to be an audit, or any other type compliance related engagement utilizing government or accounting industry standards.

To initiate this project, BDMP conducted an initial planning teleconference with the Office of the State Auditor's (OSA's) project manager to introduce team members, review and refine the project plan and timeline, establish a plan for communication between BDMP and the State, and establish preliminary dates for our on-site

interviews. During this meeting, we discussed the approach to sampling the current and completed projects monitored by EPMO. Data gathering and fact-finding were conducted during the month of May 2007.

Based on initial conversations with the OSA's project manager, and our understanding of the current EPMO environment, BDMP selected a sample of twelve IT projects representing a range of agencies with varying budgets and in various stages of completion. The project sample was selected from the list provided in the RFP, generated in March 2007 containing active, cancelled, or completed projects as of February 5, 2007. Once we finalized our sample and the OSA approved it, we developed a memo informing the selected Agency participants of the purpose of the project and requested their involvement and cooperation in providing feedback. We worked with the OSA to contact Agency CIOs, project staff, and key stakeholders for projects within our sample and scheduled onsite interviews.

BDMP facilitated a project kick-off meeting with members from the OSA and EPMO and presented a documented project plan and schedule describing our methodology for conducting the analysis.

Prior to our onsite interviews, we requested and reviewed background documentation related to the current policies, procedures, and organization of the EPMO, as well as historical budget, project data and other relevant documentation. We reviewed EPMO-provided data on completed IT projects and requested and reviewed project artifacts from the twelve projects in our sample.

BDMP conducted an entrance conference for representatives of the twelve sample projects to discuss the scope of work, review expectations, and answer questions regarding the interviews and fact-finding activities. Twenty-six individuals representing eight state agencies, as well as EPMO and OSA, attended the meeting.

The cooperation of the SCIO, EPMO and Agency project participants were important keys to our ability to identify issues and recommendations for improving EPMO policies, procedures and practices. We met with the SCIO and personnel from the EPMO to understand their approach to designing, implementing and operating the EPMO. In addition, the EPMO provided a demonstration of the PPM Tool. BDMP also conducted a series of one-on-one and small group meetings with a total of over 30 Agency project representatives to understand their perspectives on the implementation and effectiveness of EPMO policies, processes and practices.

In addition, BDMP conducted research on Project Management Office models and implementations in other organizations and states to provide a context for our assessment and compare North Carolina's EPMO against peer organizations in other states. We analyzed data available in the PPM Tool to quantify our findings when appropriate. We also conducted additional research to supplement our experience and knowledge of best practices and provide support for our findings and recommendations.

BDMP presented preliminary findings to the OSA and EPMO. This meeting allowed representatives from the OSA, EPMO and BDMP to discuss the preliminary findings and provided a collaborative opportunity for clarification of fact or understanding and/or correction of possible discrepancies. Information gathered in this meeting was considered as BDMP drafted this report.

It is our understanding that the OSA will solicit written responses to findings presented in this report from the EPMO. The OSA will gather the EPMO's written response to this report and issue its own report using this information. BDMP will have fulfilled the scope of work under this contract once this report has been delivered and presented to State leadership as identified by the OSA.

2. Project Management Office Research

Section 2 provides context for the North Carolina EPMO including a review of the circumstances that led to the adoption of Project Management Offices (PMOs) by state governments, the functions they are intended to serve, the different PMO models in use, and a brief discussion of where the North Carolina EPMO fits in this picture. We also provide overviews of five other state PMOs in Appendix D to put perspective on North Carolina's experience.

2.1 Project Management Office Evolution in the Public Sector

The PMO concept, while not new, has only recently made a significant entry in the public sector. Several factors have given rise to the PMO in state government including: increased legislative demand for oversight and accountability caused by high-profile IT project failures; adoption of government-focused enterprise applications with large project management requirements; and the rise in constituent demand for lower public sector costs and higher levels of service that utilize e-commerce technologies (such as self-service through the internet for services like renewing driver licenses).

The value of project management and recognition of it as a professional discipline in the information technology arena have resulted in part from the efforts of the Project Management Institute (PMI). Founded in 1969, PMI furthered the formalization of project management as a profession through compilation of project management principles, processes and best practices, publishing them as the *Project Management Body of Knowledge*, now referred to simply as PMBOK. PMBOK has since become one of the most commonly referenced standards for project management and is referenced by the North Carolina EPMO as its own standard. The introduction and evolution of project management in state government is relatively new. PMI first identified the need for a *Government Extension* to PMBOK in October 1998, which led to the publishing of the first edition in March 2002 and second edition in February 2006.

The simultaneous developments in the project management profession, evolution and refinement of enterprise systems, rapid ascent of e-commerce tools, and large number of high-profile IT project failures all merged to make implementation of a Project Management Office (PMO) an attractive solution for states to consider when reviewing their IT project challenges. Of note, in a recent National Association of State Chief Information Officers (NASCIO) analysis on government PMOs, 26 states out of 34 responding (76%) indicated they had a PMO in some stage of development (NASCIO, p. 3).

Depending on an organization's culture, pre-existing processes, and numerous other factors, creating a PMO is a challenging endeavor that requires organizational commitment and persistence. Unlike private sector PMOs, public sector PMOs operate in highly visible environments with low tolerances for failure and the desire for quick results. Public sector projects can dwarf comparable private sector projects in budget and business process and organizational complexity. Frustratingly for government PMO managers, many project challenges may fall outside their scope and control – such as managing varying expectations among agencies, the state legislature, and the numerous stakeholder groups that have an interest in the project. Given the challenging nature of their environment, public sector PMOs must maintain exceptional standards in clear communication, documentation, and transparent processes in order to best represent the interests of their stakeholders.

As stated above, project management has only recently been viewed as a profession with different levels of skills and capabilities. Within the public sector, introducing a new profession such as project management pits implementers against entrenched employees who have managed this function for many years and may resent being "guided" or directed on how to perform their jobs. Additionally, agencies accustomed to independence in their decision-making process may feel threatened when an outside group is suddenly asked to review and evaluate their technology plans. The PMO must operate in an environment where political reality often trumps pre-existing plans or common sense, and flexibility and responsiveness to demanding customers are essential. Together, these challenges highlight the fact that implementing a PMO is a major endeavor that transcends the technical aspects of creating a new organization. Creation of a PMO involves a major cultural change that will

impact every part of state government. Therefore, organizational leaders must plan for this endeavor with the same attention to detail and planning that accompanies any such large scale change initiative.

2.2 Project Management Office Functions and Models

PMO Business Functions
PMOs vary considerably in the functions they serve within a state organization. However, the typical functions include:

- Identifying and promoting a common project management standard / methodology;
- Furthering project management skills and capabilities with training, coaching, and mentorship;
- Providing oversight and monitoring of state IT projects – especially those that meet certain criteria in areas such as budget, risk, and complexity;
- Providing direct project management resources to agencies or specific projects; and,
- Providing project assessments and decisions regarding "go / no go" issues.

Additionally, while PMOs may claim to deliver the same functions, there are considerable differences in how and to what level PMOs succeed in each function. Their initial focus may be driven by the challenge that led to the PMO's creation, the specific directive in legislation or executive guidance, the experience of the individual(s) setting up the PMO, or any number of other factors.

PMO Organizational Models
Although different PMOs may have common business functions, it is important to recognize standard operational models for PMOs exist. The model selected by the organization is typically based on the business, strategic, and/or mandated issues that led to its creation. While over time PMOs may gravitate toward offering similar core business functions, their ability to influence project management capabilities is largely driven by the chosen PMO organizational model. These models are categorized as follows:

- *Centralized Model:* A centralized PMO assumes all responsibility and accountability for project management of key projects and is resourced to provide project managers as required. It also has a project portfolio management responsibility and works with the organization's CIO to develop the right portfolio of projects. It sets and monitors adherence to project management standards and methodologies. Benefits to this model include more authority to set direction and policy and enforce adoption by other parties. A main challenge is getting agencies to relinquish their power and authority to the central PMO.

- *Federated Model:* Agencies maintain responsibility and accountability for managing their projects and the EPMO recommends standards and provides or facilitates project management training and project consulting. In this model the PMO does not provide project managers and is generally not fully accountable for specific projects. The PMO is advisory only and generally has limited power to enforce compliance to any standard or methodology. This model allows the PMO to remain detached from project management responsibilities and provide objective guidance to agencies. A significant challenge for this model is that the PMO may not have the power or authority required to drive cultural change.

- *Hybrid Model:* A mix of the Centralized and Federated models, Hybrid PMOs may rely on agencies for project management responsibility, but retain power to set direction or make important project decisions. The Hybrid PMO will also set project management standards and facilitate training. Depending on its mission, it may focus on different functions over others. But, in general, the Hybrid has more power and input to project decisions than the Federated model which focuses on advice and mentoring. A major challenge with this model is managing the issues and problems that can arise from separating project decision-making authority from overall project accountability since they are often split among two different groups.

Despite the power or authority given to a PMO, it is incumbent upon the PMO to establish and maintain a good balance between control and support functions. This is especially true of the initial implementation of a PMO. In state government a high control PMO implementation strategy, even if it is based on industry standards and practices, can lead to challenges between the PMO and the "customers" they are intended to serve. Effective communication processes and practices with stakeholders are critical to success and aligning perception with reality.

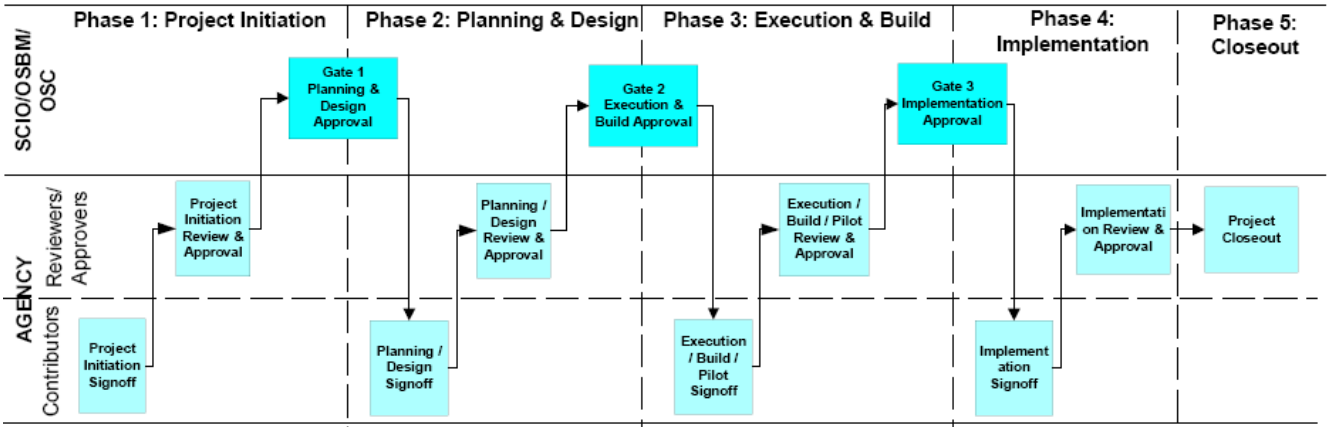
2.3 State of North Carolina Enterprise Project Management Office

The North Carolina Enterprise Project Management Office (EPMO) more closely matches the definition for a Hybrid PMO model. Agencies are responsible and accountable for managing projects in their domain while the EPMO, technically, can only advise. However, legislation (SB991) provides the SCIO with considerable additional authority and responsibility for state IT projects.

For example, SB991 directs that, "*The project manager shall be subject to the review and approval of the State Chief Information Officer*." Through this review, the EPMO, delegated by the SCIO, may enforce project management standards and assess whether or not the project manager proposed by the Agency is qualified to lead a given project. Also, North Carolina utilizes a phased, incremental project approval process (the "Gate process") which is the preferred, best practice method for managing projects from initiation to closure (Figure 1). The SCIO is responsible for reviewing and approving projects through each of the three Gates in this process and is supported in this effort by the State Approvers. The State Approvers include individuals with various technical and business skills who are able to review projects from key perspectives and make decisions and recommendations on whether or not the project may proceed through a Gate to the next implementation stage. EPMO Project Management Advisors (PMAs) are the only individuals authorized to represent projects going before State Approvers for their review.

The EPMO does not have the power to specifically suspend or cancel a project – this power resides with the SCIO. The State Approvers include representatives from the Office of the State Controller, the Office of State Budget and Management, ITS Enterprise Technology Strategies, ITS Enterprise Security and Risk Management Office, and the EPMO (note that Figure 1, as provided by the EPMO, does not list all the State Approvers). The EPMO is authorized to make recommendations to the State Approvers on whether to accept, suspend, or cancel a project based on their knowledge and experience. This could be interpreted to suggest that the EPMO is in fact making project approval decisions. This can sometimes create the perception of a conflict of interest, or cause the EPMO to be viewed as primarily an enforcement/control agency rather than a support agency. Figure 1 below depicts the State Approval and Gate process and relevant responsibility areas, referred to as the PPM Workflow process.

Figure 1: State of North Carolina PPM Workflow



The North Carolina EPMO has additional authority in its function of monitoring and reporting on projects to the SCIO since EPMO PMAs are the only representatives Agency projects have at the meetings where the State Approvers determine whether the project may proceed to the next project phase. The EPMO Director's input to the process is dependent to a large extent on the recommendation of the PMA assigned to the project. The SCIO approval is dependent to a large extent upon the recommendation of the State Approvers.

Information Resource Management Commission (IRMC)

The EPMO's PPM Workflow and associated processes replaced the role of the Information Resource Management Commission (IRMC) in 2004. The IRMC, formed in the 1990s to provide oversight of state IT management, had these key functions:

- Created a focus on project management and reporting;
- Approved the state-wide technical architecture;
- Addressed major contemporary issues such as Y2K;
- Established state-wide policies and set standards; and,
- Established project reporting thresholds, guidelines, status reporting and quality assurance.

Its effectiveness was challenged due to project failures, cost overruns, and structural weaknesses in the formation of the IRMC. Structural weaknesses cited by EPMO and other state agency personnel include: (1) the IRMC met monthly which was not frequent enough to monitor project progress; (2) it had no mechanism for standard project status reporting; (3) it was a separate body from the SCIO leaving two different entities trying to make decisions and promote a consistent IT vision for the state; and (4) no clear line of authority was apparent to agencies.

To address these and other problems, Session Law 2004-129, more commonly known as Senate Bill 991, or SB991, was passed as "An act to improve state government information technology planning, adopt standards, make project development more efficient, reduce cost overruns, provide assistance to state agencies, and increase accountability." Prompted by some significant IT project failures, cost overruns, and the lack of enterprise-shared services, the passage of SB991 in July 2004 accelerated the State of North Carolina's efforts to better manage the state's information technology resources.

SB991 has five primary objectives, as stated in the legislation:

> "The purposes of this Article are to:
> (1) Establish a systematic process for planning and financing the State's information technology resources.
> (2) Develop standards and accountability measures for information technology projects, including criteria for adequate project management.
> (3) Implement procurement procedures that will result in cost savings on information technology purchases.
> (4) Create an Information Technology Advisory Board.
> (5) Create the Information Technology Fund for statewide information technology efforts."

SB991 granted broad new authority to the SCIO and eliminated the IRMC, consolidating responsibility, authority and accountability for the state's IT resources into one place, the Office of the SCIO.

Maturity Model Expectations

Establishing an enterprise project management office is a complex and challenging task in any large scale organization, whether it be a public or private sector organization. It introduces significant change within the organization that requires adequate time to learn and assimilate the changes into the organizational culture. The PMO's staff and processes need time to mature and adapt, and agencies need to learn how to function in the new environment. As time passes, the rate of change from the PMO should decrease as it matures; however, a healthy environment should expect that a certain amount of change will continue indefinitely to continuously improve processes and respond to changing business, technical, and legislative mandates.

The length of time required for a PMO to become mature depends largely on their scope of authority and organizational complexity. Research and experience demonstrates that PMOs established to support and monitor one large project (such as the BEACON project) may take only three months to one year to mature. PMOs that support multiple projects in one agency with a common mission and objective may take one to three years to mature. Finally, PMOs that support many projects for many agencies with different missions and objectives may take three to seven years to mature, (Andersen, 2007, p. 98). As an enterprise PMO supporting many projects from many agencies, the North Carolina EPMO is still early in its maturity and, like other PMOs, should be expected to continue to improve and stabilize as it matures in the future.

3. Accomplishments, Findings and Recommendations

3.1 Overview

As stated earlier, a primary objective of this project was to answer the question, "Is the Enterprise Project Management Office (EPMO) improving the likelihood that projects will be successful?" More specifically, are the current policies, procedures, practices of the EPMO improving the likelihood that projects will be brought in on time and on budget with the required functionality? The Assessment Summary section (3.3) provides our assessment based upon our experience and knowledge of industry best practices, data collected during this project, interviews with representatives of sample projects, and an independent and objective review of the design and implementation of Enterprise Project Management Office.

Section 3.4 provides BDMP's detailed findings grouped by topic area and includes a description of the problem and its impacts. The specific findings and related recommendations are grouped into the following topic areas:

- Organization
- Resources
- Standards and Accountability Measures
- Policies, Procedures, and Practices
- Communication
- Project Portfolio Management (PPM) Tool

We have also provided applicable best practices and recommendations for improvement. Readers should understand that many of our observations and comments are critical in nature since a primary objective of this project was to identify areas of improvement for the EPMO. We have included a list of EPMO accomplishments in Section 3.2; however, it is important to note that this list is not intended to be exhaustive. It does not reflect all the EPMO strengths we noted during our work.

3.2 EPMO Accomplishments

As noted above, the list of accomplishments that follows is not intended to be exhaustive. It is provided in support of our assessment as to whether the EPMO has improved the likelihood of project success. It does not reflect all of the EPMO strengths we noted during our work.

A.1 The EPMO has raised the awareness of the value of project management and expanded project management as a professional discipline across state agencies.

A.2 The EPMO has improved the clarity of the process by which projects are assessed for compliance with the state technical architecture, project management best practices and security, budget, and procurement policies.

A.3 The implementation of SB991, through the State Chief Information Officer, has improved accountability for technology spending and investments.

A.4 The EPMO has implemented a structure that increases the accountability of agencies for project performance against approved budget, timeline and scope.

A.5 There is now a mechanism in place to stop projects that are being monitored by the EPMO if they fail to achieve defined thresholds.

A.6 The EPMO has produced and implemented a library of project management forms and templates.

A.7 The EPMO is offering training to facilitate certification of professional project managers.

A.8 The PPM Tool serves as a centralized repository of project information for reference and provides more data on the State's largest IT projects than in the past.

A.9 The EPMO has increased the efficiency of project review tasks by automating the PPM Workflow.

A.10 The EPMO's PPM Tool has been in existence for approximately two years. There have been about five projects initiated and completed within these two years. Based on information provided by the EPMO, these five projects met their original or revised project scope, budget, and timeframe.

A.11 The EPMO utilized Project Management Institute (PMI) and the Project Management Body of Knowledge (PMBOK) principles when establishing many of the office's standards, practices, and processes.

A.12 The EPMO has established processes, advisory groups, and other procedures to reach out to, and communicate with agency representatives.

3.3 Assessment Summary

Based upon our experience and knowledge of industry best practices, interviews with representatives of twelve sample projects (see Appendix A for a list of the selected projects), information gathered during the course of our work, and an independent and objective review of the design and implementation of the EPMO we conclude that the EPMO has improved the likelihood that projects will be successful. Projects are more likely to be brought in on time and on budget with the required functionality now than they were prior to the implementation of the EPMO.

The table below, created from an analysis of data from the EPMO-provided document titled, "Closed Project Variance, by Fiscal Year, by Agency," dated April 17, 2007, shows trends in project outcomes before and after the EPMO. The table shows the number of closed projects, in all size categories, by fiscal year, by constraint (schedule, cost and requirements), and by variance (percent over/under). The EPMO Dashboard Guidelines were used to assist in setting the parameters for the variance data and the definitions below.

Table 1: Outcomes of Closed Projects, 1999-2007 (April)

	IRMC					EPMO									
CONSTRAINT/ Variance	**1999-2000**	**2000-01**	**2001-02***	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-April 07**	**Total**	**% of Total**	**Total IRMC**	**% of IRMC**	**Total EPMO**	**% of EPMO**	
Schedule															
>5%	3	6	7	4	6	7	14	12	59	52%	26	57%	33	49%	"Late"
-5%<0<5%	2	2	4	3	4	5	14	8	42	37%	15	33%	27	40%	"On time"
<-5%	1	1	1	0	2	0	5	3	13	11%	5	11%	8	12%	"Early"
Cost															
>5%	0	1	0	1	0	0	3	1	6	5%	2	4%	4	6%	"Over Budget"
-5%<0<5%	4	6	9	4	8	7	10	13	61	53%	31	66%	30	44%	"On Budget"
<-5%	2	2	4	2	4	5	20	9	48	42%	14	30%	34	50%	"Under Budget"
Requirements															
>5%	0	1	1	1	2	0	1	2	8	7%	5	11%	3	4%	"Greater Functionality"
-5%<0<5%	5	8	10	4	7	7	30	19	90	78%	34	72%	56	82%	"Required Functionality"
<-5%	1	0	2	2	3	5	2	2	17	15%	8	17%	9	13%	"Less Functionality"
Total Projects	6	9	13	7	12	12	33	23	115		47		68		

*There was no schedule data for one project, thus the Schedule totals are one less than the Cost and Requirements totals.

The number of projects falling into each category was tallied from the report. The data was divided into two categories, IRMC (1999-2004) and EPMO (2004-2007). The total universe of projects is 115, with 47 closed during the IRMC and 68 closed since the start-up of the EPMO.

Analysis: Data by IRMC (1999 – 2004) vs. EPMO (2004 – April 2007)

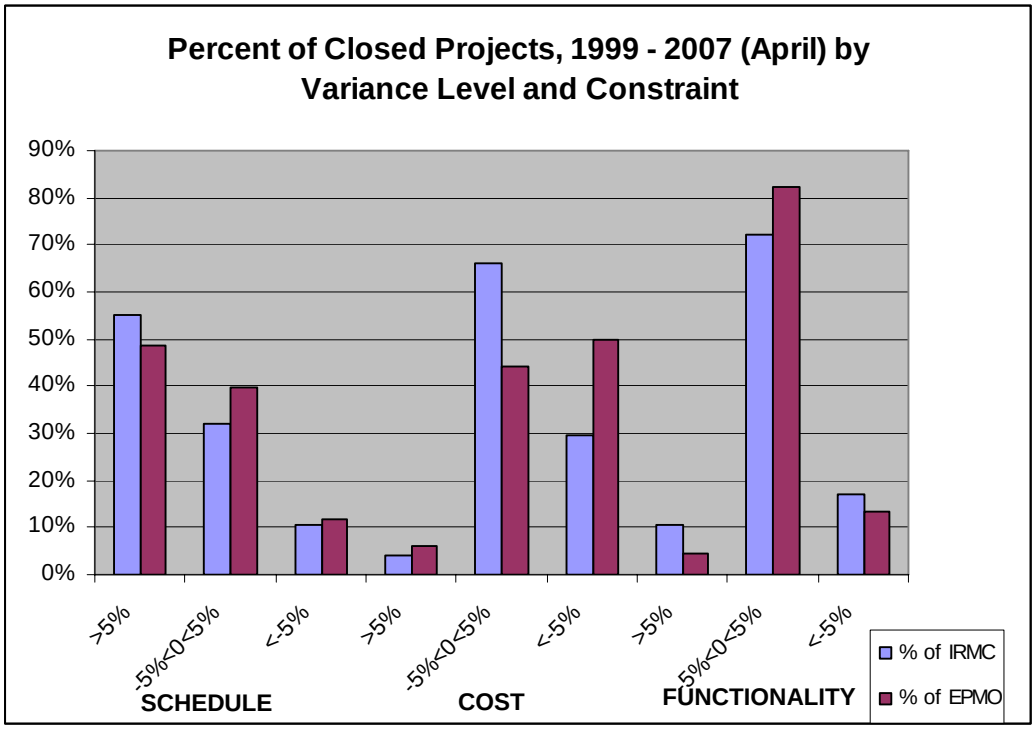
Schedule

- The percentage of projects coming in "on time" has increased from 32% to 40% under the EPMO.
- The percentage of projects coming in "late" has decreased slightly, from 55% to 49%.

Cost

- The percentage of projects coming in "on budget" has decreased from 66% to 44%, but the number of projects coming in "under budget" has increased from 30% to 50% since the start-up of the EPMO.
- The percentage of projects coming in "over budget" has increased from 4% to 6%. The 6% represents four projects. Of these four projects that were "over budget" – three projects were under $250,000; three were over by 10% or less; the one project that was most over budget – 48.8% over – was a $212k project.

Figure 2

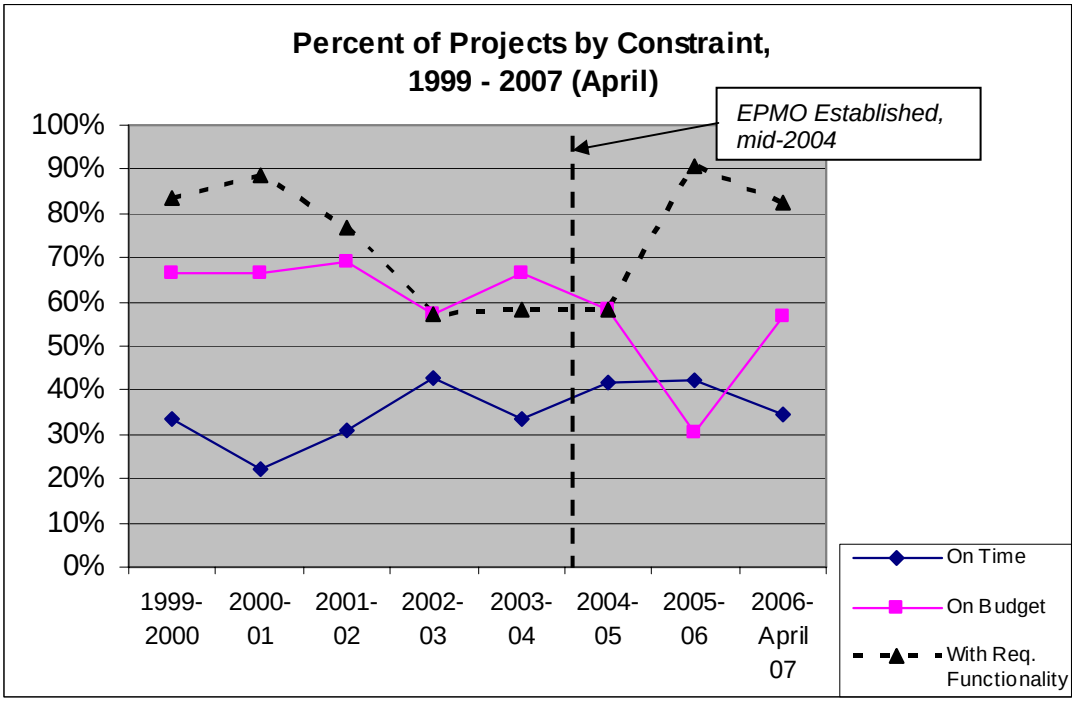


Requirements

- The percentage of projects providing the "required functionality" increased from 72% to 82%.
- The percentage of projects providing "less than the required functionality" decreased slightly, from 17% to 13%.

Analysis: Data by Year

Figure 3



Viewing the data by year portrays a slightly less positive and more ambiguous picture of the EPMO's impact.

Schedule
The percentage of projects closing "on time" has not improved since the establishment of the EPMO, and has, in fact, declined slightly.

Cost
The percentage of projects closing "on budget" actually followed a declining trend following the EPMO start-up. The trend has taken a positive turn over the last year.

Requirements
In terms of projects delivering the required functionality, the data shows that outcomes have improved since the EPMO start-up, returning to a previous peak level in FY2000.

Conclusions
Solely based on the data in the table, it can be concluded that some, but not significant, improvements in project schedule and requirements outcomes have occurred since the EPMO was implemented in 2004. The data regarding cost is less clear. On one hand, the data shows a significant increase – from 30% to 50% – in the number of projects closing "under budget" since the EPMO was implemented, which could be interpreted as a positive trend. However, it is not possible to determine from this data whether the projects closed below cost due to actual cost saving practices, or poor resource estimation. Furthermore, there was a slight increase in the percentage of projects that came in "over budget" and a marked decrease in the number of projects coming in "on budget." Although it is helpful to analyze the projects using the data above, it is very important to understand that the majority of the 68 EPMO projects were initiated prior to the EPMO implementation in 2004. Therefore, it is difficult to compare only those projects that have utilized the policies, procedures, and practices promulgated by the EPMO throughout the entire project life cycle. This makes comparisons of the two project data sets

difficult. It will be important to continue analyzing this data on a regular basis to determine if the EPMO continues to improve project success.

Other Considerations

It is important to understand that in the previous section's analysis of project cost data extracted from the "Closed Project Variance" report, the EPMO calculated the cost variance by comparing the *actual project cost* to the last approved *revised project budget* estimate. *Actual project costs* were not compared to *original project budget* estimates. Using a different data set derived from the PPM Tool and the EPMO's "Closed Project Variance" report, we examined *original project budget, revised project budget,* and *actual project cost* data for projects over $500,000 completed in the last two years. Data from the PPM Tool for projects completed more than two years ago was not analyzed because *revised project budget* data was not entered in the Tool for these projects. Budget and cost data for a total of fourteen completed projects was examined.

A comparison of the *original project budget* estimates to the *actual project costs* for these fourteen projects shows that six projects were over budget and eight projects were under budget. Budget revisions were made to five of the fourteen projects. Table 2 below presents aggregate budget and cost data for the projects examined. The aggregate data shows that *actual project costs* were less than 0.5% over *original project budget* estimates, and under the *revised project budget* estimates.

Table 2: Total Budget and Cost Data for Projects Completed 2005 - 2007

Total: Original Project Budget	Total: Revised Project Budget	Total: Actual Project Cost
$24,790,688	$26,626,515	$24,897,012

Good project management practices anticipate and accommodate change. As such, it is a normal part of the project management process to revise (increase or decrease) project budgets as the project progresses, as long as the following two conditions are present:

1. An established and accepted change management process with integrity is followed.
2. A valid reason exists for the change. Examples of valid reasons include: expansion of functionality adding value to the project, changes in scope, and extraordinary circumstances.

The EPMO has established a transparent change management process for revising and approving revisions to project budgets. Based on our assessment, the change control process in place appears to be functioning effectively, and the number of projects with budget revisions appears to be within the expected range. However, our assessment did not examine the specific reasons for budget revisions on a project basis and this information may not be documented in the PPM Tool. We suggest that the State monitor the EPMO's budget change request and approval process to confirm that it is functioning appropriately according to best practices. Further, we recommend that the EPMO implement initiatives currently under consideration to support Agency project managers with budget and resource estimation.

In addition to the budget-related factors described above, it is also important to understand that there are other factors outside the EPMO's control that can impact a project's success. Our analysis identified the following key factors that may impact the EPMO's ability to influence the success of a project.

- *PMA & Agency Project Manager Interaction:* Paragraph (b) in General Statute (G.S.) 147-33.72E of SB991 specifies the EPMO's role (referenced as "project management assistant") of advising agencies in various aspects of project planning, design, etc. However, SB991 does not specifically address the relationship between the EPMO and Agency project managers. During our assessment, we have noted that some agencies require the EPMO to work through their PMO and refrain from working directly with project managers. In these instances, the EPMO may be constrained in its ability to monitor a project's progress and provide mentoring if required.

- *Agency Project Manager Issues:* Agencies are responsible for sourcing qualified project managers for their projects. While the EPMO does review the qualifications of project manager for projects that fall under the scope of SCIO review, the EPMO cannot control the actual performance of an Agency project manager or dictate an Agency's actions to remedy a situation.

- *Vendor Performance:* While a rigorous due diligence and vendor selection process should help avoid vendor-related performance issues, the EPMO cannot control the eventual performance of a vendor once a project is initiated.

- *Solution Fit to Challenge:* Agencies - with input from the SCIO - are ultimately responsible for selecting the right solution and approach for their project. The EPMO cannot control the outcome of a project that may be doomed from the beginning because of a poor selection process that selects a product or approach that is not a good fit for the specific project.

- *State Approval Process Controls:* During our analysis, we identified projects that were implemented even though they were not approved in the State Approval process. Thus, it appears agencies may have the flexibility to intentionally or unintentionally circumvent the State Approval process. While there may be some instances when the State Approval process must be modified to accommodate projects with high priority, the EPMO cannot control the outcome of projects that are not required to go through the formal review process, at which point potential risk issues might be identified and addressed.

3.4 Findings and Recommendations

The following sections describe each of the seventeen findings, their impacts, relevant Best Practices, and our recommendations to address the findings. The findings are numbered sequentially and are grouped into six topic areas: Organization; Resources; Standards and Accountability Measures; Policies, Procedures, and Practices; Communication; and Project Portfolio Management (PPM) Tool. The findings are not presented in order of priority.

3.4.1 Organization

Finding 1 ***The EPMO was created and implemented without a documented plan, and there currently is no strategic or tactical plan for the EPMO.***

Description
The EPMO was created in response to legislation (SB991) in 2004. The design and implementation of the organization, policies, procedures and practices were not viewed as a project. The EPMO developed a Mission Statement and Objectives with stakeholder input. The EPMO has not developed a documented strategic or tactical, future-oriented plan since it was implemented. It does not have a formal process for assessing the EPMO's maturity or an institutionalized continuous quality improvement process.

Impacts
There was a high level of agreement among individuals interviewed from state agencies that the concept of the EPMO and an incremental approval process for IT projects is sound and necessary for the state. As an organization tasked with improving the likelihood of project success, the design and implementation of the EPMO could have been used to model best practices and demonstrate the value of the EPMO policies, procedures and practices. As with the roll out of any new entity or process, a smooth start-up is essential for building credibility and a solid foundation for future success.

Recognition of the value of good project planning is implicit in the legislative action, SB991, taken to establish new project management standards and expand the state's centralized project management functions. The plan is the foundation for setting expectations and measuring progress. A formal project plan could have served as a key communication vehicle for outreach to stakeholders, particularly the state agencies. Of particular importance is the articulation of the PMO's own value proposition. Interviews with EPMO staff suggest that such a plan was unwarranted to establish a project management "office," as distinguished from a "project." However, Agency interviews suggest that the absence of such a plan has led to a lack of clarity and understanding around EPMO roles, policies, and benefits that might have been avoided were a formal plan developed and effectively communicated.

Without an articulated strategic plan, the EPMO has no benchmark for assessing whether or not they are meeting stated objectives and customer expectations. There is some confusion among some EPMO staff and agencies as to whom the EPMO is responsible to and whose interests should be served. From an Agency perspective, the EPMO's value proposition still remains unclear. At nearly three years old, with major policy and system changes fully institutionalized across the enterprise, the EPMO is at a point in its organizational development to transition fully from the start-up and implementation phase to the operations phase.

Best Practices
Often, the new PMO is watched closely as a model on which others will base their own project portfolio management and project management practices. Thus, the creation of the PMO is an excellent opportunity to model and demonstrate the value of sound project portfolio management and project management practices.

Industry best practices recommend that a PMO utilize standard strategic and project planning processes. Effective strategic planning can explain how the PMO vision, mission and goals link to the legislation and the State IT strategic plan. It can also clarify the PMO's value proposition and establish criteria for measures of

success. The strategic planning process helps to ensure that the right projects get released at the right time. Initiatives are broken into and defined as discrete projects. The National Association of State Chief Information Officers' (NASCIO) report on PMO implementation encourages states to: "Have a clear understanding of the problems the PMO is to address. This is one of the first steps in the project of creating a PMO – and it is a project." (NASCIO, 2006, p. 10). Projects in the portfolio are prioritized and sequenced to minimize risk and maximize the likelihood that the projects completed will deliver those products and services for which they were initiated.

If properly executed, strategic planning, project portfolio management and project management allow traceability of project outputs and meaningful measurement of performance of projects against the outcomes envisioned in the strategic plan.

Recommendations

- Use the EPMO itself as a learning laboratory for testing and modeling project management best practices in the enterprise environment.
- Revisit the EPMO mission statement and objectives for continued relevance, given its level of organizational maturity.
- Develop a vision statement, action plan, resource allocation plan, multi-year timeline, and milestones.
- Benchmark organizational maturity, and measure and report on progress.
- At a minimum, review the plan annually, and update it as needed to maintain alignment with stakeholder needs.
- Define, prioritize, plan and manage the EPMO's portfolio of projects to minimize risk and maximize the likelihood of success.
- Monitor some of the EPMO projects in the PPM Tool and develop and post project documents. Provide view access to users.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

State law and the State CIO's biennial information technology plans define the EPMO's strategic plan. The office is developing tactical plan for 2007-2008 and identifying implementation steps.

Finding 2 ***The EPMO has not initiated procedural or system controls that would prevent agencies from intentionally or unintentionally circumventing the approval process mandated in SB991.***

Description
EPMO policies, processes and practices can only influence the success of major IT projects if agencies comply with SB991 and identify their major IT projects to the EPMO in a timely manner. The EPMO recognizes that procedural and system controls currently employed within the State do not prevent agencies from intentionally or unintentionally circumventing the established State Approval process. The EPMO has not established a mechanism with other state government entities involved in project approval and funding, such as the Office of the State Controller and the Office of State Budget and Management, to cross-reference projects for approval prior to disbursing initial project funds. No "triggers" are in place at agencies to verify that IT projects meeting the threshold for SB991 applicability have been entered into the State's PPM Workflow process. Moreover, there are no consequences imposed upon agencies that by-pass the State PPM Workflow process.

Impacts
The credibility of the SCIO, EPMO, and the state approval process are undermined when Agency projects proceed outside the prescribed approval process. In addition, the EPMO cannot impact the success of those projects that it does not capture into its portfolio. Furthermore, the lack of controls puts agencies in a position where they are, knowingly or unknowingly, out of compliance with state law.

Best Practices
Effective compliance controls can help prevent unnecessary losses. With the exception of those entities specifically exempted by SB991, agencies are subject to state laws and rules. It is not possible to maintain compliance with those laws and rules unless there is a program in place to make sure that it happens. That means having effective compliance policies, procedures, systems and controls that are kept up-to-date and are followed by every non-exempt Agency and project. It is also helpful to have a strong compliance program and a strong compliance culture. Compliance is a proactive method to identify and control risks that have the potential to result in non-compliance.

Recommendations
- Communication is necessary to ensure awareness and consistent understanding of the law. We recommend that the EPMO conduct a regular (at least annual) focused outreach effort to multiple contacts (for example, Agency CIOs, Department and Division Directors, PMOs, and IT departments) in all state agencies to provide information about the EPMO, its services and the State Approval process.
- We recommend that the SCIO and EPMO take the lead in identifying options for consequences to the Agency for violation of SB991 or circumvention of the approval process.
- The SCIO and EPMO should work with the Office of the State Controller to develop a consistent process to ensure that any IT project over the stated size threshold goes through the SCIO prior to receiving funding.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

By law, agencies are prohibited from proceeding with IT projects above a certain dollar threshold without approval by the State CIO. Responsibility for proceeding with a project that has not been approved lies with the agency, not the state CIO. Training in the process and thresholds has been an on ongoing activity of the EPMO.

The EPMO agrees with the value of regular meetings with agencies and will continue its consensus-driven statewide approach.

Finding 3 ***EPMO staff is periodically assigned to manage, or take leadership roles in Agency projects.***

Description

EPMO staff are periodically assigned to manage State IT projects. Most recently, the Director of the EPMO was reassigned to provide project management oversight to ITS projects included in the State's BEACON initiative. This resource shift was undertaken without a one-to-one replacement of capacity at the EPMO. A PMA was moved into the position of Acting EPMO Director while maintaining his PMA responsibilities.

Impacts

Using EPMO staff as project managers for Agency projects contradicts the responsibilities delineated for agencies and project management assistants in SB991. It enables agencies to shift responsibility for project management performance. Further, it reduces the resource capacity and capability of the EPMO to fulfill its duties. Finally, such decisions compromise the objectivity of the EPMO role by placing EPMO staff in the position of monitoring themselves or another PMA. For example, the Acting Director has retained his duties as PMA for a large portfolio of projects. The BEACON projects are among these. This puts the PMA/Acting EPMO Director in the position of representing the BEACON projects before the project approval board on which he now serves in his role as Acting EPMO Director.

Best Practices

The law establishes a segregation of duties and relationship that allows the EPMO to remain neutral and objective in its dealings with Agency management and Agency project managers. SB991, G.S. 147-33.72E. Project management standards states:

> (a) Agency Responsibilities – Each agency shall provide for a project manager who meets the applicable quality assurance standards for each information technology project that is subject to approval under G.S. 143-33.72C(a). The project manager shall be subject to the review and approval of the State Chief Information Officer. The agency project manager shall provide periodic reports to the project management assistant assigned to the project by the State CIO under subsection (b) of this section. The reports shall include information regarding project costs, issues related to hardware, software, or training, projected and actual completion dates, and any other information related to the implementation of the information technology project.
>
> (b) State Chief Information Officer Responsibilities – The State Chief Information Officer shall designate a project management assistant from the Office of Information Technology Services for projects that receive approval under G.S. 147-33.72C(a). The State Chief Information Officer may designate a project management assistant for any other information technology project. The project management assistant shall advise the agency with the initial planning of a project, the content and design of any request for proposals, contract development, procurement, and architectural and other technical reviews. The project management assistant shall also monitor agency progress in the development and implementation of the project and shall provide status reports to the State Chief Information Officer, including recommendations regarding continued approval of the project.

Recommendations

- Maintain and protect the credibility and objectivity of the EPMO and its role.
- Identify and/or develop a pool of additional pre-qualified project management resources, to supplement those offered by ITS and outside of the EPMO, that can be temporarily assigned to Agency projects until the Agency can replace their project manager.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

The State CIO is committed to doing whatever is possible, within statutory authority, to assure that projects do not fail. That includes assigning a staff person to a project if that will substantially increase its chances of success.

Finding 4 ***In its current structure, EPMO staff act as advocates for the Agency project approval and as reviewers in the Gate approval process, recommending whether a project should be approved for the next phase. These roles are perceived as conflicting at times.***

Description
According to the EPMO presentation provided to BDMP (Hayes, 2007, p. 32), the "EPMO IT Project Approval Role" includes acting as an "advocate" for approval of Agency projects while simultaneously conducting the review necessary to verify that projects have met project management requirements for State approval. On the one hand, PMAs are expected to identify project deficiencies and on the other, as advocates, they would be expected to speak in favor of, support, and/or recommend approval of the project.

Impacts
Several agencies interviewed indicated they would like the opportunity to advocate on behalf of their projects themselves. Semantics and segregation of duties aside, several agencies interviewed stated that while they respect the general project management knowledge of their PMAs, they have not been involved enough in their projects to possess the depth of business or specific project knowledge necessary to adequately represent the Agency, let alone advocate for the Agency in the State Approval process. Agencies interviewed reported unnecessary, and in some extreme cases, very extensive delays due to the reliance on PMA representation in the approval process.

Best Practices
As noted previously, SB991 establishes a segregation of duties and relationship that allows the EPMO to remain neutral and objective in its dealings with Agency management and Agency project managers. (See also Best Practices for Finding 3 above).

Recommendations
- Explicitly define the PMA roles and activities and clearly communicate them to the agencies. In particular, examine and address the perceived conflict between "advocate" and reviewer. Consider reinforcing the independence and objectivity of the EPMO and leaving the role of project "advocate" and champion to the Agency project sponsors and other personnel.
- Enable more direct communication between Agency representatives and State Approvers to expedite problem resolution. For example, allow Agency project managers and/or project sponsors to answer specific questions and concerns prior to State Approval decisions.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

PMAs facilitate the movement of projects through the process and provide information to reviewers when asked. The PMAs are not responsible for conveying agency business objectives.

Finding 5 ***There are approximately eight additional project management offices housed within state agencies. Standard processes and practices have not been established to ensure that project management information is effectively communicated and that project reporting is efficiently managed.***

Description
The EPMO reported that eight agencies have their own Project Management Office functions. These offices vary in size, maturity, capacity, and function. Agency PMO protocols may vary from EPMO protocols. At least three Agency PMOs have established their own protocols for interaction with the EPMO. For example, one agency PMO serves as the single point of contact for the EPMO, and prohibits direct communication between the EPMO and Agency project managers.

Sometimes it is not clear to Agency project managers whose policies, procedures and practices they are or should be following – the Agency PMOs or the EPMOs. For example, one project manager couldn't understand why the EPMO was requiring her to rework a previously approved deliverable to fit a recently issued template. Upon further investigation we found that the Agency PMO, not the EPMO, had requested the revision. In this instance, the Agency PMO's mandate regarding use of current templates was considerably stricter than the guidance provided by the EPMO.

Finally, the Agency PMOs have some good experience and tools that could be of great value to other agencies and the EPMO. While there is some sharing of best practices and lessons learned in the Project Manager Advisory Group and various EPMO sponsored work groups, Agency representatives interviewed in our sample expressed an unmet need for additional agency-to-agency networking and knowledge-sharing.

Impacts
The Agency PMO may filter EPMO directives and guidance aimed at Agency project staff, leading to unintended misunderstanding of EPMO processes and procedures. An Agency PMO can impede the flow of project information between project managers and the EPMO. This influences the ability of the EPMO to impact project success.

The impact of Agency PMOs on the efficiency and effectiveness of the EPMO varies depending on the extent to which Agency PMO and EPMO polices, processes, procedures and tools have been integrated. If Agency PMO and EPMO processes are not designed to complement one another, the presence of an Agency PMO can add confusion and complexity to project processes and place additional demands on project managers.

The lack of consistent practices to share knowledge and experience from agency-to-agency is a lost opportunity to reinforce the value of best practices, build on lessons learned across the enterprise, identify additional resources and tools to projects, and prevent duplication of effort.

Best Practices
It is commonly accepted management principle that responsibility, accountability and authority need to be aligned to ensure effectiveness and efficiency. As noted earlier, the ability of the EPMO to break through communication barriers between PMAs and Agency project managers is constrained to some degree because SB991 establishes guidelines for interaction between the Project Management Advisor (PMA) and the Agency, not the PMA and the project manager for the Agency. The law does not explicitly require that Agencies provide or allow PMAs direct access to Agency project managers.

While we would expect to see each Agency define processes for interfacing with the EPMO that fits its unique needs and organizational culture, we would also expect that EPMO would set forth some general guidelines in this area to ensure its own effectiveness. In instances where such barriers are impacting project performance or EPMO effectiveness, best practice would call for mediation of the issue by a third-party and/or escalation of the issue to a higher, common authority.

In their *Strategies for Success*, NASCIO (2006, p. 7-8) encourages PMOs to "Leverage pockets of PM expertise" by identifying expertise and developing strategies to build consistency by sharing it across the enterprise. Agencies adopt processes and practices they feel ownership in.

Recommendations

- Articulate the value of the direct PMA – Project Manager relationship. For example, collect and publish testimonials of benefits agencies have derived from the PMA – Project Manager relationship.
- Develop guidelines for EPMO – Agency PMO relationships. Review Agency PMO – EPMO communication protocols and suggest changes as appropriate.
- Expand opportunities for agencies to share PMO and project management best practices and lessons learned with the EPMO and across state government. Survey agencies to solicit input on how knowledge can be effectively shared among agencies.
- Continue to review Agency project and Agency PMO documentation, templates, and websites; identify and distribute resources that would be useful to other projects/agencies.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

The EPMO encourages standard practices and responsibilities, but does not have any statutory authority to mandate their use. The office uses its website, regular project manager meetings, and training to communicate best practices and to address issues and improvements.

When asked, the EPMO has worked closely with agency project management offices to align their project approval process with the State Gate Approval process.

3.4.2 Resources

Finding 6 ***The number of projects assigned to each PMA has significantly increased since the EPMO was founded and PMA roles defined.***

Description
The number of active projects in the EPMO portfolio has increased from approximately 30 to 96, or 220%, from inception in mid-2004 to present. The EPMO was initially established with a staffing structure of 6 Project Management Advisors (PMAs) and 3 Quality Assurance Team Members (QAs). As of April 2007, there were 4.5 PMAs and 2 QAs due to vacancies and staff reassignment. There is a common perception among Agency representatives that the EPMO is understaffed and PMAs are stretched too thin.

Table 3: EPMO Projects and PMAs

Date	# Active Projects	# PMAs	Projects/ PMA
July 2004 (1)	30	6	5
December 2005 (2)	47	6	8
December 2006 (3)	66	6	11
April 2007 (4)	75	4.5	17
May 30, 2007 (5)	96	4.5	21
June 2007 (6)	96	5.5	17
December 2007 (7)	105	6	18

Sources
(1) EPMO Interview, May 2007.
(2) "EPMO Value Drivers in Project Management," April 25, 2007 p. 14-15.
(3) "EPMO Value Drivers in Project Management," April 25, 2007 p. 14-15.
(4) "EPMO Value Drivers in Project Management," April 25, 2007 p. 14-15.
(5) Report from Bob Giannuzzi, PMA Report for Auditors Summary.xls, Received 5/31/07, minus "Registered" projects.
(6) Projected, based on filling vacant position.
(7) Projected, based on 10% increase in number of projects and return to full staffing.

Impacts
The EPMO does not have a staffing or resource allocation plan to reference. Thus, there is no way to determine whether or not the increase in active projects, and the corresponding increase in PMA and QA workloads, is within expectations. However, it is reasonable to conclude that a three-fold increase in the number of active projects without a corresponding increase in staff would constrain resources and limit the involvement and impact that an individual PMA can have on a project. The EPMO must stretch resources even further when EPMO personnel are reassigned to manage Agency projects.

Best Practices
The law dictates that the Office of the SCIO must provide project management support to every major IT project above $500,000. The question becomes how to most effectively allocate EPMO resources among the various projects and agencies. Resource planning is a proactive effort that requires thoughtful and deliberate allocation decisions and development of a plan for using available resources in the near term to achieve goals for the future. It also includes the development of contingencies to address changes in the availability of resources. The plan should answer the following questions:

- Which activities must be supported and at what level? For example, which activities have the greatest impact on the success of a project?
- Which activities will be excluded? Target redundancies in responsibilities.
- What activities will be added to the "supported" list should more resources become available?

- In what order will these activities be added?
- What activities will be removed from the list of supported activities if resources are diminished?
- In what order will these activities be removed?

Recommendations

- As part of the strategic planning exercise, develop a resource allocation plan. Revisit the roles and responsibilities of EPMO staff. Refine the list of supported activities and develop prioritized activities to be added or dropped as resource availability varies.
- Move forward with the EPMO's current plan to allocate PMA time to each project based upon the project phase, risk and status. Support for project planning should be a focus.
- Implement a time tracking process and system to determine exactly how much time each EPMO staff member spends on each specific project to help measure staffing needs.
- Avoid depletion of EPMO resources by removing "assign resources to manage projects as needed" from the list of EPMO objectives. Agencies are responsible for managing their own projects under SB991.
- Conduct research and an internal assessment to determine the optimal or "baseline" allocation of projects per PMA. This will be useful both for internal planning as well as supporting budget requests to the legislature. If current staffing does not meet baseline needs, use the resource allocation plan to temporarily cut back the list of supported activities in the near term and adjust stakeholder expectations accordingly. Develop a business case for adding positions.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

It was anticipated at the initiation of the EPMO that PMA workload regarding number of projects would increase. The EPMO is exploring opportunities to shift workload and responsibilities to enhance the ability of the PMAs to focus more on activities that have the greatest potential to influence project success and to meet the goals of the legislation. See the comment on Opportunity 2 above.

[The "comment on Opportunity 2" can be found in section 2 of the Office of the State Auditor Report.]

Finding 7 ***The level of engagement and focus of PMAs varies from PMA to PMA, and project to project.***

Description

Based on our interviews with Agency project staff, PMA time invested per project varies widely depending on the PMA and the project. This finding cannot be quantified as PMAs do not currently track their time by project. Currently, the PMA allocates his/her time, prioritizes his/her workload, and determines specific project-related tasks and interventions without a clearly defined and agreed upon process or standards. Some Agency representatives interviewed perceived that PMAs make their time allocation decisions based on personal interest as opposed to project need. The EPMO does not have guidelines that describe expectations for the interaction between PMAs and Agency project managers and/or the PMA and the Agency PMO.

Impacts

The extent and nature of a PMA's involvement in a project will be a major determinant of the EPMO's impact on a given project's success. Given that the EPMO's goal is to promote successful projects, and the PMA is a major source of EPMO influence on and support to projects, then the PMA role should be minimally defined to be in alignment with project management best practices to ensure maximum positive impact and potential for project success.

One of the PMA activities listed in the EPMO presentation to BDMP was "Review existence of documents." Based upon this description and our interviews with EPMO and Agency project staff, it appears that PMAs are not actually reading the project documents submitted to the EPMO via the PPM Tool unless specifically asked to by the Agency.

Furthermore, some Agency staff interviewed do not have a clear understanding of what type and level of services their PMA should and/or could be providing. Some felt they are not getting enough attention, but do not have any standard to make a formal judgment. At least one Agency's PMO policy is to strictly control Agency – EPMO contact, specifically prohibiting direct PMA – project manager contact. Under these circumstances, some project managers cannot derive benefit from a direct relationship with their PMAs.

Best Practices

We understand that SB991 only establishes general guidelines for the responsibilities of the PMAs to the Agency and the project [G.S. 147-33.72E.(b)], but does not set expectations regarding the interaction between the EPMO PMA and the project manager for the Agency project. While we would expect to see each Agency define processes and a relationship for interfacing with the EPMO that fits its unique needs and organizational culture, and the allocation of PMA resources to vary from project to project based upon project needs, we would also expect that the EPMO would set forth some minimum guidelines in this area to ensure its own effectiveness.

SB991 states that, "The project management assistant shall advise the agency with the initial planning of a project, the content and design of any request for proposals, contract development, procurement, and architectural and other technical reviews…" [G.S. 147-33.72E.(b)]. In order for the PMA to fulfill this legislated role, s/he must engage in the project at some minimally-defined level, which would include reviewing the content of key project documents.

(See also Best Practices for Finding 6.)

Recommendations

- Establish standards to guide the PMA – Agency project manager relationship.
- Articulate the value of the direct PMA – Agency project manager relationship.
- Establish an EPMO policy that encourages direct PMA – Agency project manager interaction. Communicate this policy to Agency PMOs.
- Have PMAs track their time by project. Analyze PMA time by project, and use results to inform resource and task allocation decisions.
- Conduct a "customer satisfaction" survey of Agency project managers as part of an EPMO resource needs assessment process.
- Add questions in the Project Closeout document about the Agency's experience with their PMA and EPMO services. Aggregate and track these responses for EPMO and PMA performance monitoring.
- Include "customer satisfaction" as a component of the PMA's performance evaluation.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

Some projects require more attention than others because of their size, criticality, complexity, or other risk factors.

Finding 8 ***Agency representatives reported that their PMAs were not sufficiently engaged in their projects to understand their business requirements, and thus cannot adequately represent the project in the Gate approval process. This has resulted in unnecessary delays and demands on project resources.***

Description
Given PMAs limited agency and program knowledge, and in some cases, limited direct interaction with the Agency project manager, some Agency project staff questioned whether their PMAs can adequately represent their projects in the project approval process. The EPMO reports that PMAs attend State Approval meetings nearly 100% of the time. However, there is no documented policy that requires their attendance.

Impacts
When the State Approvers ask questions or need information the PMA representing the project cannot address, it results in unnecessary rejections at the State Approval meetings. Agency representatives reported that in the worst case, the lack of EPMO understanding of project and agency details can lead to project delays, and the potential loss of external grant funding, vendors, and/or individual/agency credibility.

Best Practices
PMAs possess specific expertise in the area of project management. This expertise is not a substitute for Agency business or policy expertise. Some projects may be so complex as to require a level of knowledge and understanding that is not easily communicated through a third party who is not involved with the project on a day-to-day basis and is not familiar with all of the finer points of the business cycle or applicable law, regulation or policy for a given program. The Agency project manager and/or Agency project sponsor are the best individuals to address Agency project issues and questions raised by the State Approvers. Opening a channel of communication that would allow Agency project leadership to address State Approvers' questions and issues without going through a formal rejection would reduce delays and frustration for all concerned. It would give the Agency an opportunity to get clarification of issues and questions being raised by the State Approvers. Finally, when the State Approvers' committee makes a decision, there is likely to be a greater understanding and acceptance of the underlying reasons for the decision.

Recommendations
- Institutionalize a channel of communication that would allow Agency project leadership to directly address State Approvers' questions and issues.
- Establish a formal policy around PMA attendance at State Approval meetings.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

Responsibility for project definition and for documenting the business need for the project lies with the agency.

PMAs help to facilitate the project approval process.

State reviewers have frequent interactions with the agencies regarding projects and gate review related questions. These interactions occur by phone, meeting, email, and through the issues log within the PPM tool.

The EPMO will continue to track and try to reduce the time required for approvals and communicate roles and responsibilities in the gate approval process.

Finding 9 ***Agencies desire more project management mentoring and training; services the EPMO has committed to but appears to be inadequately resourced to provide. In addition, current PMA workloads do not allow PMAs to effectively mentor Agency project managers in risk assessment and mitigation.***

Description
The EPMO's Mission Statement is:

> *To provide leadership for the improvement and expansion of Project Management throughout the Enterprise through coordination/communication, standardization/measurement and mentoring/coaching.*

One of its three associated Objectives is:

> **Mentoring/Coaching**
> Assist Project Managers to:
>
> - Build strong business cases
> - Build viable project management plans
> - Develop valid project schedules
> - Address project changes promptly and clearly
> - Measure and report project status
> - Communicate project direction to all stakeholders

Clearly, the EPMO is committed to mentoring and coaching as a primary function and service.

The PMA job description and the May 9, 2007 EPMO presentation to BDMP, "Introduction to the Enterprise Project Management Office," outline PMA roles and activities. The PMAs have extensive responsibilities in several areas: coordinating the State Approval process; monitoring Agency projects; communicating project status to the SCIO; monitoring internal processes; and establishing and delivering internal programs such as trainings and work groups. "Mentor PMs as needed" is one of fourteen PMA Activities listed in the EPMO Presentation.

Given the PMA workloads described in Finding 6 and the extensive list of PMA responsibilities, PMAs are not able to consistently provide focused project management mentoring and coaching to Agency project managers. One Agency reported that their internal PMO policy strictly controls contact between the EPMO and Agency project staff and specifically prohibits direct contact between the PMA and Agency project manager. Under these circumstances, PMAs cannot fulfill the objective of mentoring and coaching Agency project managers. Many of the Agency project managers interviewed stated that more mentoring and coaching by the EPMO would be helpful.

The EPMO has stated that it has researched mentoring programs, and acknowledges the high impact a mentoring program could have. It does not currently have the resources to establish one but would like to establish one in the future.

Impacts
Overall, PMAs are recognized and respected by Agency staff for their strong project management knowledge. However, many Agency representatives feel the EPMO is understaffed and PMAs are stretched too thin to fulfill their role as mentors and advisors. Given their substantial workloads (see Table 3 above in Finding 6), it is easy to understand why this perception exists. In some cases, agencies don't feel their projects and project managers are benefiting as much as they could from their PMAs knowledge, and as a result, Agency project managers are not consistently maturing in their project management skills.

Best Practices
First, successful organizations have a clearly articulated vision and objectives and provide a comprehensive plan that presents their strategy for achieving key objectives. The plan should include an analysis of required resources to support the strategy. Staff tracks their time and activities so an accurate assessment can be completed on resource utilization. The plan also includes performance metrics for delivery of core services. Results are communicated to customers and used to balance expectations with resource availability. Without a plan and performance metrics, it is difficult for an organization to know whether it is achieving its defined objectives.

Secondly, successful organizations carefully review staff utilization and seek to optimize their performance by removing obstacles and distractions (in the form of non-value adding activities or administrative functions) that prevent them from focusing on high-value activities. In the case of a PMO, one of their main assets is time and their effectiveness in supporting a given project is directly related to their ability to manage the time of its staff.

Finally, frequent and clear communication with Agency managers about expectations and user needs is a critical component. Most PMOs are internal service organizations whose main customers are the agencies they serve. State PMOs have the added responsibility and challenge of serving an additional customer group – the legislature – who may have different expectations than the agencies. PMOs must balance their roles of project monitoring versus project support and communicate clearly about how this balance is achieved and maintained.

Recommendations
- Begin tracking PMA time in order to determine what activities are consuming EPMO resources.
- Request resources for and establish a mentoring program.
- Eliminate overlap with QA activities to reduce PMA activities.
- Allow Agency staff to address questions and issues associated with State Approval meetings to reduce responsibility of PMAs in this area.
- Restructure EPMO job categories, processes and activities to enable the PMA to focus more on mentoring Agency project managers.
- Expand enterprise-wide project manager networking opportunities.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

Mentoring and coaching are important to the EMPO. Resource constraints have limited the amount of such activities, but the office has offered training in PMI certification preparation, business case developments, requirements gathering, and RFP development. We will continue to offer training as needs are identified by the agencies and as resources allow.

3.4.3 Standards and Accountability Measures

Finding 10 ***The EPMO's focus has been primarily retrospective and reactive, rather than proactive and forward looking.***

Description

Most of the EPMO's published policies and procedures and their practices focus on the PPM Workflow and the use of the PPM Tool. This Workflow supports an incremental approval process based upon compliance with State Enterprise Architecture, security, procurement and project management controls. In the area of project management, status reports are submitted via the PPM Tool and the variance between actual performance and estimated or expected performance is measured. The variance between the actual and expected performance determines the scoring of overall project health. Interviews with Agency and EPMO staff indicated that much of the EPMO's focus is related to facilitation of this process and validating compliance with it.

Status reporting against baseline budget, timeline and functionality is a best practice. Using the variance between actual and expected performance as a determinate of project health is only one use for this information. It can also be analyzed to identify trends and risks. The EPMO has begun to expand its focus in this area and has added some forward-looking indicators to its dashboard of project health.

Impacts

The time required to support status reporting via the PPM Tool diminishes the time available for proactive activities such as mentoring and risk management.

Best Practices

Effective project planning and proactive risk identification and mitigation requires forward-looking trend analysis, critical path analysis and assessment of planning documents. The amount of time a PMA can devote to a given project is constrained by the number of projects in his or her portfolio. Thus, it only makes sense that PMAs should focus on those activities most likely to contribute to project success. The Project Management Institute's *Project Management Body of Knowledge* (PMBOK) describes the start of a project as having the highest level of uncertainty and, hence, risk of failing to achieve its objectives. Also, the ability of stakeholders to influence the final product and cost of the project is highest at the start of the project mostly because the cost of change and defect correction increases as the project continues. Mentoring Agency project managers, and reviewing project planning documents and key technical deliverables would increase the likelihood of project success. Chapter 11 of the PMBOK focuses on Project Risk Management and discusses the commitment an organization should have to managing risk proactively and consistently throughout the project.

Recommendations

- Refine the responsibilities of PMAs to allow greater focus on those activities that have the greatest impact on project success, including planning and risk identification and mitigation.
- Monitor EPMO's budget change request and approval process to confirm that it is functioning appropriately according to best practices.
- The EPMO implement initiatives currently under consideration to support Agency project managers with budget and resource estimation.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

Project status reports are by design retrospective. The EMPO also works with agencies on the planning for projects, risk management and other proactive functions.

3.4.4 Policies, Procedures, and Practices

Finding 11 ***The EPMO utilizes a single workflow process (PPM Workflow) for all Agency projects. Agencies report difficulty in fitting programs, iterative development projects, and largely business driven or compliance projects into the PPM Tool and Workflow.***

Description
There are several instances where the type of project or initiative does not fit the "waterfall" type of model the present PPM Workflow represents (see Appendix C for a diagram). A waterfall model is best suited for projects that have distinguishable phases involving traditional design, development and implementation phases over a shorter timeframe. Examples of types of projects that do not fit in this model are:

- Commercial-off-the-shelf (COTS) projects needing few modifications;
- Iterative projects that are developed over a long timeframe;
- Projects with many system development life cycles (SDLCs) imbedded in the project;
- Projects with external factors impacting schedules or costs, such as a state or federal mandate with a hard deadline for compliance; and,
- Program initiatives with multiple project components.

The constraints and challenges with utilizing a single workflow were a common theme in BDMP interviews with Agency project representatives. In our discussion of the PPM Workflow with the EPMO, it was apparent that they recognize the limitations of the single workflow. The EPMO has formed a workgroup to address this problem. However, it also is sensitive to the amount of change agencies have endured in the transition from the IRMC environment to the EPMO and wants be sure that changes are appropriately bundled and rolled out in a manner that minimizes possible negative impact to agencies. They described plans to select a few projects to pilot their proposed changes. They will be able to perform a proof-of-concept prior to presenting new workflows to all the agencies. This will be a substantial effort to implement.

Impacts
Several of the Agency representatives described how the single workflow forced them to either impose an artificial and less efficient and effective structure on their project or maintain a separate set of project documents – the one used to manage the project and those used to report on the project using the single workflow automated in the PPM Tool. Either approach causes additional work and may lead to dissatisfaction at the customer level.

Best Practices
In his book, *Rapid Development*, Steve McConnell, (1996) suggests that factors such as the level of understanding of the requirements and architecture, the possibility of those changing in the future, the expectations for future versions, levels of risk, schedule constraints, customer and/or management participation, and the need to make mid-course corrections all be considered when selecting a model for development of a specific system. From a project management perspective, phases are designed to ensure proper control of the project and to attain the desired product or service. Size, complexity, level of risk and cash flow constraints guide the definition of project phases and sub-phases (PMBOK, version 3, p. 22). Whether approaching the issue from a system development or project management perspective, best practice involves examining each project individually and selecting the most effective model given the characteristics of the system being developed or implemented.

Recommendations

- Conduct research to identify a Workflow option that offers the necessary controls, but has the flexibility to respond to a variety of project environments. Options include expansion of the current PPM Workflow to encompass a wider variety of phases and deliverables with selection of components appropriate to a given project conducted as part of the initial planning process, and development of additional workflow models.
- Follow through on the "proof of concept" approach. The EPMO has indicated it will do this by using a pilot program to implement new workflow models. After the pilot, it would be helpful to do a closeout on the pilot and gather testimonials from the participants to facilitate adoption.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

The EPMO will continue to work with its stakeholders to define viable alternatives.

Finding 12 ***Agencies are creating artificial monthly milestones to comply with an unwritten "one-milestone-per-month" requirement.***

Description
Approved projects, with schedules outlining meaningful milestones months apart, are being penalized for not stating and achieving at least one milestone per month. The EPMO reported that this is a holdover from the IRMC process and that they are working on resolving the issue.

Some methodologies do use "mini-milestones" to build morale, minimize risk and spread the load of project management. However, these mini-milestones usually take less than 1 to 2 days effort and are measured in hours. They allow for increased visibility and can assist in recovery of at-risk projects. The milestone-per-month rule does not align with this practice nor has it been officially adopted by the EPMO. It is being enforced as and unwritten requirement.

Impacts
Project managers may begin to question the validity of the process. Status evaluations based upon milestones other than those approved as part of the project plan and schedule undermine the credibility of the EPMO and State Approval process. The integrity of status reporting may also be compromised. Project managers create and report achievement of artificial milestones simply to avoid the additional work required to close the issue that will be opened based upon the unwritten milestone-per-month rule.

Best Practices
PMBOK defines a *milestone* as "a significant point or event in the project." PMBOK also references and defines *schedule milestone* as "a significant event in the project schedule, such as an event restraining future work or marking the completion of a major deliverable." Both definitions point to the fact that milestones should mark important places in a project. The use of mini-milestones places additional demands on project staff and should be used for a specific purpose in specific projects, not adopted or enforced as a standard for all projects.

Recommendations
- The EPMO should uphold the definition of a milestone. It is important for milestones to retain their meaning to the projects and the project management process.
- If additional milestones are desired to improve visibility of completion status and minimize risk, then the EPMO should issue formal guidance and require that they be included in the project plan and schedule.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

The EPMO will continue its efforts to clarify milestones and key project deliverables, which are necessary measures of project progress and accountability.

Finding 13 ***EPMO issue management focuses primarily on the use of the PPM Tool.***

Description
We observed that most of the items identified by the EPMO in the PPM Tool on the "Issues" tab are related to use of the Tool rather than analysis of the data entered or project management related issues. Thus, many of the issues Agency project managers are required to respond to are not relevant to the true status or health of the project. Many of the items are closed without the root cause being resolved. The same or similar issue is often opened again the next month.

Impacts
Each time an issue is opened by the EPMO, a formal response is required from the Agency. Repeatedly entering items related to the use of the PPM Tool is not productive. Furthermore, identification and dialogue around true issues may get lost. Allowing issues to close without resolving root cause of the data entry and Tool problems is not productive and is inconsistent with best practices for issue management.

Best Practices
PMBOK defines an issue as "A point or matter in question or in dispute, or a point or matter that is not settled and is under discussion or over which there are opposing views or disagreements." Formal issue documentation and tracking are critical to ensure quality of deliverables and effective management of project risk. Issues that remain unresolved for a prescribed period should be escalated for resolution.

Recommendations
- Demonstrate effective issue management by addressing the root cause of the data entry and PPM Tool related items rather than repeatedly identifying the same or similar issues month after month.
- Identify the most common Tool-related issues. Provide additional training and/or PPM Tool trouble-shooting guidance for project managers in these areas.
- Develop job aid cards or "cheat sheets" addressing the most common problem areas.
- Build EPMO credibility and Agency compliance by measuring and reporting the reduction in Tool-related issues.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

We are working to alleviate the large number of tool-related issues.

3.4.5 Communication

Finding 14 ***The EPMO has not consistently and effectively communicated the value of their services or who they ultimately serve.***

Description
Some Agency representatives reported that they did not have much input or "say" into how the EPMO would best support their project management needs. They were aware that the EPMO sponsors special committees and workgroups but reported that these committees are facilitated as one-way presentations rather than as forums for providing input to the EPMO or the project management process. While most Agency representatives interviewed agreed that there is a need for an organization like the EPMO, they also expressed frustration at the lack of value they receive in return for the additional effort and frustration involved in supporting the PPM Workflow.

The EPMO has not consistently and effectively communicated the value of their services or who they ultimately serve. The EPMO does not market its services to agencies or report on the impact the EPMO has had on the likelihood of project success. North Carolina is definitely not unique in this regard.

As stated in the NASCIO (2006) report, "Many PMOs continue to struggle with articulating their own value proposition and aligning the PMO mission to the evolving maturity of the organizations it serves." (p. 1). Also, as noted previously, "The PMO and its responsibilities are always under the watchful eye of detractors. Making the case for establishing and sustaining an effective PMO is a significant challenge for it is a relatively new discipline in government whose role is evolving as an oversight organization. " (NASCIO, 2006, p.4-5).

Impacts
The absence of a documented EPMO implementation plan and long-term strategic plan has left a void. The misunderstandings, misperceptions and dissatisfaction among key stakeholder groups is predictable and likely to continue until the EPMO is able to remedy this deficit. Worse, if agencies perceive no return on the time and effort they invest to comply with EPMO requirements, Agency support and compliance with EPMO may erode. Several of the Agency representatives were aware of, or acknowledged, engaging in behaviors that are counter to the intended goal of the EPMO in defining and implementing sound project management principles.

Best Practices
PMOs that achieve success communicate the value of their work. They must also demonstrate that they are providing value in areas that their customers care about. While improving project management standards is an admirable goal, customers must be shown how this will improve things that are more important to them – such as customer satisfaction, resource utilization, and project performance.

One method to effectively communicate value is to engage customers in the process. They will perceive value to something in which they have ownership. They will also adopt it earlier. Therefore, the PMO must work to ensure stakeholder engagement in the process. Stakeholder opinion should be actively solicited, listened to, and acted upon. PMOs seek to educate and communicate with their customers to better understand their needs and what steps may be taken to improve the perceived value. Finally, successful PMOs understand that while they may have reporting responsibilities to other key stakeholders such as their governing body, their ability to successfully affect change and introduce a new culture depends on the active involvement of the organizations' employees.

Recommendations
- Undertake a formal strategic planning process. Revisit the EPMO's mission and objectives. Develop and document a vision, a multi-year timeline and milestones. Benchmark organizational maturity.
- As part of this plan, the EPMO should create a formal communications management plan that takes into account the need for agencies to understand and see the value being delivered to their organizations by the

EPMO. Periodically survey agencies to assess awareness and communication needs. Use results to develop and revisit the EPMO's communication strategy and plan.

- Regularly assess customers' project management needs, through surveys, Advisory Groups, and PMA interaction.
- The EPMO should consider creating an independent committee of rotating Agency heads to serve on an EPMO advisory council that would review EPMO strategic objectives and performance. This would provide agencies with an additional opportunity to be included in EPMO decision-making processes, thereby increasing their level of ownership and support.
- Provide standard reports on EPMO and project portfolio performance to key stakeholders. Work with the legislature, Governor and key stakeholders to identify report requirements, and meaningful performance measures and metrics.
- Communicate EPMO successes and leverage lessons learned. Demonstrate the EPMO's value by drawing attention to and, at the same time, providing recognition for agencies and project teams that have applied project management principles and best practices and successfully brought projects in on time, on budget and with the needed functionality.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

The EPMO was designed primarily to serve the State CIO in carrying out the statutory responsibilities for project oversight. We will continue our efforts to add value to the agencies and to help them deliver successful projects.

Finding 15 ***The EPMO has not effectively reinforced the benefits and value of compliance with the policies, procedures and practices it has implemented. For example:***

- ***Some Agency representatives perceive the EPMO as the "project police" focused more on enforcing rules rather than mentoring and advocating. They view the actions of the EPMO as punitive rather than supportive and their role as primarily that of enforcers rather than mentors and advocates;***
- ***EPMO process documents focus on navigation and data entry in the PPM Tool rather than providing an overview of the process, explaining the need for the process or how it aligns with project management best practices; and,***
- ***The EPMO does not generally read or provide feedback on required project documents.***

Description

Several Agency representatives interviewed view the EPMO as the "project police" whose focus is primarily enforcing the timely and correct entry of data into the PPM Tool. The workload of PMAs combined with the focus on status reporting in the PPM Tool leaves little time for PMAs to read and provide feedback on key project documents. The perception of the EPMO as a policing agency is reinforced by their role in the State Approval process. The fact that PMAs are the only individuals authorized to represent a project in front of the State Approvers would suggest that the PMA's presentation is all important to the project's approval or rejection at the State Approval meeting.

Most EPMO process documents reviewed for this analysis appeared to be focused on how the project management process was to be executed in the PPM Tool. There is little information on the actual project management process itself and its role in effective project management. Thus, EPMO resources are more useful as PPM Tool "user guides" than as true project management guides.

Impacts

The potential impact of this finding is well stated in Andersen's (2007) analysis when discussing issues related to PMO authority in organizations: "No matter what tasks are placed with the PMO, one of the main purposes is that it should contribute to changing the project management practices of the organization. To achieve this, such an office and its resources are dependent on both real organizational authority as well as academic and social credibility. Our findings indicate that the extent to which this is achieved does not so much depend on the organizational solutions, but is rather defined through [the] . . . 'attitude' the PMO displays. If its focus is on controlling the projects more than offering services and support, the perceived benefits produced could be scarce and the PMO could lose its authority…"[1]

Best Practices

The EPMO's challenge in this area is not unusual and virtually all PMOs struggle to balance the roles of both mentorship and monitoring. States meet this challenge differently. As noted in Section 2, PMO authority to monitor varies widely from state to state and even within departments of a single state. In North Carolina, the EPMO and, specifically the PMA, has no choice but to monitor projects. SB991 specifies that the "…project management assistant shall also monitor Agency progress in the development and implementation of the project and shall provide status reports to the State Chief Information Officer, including recommendations regarding continued approval of the project." The EPMO can work to ensure that its "policing" activities and mentoring activities are balanced. It should focus on the value of project management principles, processes and practices, and timely direction on how and when they should be applied.

[1] "Attitude" was one of three issues identified by Andersen related to achieving academic and social credibility for a PMO in an organization. The other two issues include: 1) the importance of having competent and senior project managers on the staff (as opposed to newly graduated PMs); and 2) the support of the PMO by senior management throughout the organization (Andersen, p. 102).

Recommendations

- Refine the roles and responsibilities of PMAs to allow additional focus on mentoring and coaching.
- Minimize the amount of "policing" by PMAs since EPMO QAs already perform this function.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

The State CIO has oversight responsibility for IT projects as part of the larger effort to better manage IT in state government. The EPMO assists the State CIO in implementing this responsibility.

The EPMO is developing a "companion guide" to its process documentation to assist in defining the need for and value of the various process steps. It will also update its FAQ document to clarify which documents are required as compared to those that are identified as valuable items in the agency documents checklist.

Finding 16 ***EPMO policy, procedure and process information is not provided in an easily accessible, well organized fashion and changes in EPMO policies, procedures and practices are not consistently and effectively communicated. Agencies interviewed were not aware of a standardized process for communicating version changes for relevant policies or required documentation.***

Description
Review of the EPMO website, as well as follow-up interviews with Agency project managers and other representatives indicated that supporting documentation for the PPM Workflow is not easy to find. The website is difficult to navigate and does not follow the flow of the actual State Approval process. When we considered the website from the perspective of a new project manager, we found it difficult to identify Gate process details. When we did find this information, we were not able to easily locate EPMO templates and tools for the required documents.

Impacts
According to the EPMO, all licensed users of the PPM Tool receive automatic email notifications when changes are made to the PPM Workflow. Nevertheless, several Agency project representatives expressed frustration that they have not been made aware of changes to processes until they are found to be out of compliance or they happen to notice them while searching the website for other information. It is incumbent upon the deliverer to ensure that the message is received and understood. Shortcomings of the automatic email notification system include: unclear or irrelevant "Subject" lines that are automatically generated and a "Sender" that may be unknown to the recipient, causing him/her to delete the message or the email system to send it to "junk" or "bulk" mail. Relying solely on the automatic email notification system to communicate process and procedural changes is risky.

Agencies have reported losing considerable time following requirements that are outdated. If agencies have difficulty accessing EPMO information on project management policies, procedures and practices, their perceived value is diminished as is their ability to influence change in the organization. Furthermore, as the use of the web has increased and web design has evolved, user tolerance for slow response time and confusing navigation is shrinking. Flaws and wait times that used to be commonplace are no longer acceptable.

Best Practices
The EPMO has access to a large number of industry best practices through the websites of many other state EPMOs including the following:

Table 4: State PMO Websites

State	Website
Virginia	www.vita.virginia.gov/projects/cpm/cpm.cfm
Michigan	www.michigan.gov/dit/0,1607,7-139-30637_31101---,00.html
Minnesota	www.state.mn.us/portal/mn/jsp/content.do?subchannel=-536890651&id=-536890276&agency=OETweb
New York State	http://www.oft.state.ny.us/policy/projectmanagementindex.htm
North Dakota	www.state.nd.us/epm/oversight/index.html
California	www.bestpractices.cahwnet.gov/projectofficefp.aspx

New York State's website is focused on making their widely praised Project Management reference guide, the New York State Project Management Guidebook, widely available to state and other organizations. PMOs should work closely with their stakeholders to understand their project management knowledge and tool requirements and create a system that provides access to information with minimal effort.

Recommendations

- EPMO should assess the usability and content of its website. Usability studies with as few as five participants have been found to identify 80% of the problems.
- Review other state PMO websites to gather ideas, information, and relevant documents, and implement those that align with its strategic objectives and communications plan.
- EPMO should consider the use of software tools to provide an interactive environment for Agency project managers to share ideas, ask questions, and otherwise collaborate across agencies.
- Once refined materials are developed and located in a user-friendly interface, the EPMO should implement a marketing campaign to promote its new resources and increase awareness of its service capabilities for project managers throughout state agencies.
- The EPMO should resolve the questions as to whether or not the automated email change notifications are being received by all PPM Tool users, and if they are an effective method to communicate changes in workflow policies, procedures and practices, including templates and required documentation.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

The EPMO formally communicates all changes according to our documented change process. We will work harder to make agencies aware of the process.

3.4.6 *Project Portfolio Management (PPM) Tool*

Finding 17 ***The PPM Tool selected and implemented for use by agencies and the EPMO is not intuitive or user friendly. The tool does not integrate well with industry standard project management applications.***

Description
The PPM Tool capabilities include summarizing project information, monitoring project performance, conducting comparisons and assessments of groups of projects (i.e., project portfolios), and reporting results to the SCIO. It is used for navigating through the Gates and communicating Gate approval status. The PPM Tool does not have core project management capabilities and does not easily integrate with other project management software applications. Agencies use a variety of other tools for project management functions including Microsoft Project, SAP's project management module, and various Microsoft Word and Excel documents.

The EPMO itself indicated that the PPM Tool was a "forced-fit" and less than an ideal solution to their needs. Agencies reported that their training does not address or compensate for the complexities and quirks of the PPM Tool. Furthermore, Agencies indicated that project data in the PPM Tool does not always accurately reflect reality. Inaccurate data into the PPM Tool may incorrectly cause project health to be downgraded. Frequent PPM Tool data errors of this type may lead to EPMO to downgrade the project status or halt the project until the issue can be resolved.

The PPM Tool is provided as an application service provider model. Therefore, North Carolina users access the application through a secure website maintained on a third-party server. Agency project managers voiced their frustration with the slow speed of the website and the time it takes to enter project information. The EPMO (via the ITS Strategic Initiatives Office) has recognized this problem and taken steps to begin addressing it.

Most Agencies report that they do not use the PPM Tool for internal purposes such as performance reporting or Agency portfolio management. Additionally, Agencies cannot view other Agency projects to get a sense of what other activities are occurring within the state. Thus, an Agency head involved in a multi-agency project being led by another Agency, will not be able to see the project details. Agencies reported that they derive little or no value from the time and effort required to enter data into the PPM Tool.

Impacts
The inability of the PPM Tool to easily integrate with project management applications results in project managers having to enter information into two systems. This is inefficient and can lead to data errors. EPMO and Agency staff spend unnecessary time opening and closing issues that have no basis in fact, but are created through Agency data entry errors. A consistently high percentage of issues reported in the PPM Tool are directly related to use of the Tool rather than analysis of the data entered or project management.

It is also important to note that reports are only as reliable as the data entered. Given that the data entered does not always reflect reality, the reliability and value of project reports is diminished.

EPMO PMAs spend a great deal of their time with project managers consulting on issues related to the use of the PPM Tool. While the actual time spent by project managers entering project information varies widely and may be relatively small compared to other project tasks, the perception by most Agency participants in our sample is that it takes an inordinate amount of time to manage for the little value they receive in return. Additionally, the emphasis on enforcing data entry to the PPM Tool is one of the main drivers creating the perception of the EPMO being a police agency (see Finding 15). The PPM Tool may negatively impact project performance as project managers focus on PPM Tool data management over more important issues such as risk identification and mitigation.

Several Agency representatives in our sample were aware of or acknowledged engaging in behaviors counter to sound project management practices in an effort to get their project information into the Tool. This included

avoiding initiation of necessary project changes and imposing an artificial structure on the project to meet the needs of the PPM Tool rather than the needs of the project.

Best Practices
Implementing applications such as the PPM tool poses a significant challenge, especially when parties responsible for entering the information see no direct return in value for their efforts. Our experience indicates that users will make a great effort to overcome technical challenges and inefficiencies if they understand the value of the new PPM Tool to the organization and are able to receive some value in return – whether that be through information they have not had in the past or the elimination of another process that is no longer required with the new PPM Tool. Considerations for selection and implementation of a new PPM Tool include:

Benefits received: Value should be received by users for their efforts to maintain the system if they are to support the required effort. This may be done in different ways including: providing access to information and data that was previously unavailable or inaccessible, reducing or eliminating work in other processes, or improving the speed or quality of their existing work.

Ease of use: The application must meet a minimum standard of usability – especially when it will be accessed by a wide-variety of users. Usability issues include such things as rapid data processing, accessibility, use of wizards or templates to help new users enter information, and the use of online help sections linked to specific fields or tabs that walk users through more intricate functions. Additionally, with the many multi-media tools available today, organizations can quickly create video presentations that walk users through examples of different scenarios.

Information quality: Finally, users at all levels of the organization must feel as if the information represented in the application is an accurate representation of reality. If this is not the case, no amount of enforcement will get users to truly invest the necessary time and energy required to enter correct information.

Recommendations
- In the short term, identify the users who are consistently having problems entering data into the PPM Tool. Provide them with additional training and support.
- Implement a formal project to build a business case for reviewing alternatives and replacing the PPM Tool with one that will better meet the project reporting and compliance needs of the EPMO and Agency project managers. The EPMO indicated that an initiative is underway to identify a project management tool that will integrate with the PPM Tool.
- Investigate ways to increase the speed of the PPM Tool over the Internet so that it is less frustrating to project managers when entering and updating information.

[The following "Comments" were extracted from the EPMO's Response to this Report.]

Comments

The configuration of the tool was influenced greatly by extensive input and advice from agency project management, quality assurance, and PMO staff. There is agreement in that the tool has usability issues. Some are mitigated by the continuous training and ongoing support of users.

The PPM tool does provide the State CIO the ability to carry out the statutory project oversight responsibilities.

The tool does integrate well with industry standard project management applications. The most popular project management tool in state government is MS Project, and the tool integrates well with it. Also, through Excel and other interfacing techniques, it works well with SAP PS Tool (used by a large agency) and other major project management packages.

APPENDIX A: LIST OF SELECTED PROJECTS

Project Name	Department or Agency	Workflow Status (March 2007 report as of Feb. 5, 2007)	Project Class
BEACON-HR/PAYROLL	Office of the State Controller	Execution & Build	> $3,000,000
NC FAST Service Delivery Interface (SDI) Project	Department of Health and Human Services	Execution & Build	500,000 - $3,000,000
IT Consolidation Pilot Project	Office of Information Technology Services	Implementation	> $3,000,000
EEP Information Management System	Department of Environment and Natural Resources	Planning & Design	$500,000 - $3,000,000
IT Asset Management (ITAM) Project Phase 1	Office of Information Technology Services	Planning & Design	$500,000 - $3,000,000
DHHS HIPAA National Provider Identifier (NPI) Initiative	Department of Health and Human Services	Planning & Design Approval	> $3,000,000
Voting Equipment Upgrade HAVA (Help America Vote Act)	State Board of Elections	Project Closeout	> $3,000,000
Comprehensive Exceptional Children Accountability System (CECAS) Initiative	Deparatment of Public Instruction	Project Closeout	> $3,000,000
Disaster Recovery (BCP/DR) Implementation	Department of Justice	Planning & Design	$500,000 - $3,000,000
Customer Traffic Management System	Department of Transportation	Project Closeout Review	$500,000 - $3,000,000
NC WISE State-wide Implementation Project WAVE 1	Department of Public Instruction	Project Closeout	> $3,000,000
NCMail Service Offering Upgrade & Enhancement	Office of Information Technology Services	Canceled	> $3,000,000

APPENDIX B: SOURCES CITED

Andersen, Bjorn, Bjornar Henriksen, and Wenche Aarseth. (2007). Benchmarking of Project Management Office Establishment: Extracting Best Practices. *Journal of Management in Engineering.* April 2007: 97- 104.

Hayes, Sharon. (2007, May 9). *Introduction to the Enterprise Project Management Office.* PowerPoint presentation delivered to BDMP.

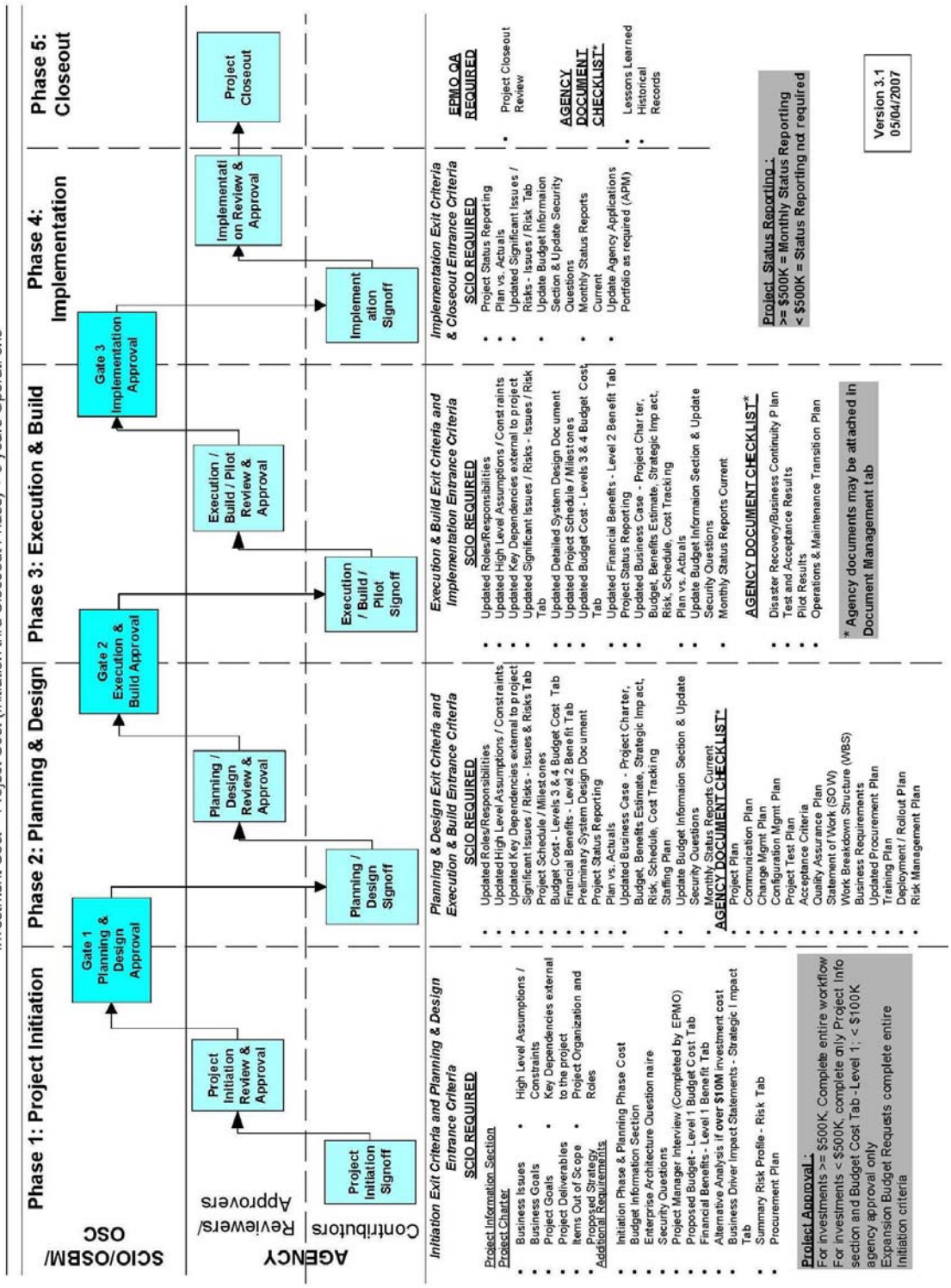
McConnell, Steve. (1996). Rapid Development: Taming Wild Software Scheduling. Redmond, Washington: Microsoft Press.

NASCIO. (2006, October). *Looking to the Future: Challenges & Opportunities for Government IT Project Management Offices*. National Association of Chief Information Officers. Retrieved May, 2007 from www.nascio.org.

Project Management Institute, Inc. (2004). *A Guide to the Project Management Body of Knowledge, Third Edition (PMBOK® Guide).* Pennsylvania: Project Management Institute, Inc

Senate Bill 991, complete text: http://www.ncga.state.nc.us/Sessions/2003/Bills/Senate/PDF/S991v5.pdf.

APPENDIX C: STATE OF NORTH CAROLINA PPM WORKFLOW



APPENDIX D: OTHER STATE PMOS

As discussed previously, the adoption of PMOs in state government is a relatively new development. Our review of state PMOs found that most have been implemented within the past five years. State PMOs in general are early in their maturing process and will evolve over time based on their experience and performance. In our research we found that most states use a Hybrid PMO model with an emphasis toward either the Centralized or Federated model, as opposed to attempting to strike an even balance between project control and support business functions. The following sections provide high level background information on five other state government project management office operations.

Minnesota
Minnesota's PMO was created in 2005 and appears biased toward the "Federated" PMO model. Agencies are responsible for sourcing and managing their own projects. Agencies are required by law to follow best practice project management practices, but the PMO provides fairly wide latitude in how they do this. The PMO provides general guidance on project management practices (using PMBOK as main guide), but does not require agencies to use any specific templates or documents. They provide some basic, top-level training and will contract with third-parties to provide more in-depth training as required. Agencies are responsible for paying for their own training.

The PMO has the authority to stop or cancel projects if required. The CIO has the power to go into an Agency and put its IT assets, systems, and projects into receivership if the circumstances demand that level of action. The PMO has the responsibility for monitoring projects across all agencies that fall within certain criteria. This is achieved by having agencies submit status reports to the EPMO each month using a template with basic project information.

The PMO has only eight personnel and is not staffed to manage projects directly. When a project is at risk of failing, the PMO may provide short-term project management support – but only for a short engagement to get the project back on track or until a full-time, contract project manager can be identified and put in charge. Finally, the PMO has built a project management support staff with experienced, skilled project managers who also have a business background. The PMO's focus is on helping agencies identify and implement solutions that are best for their business requirements. Therefore, PMO personnel emphasize a business approach over a more technical approach to project management.

Virginia
Virginia also emphasizes the "Federated" model with agencies responsible for sourcing and managing their own projects. The Virginia PMO does not provide enterprise-wide project management services. It has responsibility for monitoring projects across all agencies with a focus on those projects with budgets over $100,000, those that are enterprise level, or those that are considered mission critical. Monitoring information is provided to the CIO, IT Investment Board (ITIB), General Assembly, and to the public. The PMO is tasked to review project progress, project management deliverables and compliance with Virginia's project management standards and guidelines. They also report project status to the CIO and ITIB and may recommend project suspension, corrective action, and support.

State agencies are required to follow PMBOK and Virginia IT project management standards. The Virginia PMO uses both internal and external resources to provide overview classes and other project management training. They have also established a project management certification program. They provide coaching and mentoring to project managers in other agencies.

Michigan
Michigan's PMO model leans heavily toward the "Centralized" model with a detailed project methodology, instruction, tiered levels of training, certification requirements for project managers, provision of project management resources for certain key projects, authority to suspend or terminate poor performing projects, and the responsibility for tracking project performance and reporting status to the state CIO. The PMO also created

an instruction titled, “PMM Express,” that is an abbreviated version of their larger and more detailed PMM instruction for use with projects of 30 – 90 day duration.

The Department of Information Technology was created in 2001 and gives the state CIO the authority to direct all agencies on project and contract management principles as they relate to IT projects. Agencies are required to use these methods. Additionally, the state CIO is instructed to develop systems and methods to conduct project portfolio management functions and report to the Governor on a semi-annual basis.

New York State
The PMO implemented by New York State (NYS) most closely resembles a “Federated” model with an emphasis on providing project management support and guidance to agencies. Agencies are responsible for sourcing and managing their own projects. Created in 2001, the New York State PMO resides within the Office for Technology (OFT). Its mission is: “To increase project management competence and foster sustained success for projects carried out by New York State.” According to the preface found in NYS’s Project Management Guidebook, “The top priority of the newly created PMO was, and is, the development of a common project management methodology for use by project managers across the state.” The result of this focus has been a significant investment in and promulgation of a standard project management methodology captured in the New York State Project Management Guidebook. This detailed instruction is the foundation upon which all training and certification take place. The PMO has extensive resources for state project managers including an active online project management community, numerous organizations to address project management issues, an online database of project documents that may be used and referenced as templates, and a Project Management Mentoring Program (PMMP) that includes fifteen days of classroom training, five days of structured intern-mentor practicums, and fifteen hours of one-on-one mentor-intern time.

New York State’s CIO is authorized to manage or delegate management of projects with a state-wide or multi-agency impact. The PMO is authorized to make decisions on OFT projects, but may only advise on other agency projects.

South Carolina
South Carolina’s PMO aligns most closely with the Centralized Model. It exercises control and oversight. The PMO requires agency compliance with specific requirements for implementing projects. Their website provides clear guidance on their roles and responsibilities and easy access to detailed guidance, instructions, and templates for use by state project managers.

Project managers must be assigned to the project from initiation through close-out and must be certified through a program approved by the PMO. The PMO maintains a training and certification program for use by all state agencies. The PMO has also developed a state-specific project management methodology using PMI PMBOK as its foundation.

Agencies must submit Information Technology Plans to the state CIO and include a listing for all projects with cumulative costs over $50,000. Each plan must include a business case detailing benefits for the project. The PMO manages an organization-wide agency certification program whereby agencies themselves are certified to certain levels of ability to independently manage technology projects. However, agencies themselves can only become certified to manage projects of up to $5,000,000. Agencies must submit periodic updates to the PMO on project status using a common entry tool. There is also a very specific set of instructions for dealing with “at-risk” projects where the PMO works with the agency’s project manager to assess the projects situation and come up with an action plan to mitigate project risk. We noted that despite its significant authority to monitor and report project status, the PMO also has the right to require the use of an Independent Verification and Validation (IV&V) consultant to conduct an independent review of the project and make recommendations to the agency director and state CIO.

Section 2

Agency Response

(General Observations and Comments on Opportunities)

State of North Carolina
Office of Information Technology Services

Michael F. Easley, Governor **George Bakolia, State Chief Information Officer**

July 16, 2007

The Honorable Leslie W. Merritt, Jr.
N. C. Office of the State Auditor
2 South Salisbury Street
20601 Mail Service Center
Raleigh, NC 27699-0601

Dear Mr. Merritt:

Thank you for the opportunity to review the assessment of the Enterprise Project Management Office.

I am pleased with the findings that the office is accomplishing what the General Assembly intended with Senate Bill 991. We have improved accountability for information technology projects, done a better job of keeping them on track and within budget and set up a mechanism for remediation or stopping those that fail to show adequate progress.

Attached you will find comments to the specific findings.

Now is a good time to review the operation of the Enterprise Project Management Office, which was created almost three years ago, and seek areas for improvement. The assessment done by your office will supplement our ongoing efforts. I will keep you informed as we address the areas in the study that are within our statutory authority and resources.

I also want to thank you for the professionalism demonstrated by your staff and the consultants on this project, and I look forward to working with you again.

Sincerely,

George Bakolia

George Bakolia

P.O. Box 17209 • Raleigh, North Carolina 27619-7209
Tel: 919.981.5555 • Fax: 919.981.2548 • State Courier 51-01-11
An Equal Opportunity/Affirmative Action Employer

General Observations Regarding the EPMO

We are pleased with the conclusion that the Enterprise Project Management Office is helping the State Chief Information Officer meet the objectives of the General Assembly in the passage of Senate Bill 1991. The primary goal has always been improving accountability for information technology projects, measuring project performance and stopping, if necessary, projects that fail to meet performance measures.

Listed below are key perspectives regarding the EPMO and addressing its:

- Strategic vision and direction,
- Implementation and operation, and
- Role and position in the State CIO's framework for IT business management.

1. The Strategic direction of the EPMO has been prescribed in the State CIO's statewide information technology plans

State statutes require the State CIO to prepare and submit to the General Assembly state information technology plans every two years. The three most recent plans have addressed the strategic vision and approach regarding the management, performance, and oversight of IT projects. The following are excerpts from those plans:

- Statewide IT Plan for the 2003-05 biennium (issued December 2002):

  Second Initiative - Manage more closely the state's implementation of IT projects.

  Strategy 1 – Develop processes and procedures for the State CIO to verify that agencies have the necessary staffing resources, processes, and tools to successfully perform IT projects (especially for the management of outside contractors) before the projects can be certified by the IRMC. Strategy 2 – Restructure the IRMC's project certification, reporting, and quality assurance policies and procedures to incorporate more intensive and timelier reviews by the State CIO, as the projects move through their life cycles.

- Statewide IT Plan for the 2005-07 biennium (issued February 2005):

  Third Initiative – Manage projects for superior results.

  The state has a long and distinguished history of monitoring, accounting for, and reporting major information technology projects. However, recent

problems with large-scale statewide rollout projects have revealed critical weaknesses in the ability of agencies to manage complex IT investments. An enterprise project management office has been created and staffed with the primary objectives of monitoring performance of projects in scope, budget, schedule, and quality dimensions and providing departments with subject matter expertise, tools, and techniques for improving project management.

The State CIO's project approval and status reporting process will be strengthened, streamlined, and simplified through the implementation of a recently purchased portfolio management tool. It will build upon lessons learned from past paper-intensive processes and provide for the collection of common data; evaluation against specific, measurable, and agreed-upon criteria; and reporting geared to the early identification of problems and assistance for appropriate and timely decision making.

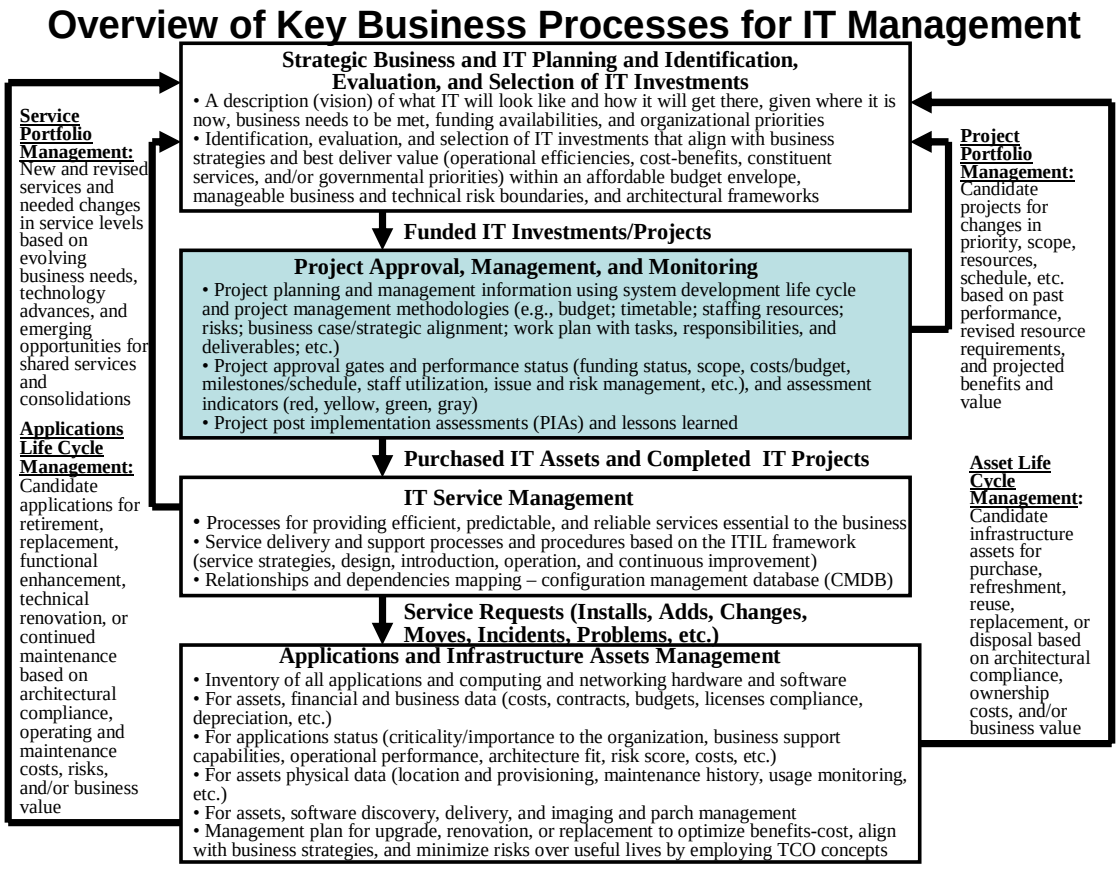
- Statewide IT Plan for the 2007-09 biennium (issued February 2007):

  The Executive Summary reported accomplishments for the seven initiatives for the past biennium, and the third initiative above was addressed as follows:

  Manage projects for superior results – A review, approval and oversight process has been established for IT projects with a total cost of $500,000 or more. Project management assistants are being assigned to help agencies with IT projects. A portfolio management tool has been used since the summer of 2005 to help manage projects. The oversight process, with the portfolio management tool, was one of seven projects achieving honorable mention in The National Association of State CIO's (NASCIO's) 2006 Recognition Awards for Outstanding Achievement in the Field of Information Technology in State Government.

2. The establishment of the EPMO is a component of a bigger picture and larger framework for the better planning, budgeting, and management of IT

The EPMO is part of a larger effort that integrates principal IT management activities. The Office of the State CIO has developed a framework for major IT business management processes and their relationships. These are illustrated in the diagram below and explained in Appendix A of the 2007-09 Statewide IT Plan at http://www.its.state.nc.us/ under Hot Topics. Appendix B of the plan correlates the major statewide initiatives in the 2005-07 and 2007-09 State IT Plans with the components of the key business processes for IT management.



The duties and responsibilities of the EPMO are summarized in the shaded box (second component from the top). The activities and responsibilities of the remaining components are assigned to other responsible areas of the ITS organization.

The key business processes include:

- Strategic planning.
- Service management, through ITIL.
- Application portfolio management.
- Asset management.
- Project portfolio management.

3. The successful operation of an EPMO is a maturation process

The assessment recognizes that creating a project management office is not a one-time project. Ongoing efforts are required to enhance policies, processes, and procedures.

During its first years, the EPMO concentrated on the activities necessary for complying with the governing statute. These included the implementation of the

software tool that forms the core of the project approval, monitoring, and reporting processes and the development of personnel to fulfill quality assurance and project management advisory functions.

Having achieved those objectives, the EPMO is poised to refine its methodologies, practices, and organization and move to higher levels of capability and effectiveness. However, the capacity for growth and potential for accruing greater successes are limited by the availability of additional resources. In the next budget cycle, the Office of the State CIO will work with funding authorities to assist the EPMO in providing additional training, mentoring, and other services to the agencies for improving their internal project management capabilities. In the meantime, the EPMO will incorporate some of the recommendations of the assessment for improving the results of its efforts within its budgetary and resource constraints.

Comments on Opportunities for Improvement

The Executive Summary of the assessment listed opportunities and recommendations for improvement under four major categories. Comments for each of these are provided below.

Opportunity 1 – Undertake an EPMO Strategic Planning Process

Undertake an EPMO strategic planning process with stakeholder and customer input, and widely disseminate the results.

Comments

The State CIO's statewide IT plans and state law define the EPMO's strategic plan. The office is defining its tactical plan for 2007-2008 and identifying implementation steps.

Opportunity 2 – Refine EPMO job roles and activities, and certain EPMO practices

Refine EPMO job roles and activities, and certain EPMO practices, to enable the Project Management Advisor (PMA) to focus more on activities that have the greatest potential to influence project success.

Comments

State law defines the role of the project management assistant. By law, a PMA must "advise the agency with the initial planning of a project, the content and design of any request for proposals, contract development, procurement, and architectural and other technical reviews. The project management assistant shall also monitor agency progress in the development and implementation of the project and shall provide status reports to the State Chief Information Officer, including recommendations regarding continued approval of the project."

The EPMO is exploring opportunities to shift responsibilities to enhance the ability of the PMAs to focus more on activities that have the greatest potential to influence project success, while still meeting the goals of the legislation. In addition, pending legislation that would increase the dollar threshold for the mandatory assignment of PMAs will provide additional flexibility.

Opportunity 3 – Articulate the value of the EPMO to stakeholders

Articulate the value of the EPMO to stakeholders.

Comments

The EPMO currently undertakes many of the recommended activities and will continue to do so. A consensus-driven, statewide approach was used in developing all aspects of the office. An EPMO survey will be distributed soon, and lessons learned are currently available through the EPMO website and the Project Management Advisory Group (PMAG)

Opportunity 4 – Consider the apparent trend toward general improvement with project success with cautious optimism

Given where the EPMO is in its maturity, the apparent trend toward general improvement in project success indicators should be considered with cautious optimism.

Comments

We appreciate and share the optimism regarding the trend towards improvement.

ORDERING INFORMATION

Audit reports issued by the Office of the State Auditor can be obtained from the web site at www.ncauditor.net. Also, parties may register on the web site to receive automatic email notification whenever reports of interest are issued. Otherwise, copies of audit reports may be obtained by contacting the:

Office of the State Auditor
State of North Carolina
2 South Salisbury Street
20601 Mail Service Center
Raleigh, North Carolina 27699-0601

Telephone: 919/807-7500

Facsimile: 919/807-7647