Chapter 8

Effective Transition of Strategy and Execution: Program Management Using Microsoft Project Server 2010

In This Chapter

In this chapter, we discuss the importance of integrating strategy with the practical needs of execution in a project portfolio management (PPM) implementation. The needs of an organization’s solutions or products being managed can put a strain on how the project is managed, yet what does Project Server 2010 do to help ensure good visibility, accountability and quick drilldown capabilities in this world of time-to-market driven corporate goals?

What You Will Learn

* The challenges and how a project management office can address them
* How to managing information for project success
* How to leveraging collaboration for program success
* Workflows for supporting project lifecycle management (PLM)
* How to incorporate issues, Risks, and deliverables with PPM
* Graphical (static and drilldown) capabilities enabled in PPM 2010

A project management office (PMO) rarely achieves its full potential. Project managers find themselves short on resources and budget or incapable of delivering projects on time. Without visibility into business goals, the PMO is unable to align project priorities with the long‐term strategic requirements of the enterprise. Some PMOs even fall short of their initial promise to define and standardize processes and practices, which makes it difficult to leverage institutional knowledge or to reduce the effects of common operational challenges. We examine why some PMOs fail to deliver much beyond modest increases in efficiency and tighter monitoring of projects while others become centralized hubs for integrating general business management processes and enabling the free flow of information across the organization.

Projects Are the “How,” Programs Are the “Why”

Being more strategic requires PMO applications, or support tools, that provide visibility, accountability, and control, including resource requests and time and financial management.

In the mid‐2000s, there was a major push for corporations to establish PMOs with the goal of instilling much-needed project management (PM) discipline in every department across the enterprise, especially within information technology (IT) groups. This trend was driven partly by the passage of Sarbanes‐Oxley (the legislation spawned by the Enron, Tyco, and WorldCom scandals that cost investors billions of dollars) but more often by the desire to define and standardize PM practices and facilitate project portfolio management (PPM) as well as the desire to determine methodologies for repeatable processes.

From an organizational perspective, a project, program, and portfolio management office can be one of three types:

1. An **enterprise PMO (ePMO)** spans multiple departments to integrate processes across business units.

2. A **departmental PMO** typically is established in (IT) departments, but is also found in marketing, research and design, and other department‐level organizations.

3. A **special-purpose PMO** is created for a single major project or set of projects.

There is also a wide variety of governance and organizational structures. Some enterprises have PMOs that operate as a unique entity within their organizations while other enterprises have some combination of multiple PMOs that are operating independently, are organizationally aligned, or are based on the division of PMO functional responsibilities.

What Is the Purpose of the PMO?

The basic definition of the PMO in a business or professional enterprise is a permanent organization tasked with one or more of these objectives:

* **Define and maintain** the guidelines, policies, processes, and standard documentation around projects.
* **Encourage and sustain repeatability** related to project management.
* **Provide central, coordinated management and oversight** into the initiation and strategic planning of projects.
* **Coordinate and develop PM training** for continuous organizational improvement.
* **Offer a broad range of services** from budgeting, to product management, to direct project leadership, to support functions such as coaching, consulting, and marketing.
* **Support the prioritization of strategic projects** to ensure that the organization is working on initiatives aligned with strategic business goals
* **Provide oversight across the resource pool** to support the assignment of resources to the highest prioritized initiatives

Enterprise PMOs can have an even wider scope of responsibilities that includes all planned work and comprehensive resource management, including operations.

What Are the Challenges of the PMO?

Each of the business management services just listed has one goal: delivering the highest-priority projects on time, on budget, and within scope.

This is the first and most important challenge of the PMO and the best measure of a PMO’s effectiveness. If projects are being delivered late or over budget or do not meet objectives, the PMO has room for improvement.

Unfortunately, “room for improvement” is the case at most companies. There is a significant gap between the current ongoing practice of managing, tracking and reporting on projects and what can be done. According to the Standish Group’s most recent report(A copy of this report is available at <http://www.pmhut.com/the-chaos-report-2009-on-it-project-failure>, accessed September 2012) , 32% of all IT projects succeed (i.e., the projects were delivered on time, on budget, with required features and functions), 44% were challenged (i.e., these projects were late, over budget, or delivered with less than the required features and functions), and 24% failed (i.e., canceled prior to completion or delivered and never used). One of the biggest determining factors in the success of a PMO is its relative level in accepted process maturity models, described next. As the PMO matures, its general effectiveness increases accordingly.

* **Level 1.** Most business processes are informal or undefined.
* **Level 2.** Most business processes are defined but not well adopted.
* **Level 3.** Most business processes are defined, repeatable, and followed.
* **Level 4.** Most business processes are aligned, and performance is measured.
* **Level 5.** Most business processes are optimized and continually improved.

Maturity comes not only with time but also with the ability to overcome a host of other challenges, including:

* Insight into ongoing operations
* Ability to support methodologies
* Departmental silos
* Alignment with enterprise strategy and priorities
* Effective on-demand tools
* Infrastructure
* Determining requirements
* Financial management
* Communications

The PMO should be capable of successfully delivering on strategic initiatives and achieving strategic results. For most companies, reaching this capability begins with the realization that in addition to managing projects and methodology, the PMO must also manage resources that are shared across projects and help sustain operations.

In order to clarify demand on available resources and define and enable prioritization, the PMO needs to be able to see the impact of sustaining operations on strategic projects. This way, the PMO can compare the results of supporting existing system environments to the results of implementing a new ERP system. Seeing the balance between strategic projects and continuing existing operational projects will help the PMO to understand the total demands on resources, budgets, and the like. This insight is impossible to achieve without using the combined metrics of an integrated resource pool connected to current projects, future projects and operational initiatives. Using a point tool like Microsoft Project Server allows this information to be readily available to the PMO.

As stated earlier, many organizations are missing key elements like resource management, which provides a full overall view of capacity for staffing projects and applications even at the earliest planning stages. Also absent is request management to help the PMO prioritize and align with enterprise goals when projects are coming from all directions. Finally, time and financial management tools are needed to ensure that budgets are met and projects delivered on schedule.

The project manager wears many hats, pays attention to many areas, and, most important, manages the project. In short, the project manager embodies many elements that need to be coordinated and brought together as a single united effort to produce the prescribed deliverable. The skill to do this is the glue that holds together the various functional and management elements of a project to form the project team. Keeping everyone together as a solid team is the greatest challenge facing a project manager.

The project manager has a diverse audience that spans multiple functional areas and management levels. This diversity requires the project manager to invest time in developing a solid communications plan that will provide a continuous means of communication to the entire project team. This diversity also requires the identification of information that is needed by the various project team members and knowledge about how to best communicate this information. An effective communications plan is an integral part of the overall project plan and a critical factor in overall project success. Developing the communications plan must include the implementation project team and principal management and project stakeholders, and must address management of information, information content, communications skill, and accuracy. These elements are the glue behind the communications plan.

Information Management

During the course of a project, a large amount of information is produced and received. Management of this information is the responsibility of the project manager and the PMO as the office of record for all project information. The communications plan addresses the policies and procedures to manage project information. A well-developed report matrix determines how project information is packaged and distributed. This matrix should identify the type of report (formal report, project status reviews, memos, etc.), recipients, frequency of reports, and what action is expected from the recipients. The development of the report matrix must include any contract provisions regarding reports.

Information Content

Once the needed reports are identified, specific data elements, content structure, and level of detail must be documented in templates for each report. The draft templates are provided to the requesting functional or management element for final approval and then made available to the team. The list of the approved project reports is made part of the communications plan with samples in an appendix. In organizations that have a mature PM process, the inclusion of this approved project list into the communications plan has become a standard for all projects. However, these standardized reports and their content still might need to be reviewed for unique data elements and accommodation of specified reports in the contract.

Communications Skills

Project delivery is the first activity that determines how well the information is received. The report matrix indicates whether the information is presented as a stand-alone report or part of a larger report or given as an oral presentation, and in what venue (project status reviews, stakeholder updates, team meetings, etc.).

Clear, concise communication is the essential ingredient to ensuring complete understanding. The information presented must be unambiguous, leaving no room for latent interpretation.

Accuracy

In the presentation, you must be factual and tell the whole story, the good *and* the bad. Do not sacrifice your most important assets: honesty and integrity. Once you have been caught trying to understate a situation or omit it entirely, your reputation as an effective project manager is fatally tarnished forever. A project manager may be forgiven for many missteps but is never forgiven for being found guilty of being less than honest. Honest project managers with a high level of integrity will display enhanced team leadership. By maintaining the standards of communication, one source of truth reporting in their project schedules simplifies and creates good standards and leadership for getting to best practices around project management. Senior management will welcome their presence, even if it does not like what they are saying. Honest messengers are never shot in these situations. We the authors have spent many years consulting and one truth we can rely on is that information is not good or bad, it’s just information. Executives and senior management have such a difficult time getting accurate metrics and status, that clear and honest reporting is appreciated (especially if the information comes sooner in the project lifecycle rather than later).

Other Considerations

Over the last couple of decades, managing the delivery of a product or service has been a “company team” effort. All team members worked in the same office and held their meetings in a conference room. It was easy to get the word out or solve project issues, brainstorm, or quickly disseminate project information. The team was also able to mentor others and provide team maturity through knowledge transfer and through working together to solve issues. In many cases this lead to succession planning, enabling junior team members to rapidly step up into senior roles. . Advancements in communications technology have spawned global teams that are separated by time zones, cultures, and customs. The acceptance of English as the language of global trade helps overcome some multicultural difficulties but can hinder clear communications when colloquialisms are used. The global delivery team is a reality. With it come greater challenges to the project manager for effective project communications.

The communication tools of the global team include e-mail, video teleconferencing, and virtual conferencing (using both the telephone for conversation and the Internet for graphics). The virtual project team brings a new dimension to ensuring successful delivery. The use of e-mail is the norm for digital communications as it provides almost instantaneous delivery to the far reaches of the globe. However, crossing time zones presents some problems, such as an extended workday. In addition, virtual teams lose the benefits of spontaneous exchanges of ideas and team growth through professional discussions.

If you find yourself explaining “What I said is not necessarily what you heard and may not be what I meant,” you have a problem. If your message cannot be received and understood by those you are addressing, your communication attempt is ineffective, resulting in group members not being at the same level of knowledge. Uncoordinated team activities and poor decisions can result. Listed next are some sources of information and suggested management procedures.

* **Correspondence.** Letters, memos, faxes, call records, and the like need to be accounted for and filed either as “in” or “out” correspondence. The project manager controls the document numbers to all project correspondence. A simple document numbering scheme will provide the necessary document accountability (e.g., use the project number as a prefix followed by the initials or code for the customer and then a sequential four-digit number). A spreadsheet log will help you assign document numbers and catalog the type of document (internal, received, or originated)—for example, location, subject, author, date received/sent, and any related documents. Project team members need access to the document log so they can record project documents. If the document was created using a word processing program, the document number can be used to identify the document in the name field.
* **Forms*.*** All standard forms used in the project lifecycle need to be listed in the project plan along with their purpose and source location. Standardized forms should have a unique number for quick identification.
* **Staffing and coordination procedures.** Activities and decisions must be coordinated via a prescribed process and procedure that follows established corporate guidelines. These procedures should include an escalation matrix that clearly indicates the various levels of decision authority.
* **Trip/meeting reports.** Whenever a project team member meets with the customer or project vendor, this meeting must be documented, numbered, and filed in the project files. These documents detail the meeting agenda, what was discussed, decisions made, and action item assignments. Distribution of these reports needs to be determined and documented in the report matrix.
* **Project and customer status reviews.** These reviews are the project’s frontline reports and address its current performance. They include progress reports, expediting and forecasting reports of project resources, and milestone completion reports. These reviews usually are given monthly and in either written or presentation format.
* **Project history.** This report is the collection of all project material into a document that provides the history of the project from inception to lessons learned. It is a compilation of documents that chronicle the project lifecycle.

Holding It Together

Rigorous adherence to a well-developed project communications plan will result in all team members and stakeholders being informed to their level of expectation. Meeting these expectations results in a high level of coordination among team members and fully informed participants and minimizes the risk of misinformation, frustration about the unknown, and ultimate collapse of the project. Effectively applied, project communication is the glue that holds your project together. Stick to it!

Program Collaboration Means Business Results

When the project site (Project SharePoint workspace) is created on the SharePoint Server platform as a common place for project assets, artifacts, and document storage, it provides a platform to support project team and stakeholder communication around project documents, issues, risks, and deliverables. The site can also contain individual collaboration tools, such as workspaces, discussion boards, surveys, wikis, blogs, and contact lists.

Team members should be active in the project site, as their understanding of the project’s big picture is valuable in the effort to achieve successful results. The Project site is visible through a browser portal called Project Web App (PWA). PWA allows team members to view the project site, collaborate on documents, share files, contribute to wikis and blogs, participate in team discussions, and more via their Web browser. This Web visibility removes the requirement for every team member to have Project Professional 2010 on their individual machines and allows for remote team participation. PWA can be configured so that each time a user creates a new project, an associated Project site is set up automatically. If you prefer, you can allow team members to manually create a Project site instead and all the while have the benefit of controlling content and user access through permissions.

Microsoft has worked diligently to make a truly collaborative workspace. This has resulted in a singular design with numerous mouse-over features, hidden menus, and other ways to deliver functionality without clutter. It is easy to have a SharePoint Project site for every type of project the organization has, allowing collaboration to be more flexible in the information that should be shared in the project. (See Figure 8.1.)

Figure 8.1 SharePoint Server 2010 Project Site Example [08-01-sharePointServer2010ProjectSiteExample.tif]

Source: Advisicon

Project Manager Empowerment

Project Lifecycle Management

Project lifecycle management (PLM), also known as demand management (DM), is a unified approach that optimizes the consolidation of a significant number of essentially related processes and capabilities. PLM offers a unified view of all work in a central location. Its purpose is to quickly help organizations gain visibility into projects and operational activities, standardize and streamline data collection, enhance decision making, and subject initiatives to the appropriate governance controls throughout the PLM.

PLM sets the tone for the evolution and process/organizational improvement of projects to their completion. The information traceability paths, through each phase, also embedded in the project or task tracking system have many different elements. These elements include tasks, assumptions, risks, issues, stakeholder requirements (or functional requirements), time/cost restrictions, quality/regulatory requirements, and so on. Each path has to be both an inbound and an outbound component through these lifecycle states:

* Create
* Select
* Plan
* Manage
* Closure

The advantage of understanding and using the create, select, plan, manage, and closure phases and processes (the governance activities surrounding that phase), is that it provides a simple framework for improving DM capabilities.

Workflows in a PPM Implementation

SharePoint 2010 supports workflows for collaborative applications. Many organizations have benefited by moving manual processes into a SharePoint workflow. The primary reason we use workflows in software design is to manage long-running processes. SharePoint workflows are the ideal way to automate processes that previously required paper or the use of complex software to record and monitor any long-running activities.

With Project Server 2010 now a part of the SharePoint platform, DM now includes workflows that help you manage project proposals and portfolio analyses.

DM is a new concept in Project Server 2010 that integrates project proposals, portfolio analysis, and PM through workflows and project detail pages. The goal of DM is to enable users to propose, view, categorize, prioritize, select, and track projects within their organization. A key component within DM is the workflow governance model implemented in Project Server. Some out-of-the-box workflows available, but new workflows can be customized per your requirements.

Thanks to this feature, all organizations can customize processes, allowing them to have standardized activities for DM and an easy way to authorize documents and projects, making the flow of information among the users more efficient. This level of customization can be achieved by using Visual Studio 2010 and SharePoint Designer 2010.

Having a collaborative environment based on different organizational workflows will make it easy for the organization to make decisions regarding which initiatives should be approved, and what skill set of resources should be hired or outsourced; it also provides the ability to audit project execution and determine whether the efforts should go to the next stages or not.

Business Process and Forms

An essential factor for efficient PM is uniformity. Now all of the processes and PM templates can be easily uploaded to avoid having several versions of a document. This use of templates will allow standardization among the organization, streamline collection of data, and encourage user adoption.

Synchronize the PLM

Prior to and during a PLM, capturing specific information that needs to be accounted for is crucial. Often users cannot leverage a scheduling tool to capture the updates and perform an analysis. Users commonly employ products such as Excel, Word, and Outlook to distribute updates among team members, take relevant notes, and transfer the information to the project schedules. Within SharePoint, people have been able to leverage online tools, such as Excel Services and SharePoint lists.

A project task list in SharePoint displays a collection of tasks that are part of a project. (See Figure 8.2.) In this sense, a “task” is a discrete work item that a single person can be assigned to. A “project” is typically a series of activities that have a beginning, middle, and end and that produces a product, result, or service (such as producing a product demonstration for a trade show, creating a product proposal for stakeholders, or even putting together a corporate morale event).

Figure 8.2 SharePoint Server 2010 Task List Example [08-02-sharePointServer2010TaskListExample.tif]

Source: Advisicon

After you create a project task list, you can add tasks, assign resources to tasks, update the progress on tasks, and view the task information on bars that are displayed along a timeline.

Although some of the settings for the project task lists differ from those of other lists (such as for contact lists and announcements), you use the same basic procedure for creating a project task list as you do for other types of lists: adding columns, exporting to a spreadsheet, sorting and filtering, or organizing the task list.

Lists: Sync Up SharePoint and Project Data

The ability to capture relevant, critical information in a central repository is essential for organizations. Because PPM is aligned with corporate objectives, any impact to components within the PPM environment has a direct correlation to the overall objectives. As mentioned earlier, stakeholders within a PPM are migrating to using online features such as lists and discussion groups to capture key pieces of data related to the projects and programs. Using SharePoint lists is a great first step, but the ability to integrate those data points directly to a project is a major improvement. Previous versions of Project and SharePoint allowed for list integration, but only on a limited basis.

Project Server 2010 is now tightly coupled with SharePoint task lists. In Project Server 2010, you have the option to create a fully managed portfolio project schedule composed entirely from entries in a SharePoint task list. If you start with a Project 2010 file, you can generate an ongoing two-way sync between the project schedule and a SharePoint task list. Hence, users can now publish a project schedule from Project Server to SharePoint Server and vice versa. Any changes made in Project or SharePoint can be easily updated into the other with the click of a button.

Here is how it works: The project manager creates a simple project schedule in Project Professional 2010, as shown in Figure 8.3:

Figure 8.3 Project 2010 List in SharePoint Server 2010 Steps [08-03-project2010ListInSharePointServer2010Steps-part1.tif]

Source: Advisicon

Figure 8.4 shows the process of supporting the PLM if we initiated the schedule in SharePoint by creating a task list and then synchronizing to Project.

Figure 8.4 Saving Project to SharePoint [08-04-project2010ListInSharePointServer2010Steps-part2.tif]

Source: Advisicon

As detailed in our whitepaper “Microsoft Project Server 2010: A look at Demand Management”and again mentioned in “Microsoft Project Server 2010: A look at Portfolio Strategy” , process definition and use is essential for organizations to gain control over their information and the information traceability paths. The create phase—which the Project Management Institute calls initiation —requires a fluid, agile environment of data gathering in order to organize the demand requests of a proposed project. The SharePoint Server 2010 feature set now enables project managers or key project stakeholders to use a number of options to capture information and synchronize in a Project Server environment.

Sync to SharePoint is a useful feature for those organizations that have SharePoint 2010 but not Project Server 2010 or for those that have both but prefer to use a simple SharePoint task list to publish project plans rather than Project Server 2010.

Using SharePoint and Project 2010, project resources can enter updates in SharePoint, project managers can synchronize updates with Project, and custom field information can be used to generate reports.

Managing Risks and Issues

Thanks to the SharePoint Project sites, the project manager is able to keep track of risks and issues related to the project. Project sites allow capturing, tracking, assigning, and monitoring of risks and issues. Figure 8.5 illustrates the issue and risk lists associated with tasks and projects in Project Server 2010.

Figure 8.5 Benefits of Better Assumption, Risk, and Issue Management [08-05-benefitsOfBetterAssumptionRiskAndIssueManagement.tif]

Source: Advisicon

Have you ever created a project plan and documented assumptions that need to be true in order for the project to be successful? Assumptions are relied-on, specific circumstances. They are accepted as true, real, and certain without requiring proof. Assumptions are the starting place, as they document what is accepted as “known” to the team and provide a good base for team collection and brainstorming of risk and issue data.

For example, you assume that your customers will be available for a minimum of 20 hours per week throughout the project. Because you’ve made this assumption, you’re relying on the customers to be available, to avoid delays in the project schedule.

Assumptions should be tracked throughout the project lifecycle, to confirm they are still presented as true. If an assumption is deemed no longer valid, it becomes an “unknown” factor within the project. It becomes a risk. Risks are uncertain events that could positively or negatively affect the project. Risks are always connected with uncertainty. Consequently risk management is a set of techniques for controlling the uncertainty in a project. Keep in mind that risks can also arise independently and not be tied to an assumption, but all risks should be managed.

If you assume that your customers will be available for 20 hours per week, a pending management decision may cause their availability to become limited to only 12 to 15 hours a week. Now there is an unknown that can affect the project. Projects that do not track and manage risks do so at their own peril. The most severe risks are those that threaten to delay task, phase, or project end dates; increase the budget; overwhelm; or all three.

Project risks have these attributes:

* Their presence generally is known at the beginning of the project. This is why collecting requirements of risk from the beginning of the project is crucial.
* They can exist only at a specific point in the project, or they can persist throughout the life of the project.
* They can materially affect the outcome of the project if they become reality.
* There is a reasonable likelihood that they could become reality.
* Risks are extraordinary to what normally would be managed on a project.

A SharePoint site created for each project in Project Server 2010 can assist project managers with risk management.

Once collected, risks should be analyzed and prioritized. Although all risks should be managed at some level, some risks will require more management than others. Some risks may not require stringent management due to their low priority, but they still should be monitored in case circumstances change in such a way that they become a higher priority for the project. The high-priority risks need to be proactively managed.

Risk is always connected to uncertainty. If something is certain to occur, it is called an issue, not a risk. Issues are just as important as risks and, like risks, are problems that occur during a project. Issues can arise by themselves or be a result of a risk becoming a certain event instead of remaining an uncertain event. If an issue isn’t managed, it can materially affect the successful completion of a project. Where issues typically differ from risks, however, is that they generally don’t persist throughout the project, and they may not be known at the outset of a project. Your issue list will not be as persistent as your risk list will be. Issues will open and close as they’re identified and resolved.

What’s important in identifying and managing issues is this: Dealing with issues is necessary for successful project completion.

Continuing with our example, once the management decision has been made, customer availability is now limited to no more than 12 hours a week. It is now an issue that must be dealt with as it will impact the project schedule.

The keys to identifying these issues are:

* Understand the issue.
* Verify your understanding of the issue.
* Record the issue to keep from forgetting it, which could spell doom to your project.

Project Server 2010 has predefined forms to identify and track risks and issues. Risk can be identified at a project level or linked further to a task, issue, document, or the risk itself. The project team can place risks and issue forms on the Project site. Team members can assign issues, categorize them, and prioritize them. Risks and issues can be linked to specific tasks, documents, and other risks and issues, which then display as icons in the project view. The captured risk and issue data will be stored in the knowledge base and can be used to proactively mitigate similar risks and issues in the future. Figure 8.6 shows the issues and risks that can be both active and future, allowing the project team to work to address these or work to mitigate them.

Figure 8.6 SharePoint Server 2010 Risks and Issues [08-06-01-sharePointServer2010RisksAndIssues-part1.tif] [08-06-02-sharePointServer2010RisksAndIssues-part2.tif]

Source: Advisicon

Managing Deliverables

It is imperative to manage risks and issues because they are likely to affect the status of the deliverables, which, if delayed or altered, can significantly affect the success of the project. A deliverable is a tangible and measurable result, outcome, or product that must be produced to complete a project or part of a project. Managers of large projects often have several milestones or deliverables to report about. Project Server lets you identify these items in the project plan so you have better control of them and can easily report whether they are being completed on time or not.

Typically, the project team and project stakeholders agree on the project deliverables before the project begins. Clarifying the deliverables before the project work begins can help ensure that the project outcome meets all the stakeholders’ expectations and that project goals align with the larger business goals. You can identify deliverables to show an end product of a particular task or of the entire project. Figure 8.7 shows a deliverable that can be added and managed within Project Server 2010 or outside in SharePoint.

Figure 8.7 Deliverables Can be Added Directly in the Project Site or Through Project Professional 2010 [08-07-deliverablesCanBeAddedDirectlyInTheProjectSiteOrThroughProjectProfessional2010.tif]

Source: Advisicon

As a project evolves, various types of deliverables are produced to support project continuation, measure progress, and to validate plans and assumptions.

Deliverables can be managed using a Project site created for each project. They can be created directly on the Project site or through Project Professional. A deliverable can be independent or associated with a task or phase in project.

Other essential components to deliverables are requirements and quality. Requirements are the characteristics that the deliverable must possess to satisfy an identified need. Success of a project depends on how well the requirements were satisfied. Satisfying the requirements leads to delivering the level of quality desired for the deliverable.

As the management process for deliverables is carried out, Project provides a continuous checking system and views to ensure that requirements and quality standards are being met. If deliverables are not managed efficiently (or, in the worst case, not at all until the end), there are missed opportunities to correlate risks, issues, requirements, and quality and to initiate preventive or corrective actions.

Thanks to the flexibility that SharePoint offers, it is easy to customize a list or workflow to set up the quality assurance process to ensure the deliverables developed meet the quality criteria defined for the project. You also can set up a list that allows you to validate that the requirements defined at the creation phase of the project are being met.

Managing by Exceptions versus Managing Everything

You need to determine where to concentrate your efforts. You can’t check every detail, yet there must be a way to monitor operations to find and resolve potential problems while identifying and leveraging new opportunities. You need to ensure that employee and departmental metrics are aligned with overall strategic goals. Your organization may not have the resources of a Fortune 500 company, but your employees are passionate about their jobs and committed to your customers. Maybe your company is relatively small right now, but it’s on a high-growth path. You’re aware of the power of business intelligence (BI) and know that larger companies—maybe even your direct competitors—are using it to their advantage. At this stage of your company’s evolution, isn’t it time your analysis capabilities graduated from spreadsheets to more powerful tools?

A major part of any manager’s job is to make decisions. If you can improve the overall quality of your organization’s decision-making process, you’ll improve the overall effectiveness of your organization.

In short, BI helps your organization make smarter decisions, hence its description as “decision support.” BI allows organizations to better understand, analyze, and even predict what’s occurring in their company. BI helps organizations turn data into useful, meaningful information and then distributes this information to those who need it when they need it, thereby enabling them to make timely, better-informed decisions. It allows organizations to combine data from a wide variety of sources and see an integrated, up-to-date, 360-degree view.

This is especially important for midsize companies that typically can implement business decisions relatively quickly. BI provides a win-win solution for IT and business users. It allows the IT department to be more productive in working with its business users to service special requests while permitting these business users to become more self-sufficient. Operations and analysis are two sides of the business, and BI allows IT to be a valued partner in both.

The BI spectrum is very broad in terms of its tools and functionality. At its core is the traditional functionality of query, reporting, and analysis. This core is complemented by data quality and data integration to accurately and consistently consolidate data from multiple sources. Dashboards and other visualization techniques can help users quickly understand analysis results and are often considered part of the BI spectrum. BI can encompass these functionalities:

* Search functionality for locating information and reports
* Predictive analysis to discover hidden patterns and enable what-if analysis
* Scorecards and performance management to help monitor business metrics and key performance indicators (KPIs)

These KPIs might include customer satisfaction, profitability, and sales per employee. Additionally, KPIs can be monitored to support alignment of individual and departmental metrics as well as the organization’s strategic goals. A simple query might access your company’s data to ask “What total sales to XYZ Corporation were last December?”, “What is the current salary of employee Tim Runcie?”, or even “How many training manuals do we have in inventory?” Most query tools also provide simple reporting functionality and can also be used to generate a simple report listing the accrued vacation of all employees, sorted and totaled by department.

Enterprise reporting or production reporting typically involves high-volume, high-resolution reports that are run on a regular basis. An example might be a sales manager report showing monthly sales and associated commissions sorted by salesperson and then by customer. The report distribution likely would be controlled so that each sales manager could see entries only for his or her salespeople. The report might be e-mailed to them or viewed through a Web browser. Enterprise reports can also be used to generate customer statements, invoices, or individualized benefit summaries for each employee.

With advanced analysis functionality, users can view data across multiple classifications or dimensions (e.g., product, customer, location, time period, and salesperson). They can slice and dice the data to look at various combinations, such as the sales in each region for December or which products each customer purchased last year. Advanced analysis functionality also permits organizations to define hierarchies so that users can first view sales for each region and then drill down to view the sales in each country, of each product in each store, or for each salesperson. These advanced analytics make it easy to compare the results from one time period with those of another—say, this July’s product sales compared to last July’s—while performing year-over-year comparisons by store, customer, or salesperson.

Other advanced functionality, such as filtering, can be used to include or exclude specific stores, regions, products, salespeople, or time periods and look at the top or bottom best- or worst-performing products, stores, or salespeople. Combined with drilldown, slice and dice, and filtering functionality, this is a powerful multidimensional analysis.

In the past, interactive analysis and simple views and reports were designed for passive viewing (static without the ability to drill down). SharePoint and some of the SQL analytical tools that come with Project Server have provided advanced abilities to perform interactive analyses and drilldown capabilities. Many of these advanced functionalities were once available only in specialized Online Analytical Processing (OLAP) products that involved the use of proprietary databases and highly skilled technical specialists. Now OLAP functionality often is incorporated into query and analysis tools, such as Performance Point and PowerPivot. Thus, business users can perform interactive analysis and click on a number in a report to drill down and analyze the underlying details.

Effective BI should be an interactive process. Query and analysis tools with embedded OLAP functionality permit business users to perform dynamic analyses on their data. As most IT practitioners will attest, users requesting a static report typically ask for additional modifications and details. Query and analysis tools allow business users to formulate a high-level query and then immediately explore the underlying details on their own.

Graphical Techniques

Dashboards strongly complement the other members of the BI spectrum. With graphical gauges analogous to an automobile dashboard and color-coded indications as exemplified by traffic lights (red represents an alert condition and yellow a warning), users can quickly identify exception conditions.

It has often been said that if you can’t measure it, you can’t manage it. Scorecards and other performance management tools enable you to establish business metrics, update and monitor the results, and communicate these metrics as appropriate so that minor problems can be identified early on and corrective action can be taken quickly.

Dashboards frequently are used to display performance metrics and can allow users to drill down from the visual image to view the underlying detail. Other visualization techniques include slider bars that allow a user to perform what-if analyses to execute such tasks as showing that potential profit margins increase when maintenance revenues are increased or distribution expenses are reduced.

Distribution and Control

BI is not just about tools and their applications; it’s also concerned with distribution and control. Companies should be able to publish reports to the Web and deliver them to a user’s preferred mobile device. However, not every employee should have access to every report or analysis. Administration, monitoring, security, and control are also part of the BI environment. Furthermore, the use of commercial BI products does not necessarily mean the elimination of spreadsheets. Rather, BI can provide controlled linkage of spreadsheets to up-to-date data while enforcing proper distribution and control. This way, spreadsheet chaos is no longer an issue, and trying to determine whose spreadsheet is “more correct” is no longer part of every company meeting. The ability to locate and search out relevant reports is also part of the BI landscape, as a report is of little value if no one knows it exists or how to find it.

Data quality is of paramount importance in both operational systems and data warehouses. In an operational environment, no one wants to ship the wrong order to the wrong address, provide a patient with the wrong medication, or transfer funds to the wrong bank account. In a data warehouse environment, no one wants to make decisions based on incomplete, incorrect, or inconsistent data. The deployment of data quality tools can help ensure that this does not happen.

By using BI against both operational systems and data warehouses, a company can improve its daily operations and compare current results with historic values to identify trends and head off problems before they become more serious.

Rinse and Repeat Key Processes

Taking a repeatable process and making it a company standard is a common practice. Sometimes we can take a large component and customize it a bit to work in different situations across the enterprise; other times we can take apart an operation by breaking it into smaller pieces that then can be fit together as needed to help define commonly shared modules. As we work to prevent reinventing the wheel in our business processes, the methods by which we manage our projects also requires a standardization of techniques and practices.

To increase project effectiveness, a PM workforce has the ability to support and impose standardization on many levels over how a company functions. By directing project staff to use processes that focus on scheduling, expense, and cost-to-quality relationships, a more successful portfolio is possible. Establishing these strategies with a sponsored PMO dedicated to overseeing their implementation can generate a stronger, more refined and professional business environment that is reliable and dependable—and thus more attractive to customers.

Why Standards?

Higher levels of specific PM standardization have demonstrated that increased project effectiveness can encompass a variety of industries. For example, organizations will highly tailor a PM lifecycle to their needs, like manufacturing over construction.. Bringing in standardization to an enterprise does not guarantee, however, that there will be universal implementation success. Even when an inclusive and integrated PM culture, construct set, and system is developed, there is no surefire winning formula that will bring about project effectiveness.

There is always the challenge of trying to meet stakeholder requirements or project deliverables and completing them as fast and efficiently as possible. It is a consistent demand from the beginning to the end of the project and may even extend beyond the normal project parameters. Keeping deliveries within agreed-on time frames, costs, and standards of excellence is required in order to remain competitive and support a professional identity in the industry. No matter how technology or business needs may change, leaders must be adaptable to remain valid.

The increasing speed of delivering a PPM system is a strong force in the aggressive technology markets that we are currently experiencing. Organizations typically decide what types of products or solutions to prioritize and engage in by comparing the applications or products with how rapidly they can be distributed. The pace of industry changes and their accompanying needs accelerates at a rate that puts demands on projects designed to support this growth. Both hardware and software development efforts are affected; they are also pushed to have shorter and shorter cycle times.

A key feature in leveraging a project system is the ability to manage, track, and ensure that projects are focused on goals that organizations are motivated by. In many organizations, planners and senior management are highly focused on cost factors, so the ability of Microsoft’s PPM system to ingrate with enterprise resource planning (ERP) systems, including dynamics is an example of where working in the Microsoft stack provides a higher value. Other organizations, including our company, Advisicon, have built connectors to other ERP systems to move key actuals over and integrate them with Project data. While we may yearn for the latest gizmos, gadgets, and other kinds of improvements, in the end, cost is more of a factor in the decision on whether to purchase and support new offerings. Cost-driven competition has pushed us to be more economical in our development processes and more conservative in our builds, thereby pursuing more refined efforts that may result in less product diversity.

Yet another concern may lie in focusing efforts on product quality. In an organization’s desire to shorten time to delivery and keep costs down, the quality of project deliverables can suffer. It is important to balance producing high-quality products while simultaneously incorporating the need for reduced cost or speed to market. In many cases, this balance between quality and timely delivery is the very core of why technology-based products or solutions are started. Many sales and marketing divisions have sold quality and feature sets that have enticed customers to purchase; now the need for the organization to deliver, and do so within a timeline or at the most efficient cost, creates the need to track the time, work, and resources for that project. Focusing on quality is important and may be a deciding factor in making a niche in an industry, but quality is difficult to accommodate if it is influenced by the need to aggressively follow delivery schedules and keep costs down.

This question comes up quite frequently: How do you track quality in a product, project, or deliverable? In many cases, the identification value of quality tracking isn’t addressed by just adding a separate field to enter a value, as it is the actual physical tasks that are being included in a schedule that ensure that quality is achieved. . Being able to monitor the time or effort as well as the features being delivered according to a baseline estimate helps all parts of the project team ensure they aren’t straying or burning valuable time.

In Project 2010, you can instantly turn on or off different baselines as well as compare one baseline to another or even planned and actuals. This capability helps planners and senior management to quickly spot check views, details, and key trends to see if they are at risk.

Promoting Standards for Maximum Value Proposition

Time, cost, and quality—each places a burden on the projects so that an organization can better compete in their industry. The idea of collaborating with business units to incorporate all of these components in a standardized and repeatable fashion requires a managerial octopus; hence the need for a PMO.

Understandably, when a standard has few steps or components, it is easy to implement, replicate, and enforce. Conversely, the more complex a standard is, the more difficult it is to support and impose. While we can conduct extensive project postmortems and publish all our best practices data on a site for everyone to access, it is another matter to take that information and turn it into practicable business standards.

The use of a PMO helps reinforce repeatable processes that will not differ no matter what the project. Through the PMO, the development of predictable, regular actions creates functionality that operates regardless of the convoluted parameters of client wish lists and the turbulent environment of the competition. Maintaining and supporting the implementation of standardization makes a more effective use of time (an expense that cannot be reclaimed once it is expended). When the reinvention principle is suppressed in each project group, standardized processes can be put in place, thereby saving not just time but resources and money as well.

Art and Science of Technology Delivery

Different project approaches (design, test, build), software development projects present unique challenges. Complexities arise around managing and delivering due to the intangible nature of software, the lack of a software standard development process, and the rapid pace of technological advancement. With these types of projects, end users, stakeholders, and customers often don’t know what they want ahead of time. Once they visualize what has been created stakeholders sometimes decide it won’t meet their needs. This tumultuous project environment compound the complexity of software delivery. These are some of the reasons having a prototype or a mockup of the solution, helps to expedite and create clarity around the solution or end result product.

There are similar complexities with engineering projects. The same criteria used to determine the successful outcome of engineering projects can be applied to software development: Both types of projects should be delivered on time, on budget, and on quality. Software development projects and engineering projects should both meet the end users’ expectations. Unfortunately, software projects have one of the poorest track records of delivery; research by the Standish Group in 2011 says that only 28 percent of projects succeed, while 23 percent are canceled and 49 percent are challenged (very late, over budget, or missing features . . . or all of these issues combined).

Approaches to Improving Successful Delivery

A great approach in software development is to build the solution in an iterative fashion. This is highly helpful in reducing the risks inherent in development and provides early views and reviews with customers/stakeholders who can provide insight, scope changes and ensure there are no surprises at the end of the project. Complex or high-risk items should be addressed early in the development process. Establishing a solid foundation or architecture is critical to a solid system, especially if the idea is to continue to scale or build upon the initial solution. Starting with a solid architecture is even more important for large systems. It is a good practice to create and document an architecture baseline early in the development process. When developing iteratively, this architecture should be produced within the early iterations, enabling the team to ensure that the foundational tables, structure, code base, and other key architecture points are leveraged so that the final solution will not outgrow it’s platform. In software development, the architecture should support the customer requirements, however the developers should not start “goldplating” their solutions with features they think users or systems might need in the future, which usually adds unnecessary complexity. Keep it simple and basic; scale later as budget, scope or new features/functionality are requested and approved.

Successful application development uses component-based development. This process helps you design and develop applications that handle change better, allows the reuse of code, functions and other modular functionality, and can reduce the maintenance costs associated with the project and environment. Generally speaking, in software development projects 70 percent of the costs of a system implementation are incurred after the project has been completed. This means that applications built using component-based modules allow for a more compartmentalized and streamlined design, which in turn allows for easier troubleshooting, simpler maintenance, and are more cost effective. Pair programming is very helpful and creating a process of code reviews can dramatically reduce the number of defects that appear after the initial implementation. Establishing these and other best practices will help ensure that programmers write better code; they know it will be reviewed. These reviews should take place regularly and after a feature is coded. Reviewers should not only help to improve the code, but they should take responsibility for the code byadding their name in the comments when the code is checked in. Reviews also improve knowledge sharing within the team and improve performance and efficiency in downstream development.

In traditional waterfall development, the integration is done late in the development cycle. This presents a high level of risk due to the potential issues may be nested and difficult to address.. One way of reducing this risk is to integrate and test continually, not at a single point in the project (such as a “big bang” integration), as done in traditional development. Martin Fowler (2000) defines continuous integration (CI) as “a fully automated and reproducible build, including testing, that runs many times a day. This allows each developer to integrate daily, thus reducing integration problems.”

CI gives you rapid feedback and enables mistakes to be corrected quickly. The three main steps for CI are listed next.

1. **All code is checked in daily** into a single source code repository.

2. **Automatic build,** runs compiler scripts and reports on success or failure of the code.

3. **Automatic testing** executes unit tests for the code and, if possible, runs regression tests.

In traditional development, testing is usually an afterthought. In using a more Agile development process, it stresses the importance of testing by the concept of test-driven development (TDD). In TDD, an automated unit test is written before any code is written. The developer will continually add more test cases and make them pass by writing the required code. TDD provides superior quality software and ensures that testing is at the heart of development, not something done at the final stages of the development process.

Another approach is to leverage Refactoring. Refactoring improves the structure of components without changing their functionality. This practice improves quality and also makes the software being developed easier to maintain. By having automated tests it will ensure you have not inadvertently changed component behavior. Refactoring is particularly useful to do on critical or complex pieces of code.

Planning Level Approach

In reviewing initial requirements in software solutions developed and delivered, studies have shown roughly that 40 to 50 percent of features created from early specifications were never used and an additional 15 to 20 percent were rarely used (Khurana, 2009). These statistics suggest that we should do iterative development, which will allow us to

* **React to changing requirements.** Developing for customer and future systems will require planning for changes. The development process and management required needs to be able to have flexibility to adjust and adapt for these changes. Traditional waterfall approaches expect stable and unchanging requirements. In software development, this is rare.
* **Optimize & Prioritize Work***.* Focus on addressing high-value, high-risk items first; high-value, low-risk items second; and low-value, low-risk items last. Avoid low-value, high-risk items as a priority..
* **Focus on continually delivering business value and executable software*.*** Remember that technology is there to make the business more successful; fast and incremental delivery of value solutions is the key.

Note that iterative development provides shorter feedback cycles, which provides the following benefits:

* Continuous process and learning improvement through the project. (In traditional waterfall development, you often don’t learn until post implementation or the closeout of the project)
* identified
* Management or the customer can make strategic and tactical adjustments along the way.

In the initial stages of planning, the estimates often are made initially without the benefit of understanding the full requirements of the solution being requested. . A best practice is to establish an initial requirements mapping session and follow-up by reviewing and revisiing these requirements throughout the development phases. When estimation is done at the beginning of the lifecycle before the requirements are fully defined, how can you accurately estimate without knowing the problem in it’s entirety? To make this even more complex, the requirements may become obsolete or the needs of the stakeholder/customer may change as the application is being developed. Early estimations are sometimes guestimates (yes, a known form of estimating according to PMI), however how many of us cringe when asked for an estimate? We hear those famous worlds, “We won’t hold you to it…”, but we know that the initial number sometimes becomes etched in marble. The team is held to deliver on the estimate, even though the features and functionality hadn’t been fully defined when it was made. A best practice is to revisit the estimates as the project progresses..

A good example of this is used at NASA. They advocate re-estimation at defined points in the lifecycle. Unfortunately, many project managers know that they should revise their estimates as they get a better understanding of the requirements, but they don’t because they feel they will be seen as failing in their role as a PM. Project managers need to be honest with themselves, their team, and their stakeholders.

Another example is that management often reacts to problems or issues that are raised, rather than proactively reducing the likelihood of such problems occurring. While this reactive approach may be a product of the high level, busy executive, this can easily be addressed by building a proactive mind-set or review process with senior stakeholders and the project team that is focused on asking and addressing what should be done at each task or stage, to prevent your project from slipping in the future.

It is important that the project manager is not bullied into enforcing a totally unrealistic completion date that has been defined by a superior manager. Project managers often commit to unachievable dates, leading to failure and disappointment. In such situations, managers need to explain the key dimensions in project management: scope, time, quality, cost, and risk. Altering these variables might allow the project manager to achieve the date specified by the “bully” sponsor (through scope or quality reduction).

Good PM is about managing expectations. You must not surprise your customer. Many projects are considered big successes even though they have delivered only a small percentage of what was specified when they began, but they managed expectations obsessively.

Ultimately, a significant factor for project success is to have executive support. Typically, large projects should have a steering committee (or Project Board in Prince 2 methodology). This committee is chaired by an executive or project sponsor and consists of a senior user, a supplier, and a project manager. Essentially, this steering committee maintains commitment and provides a business involvement looking and addressing and making decisions regarding project scope and direction, and resolves issues in a timely manner, ultimately weighing strategic interests versus tactical project only decisions.

Important Concepts Covered inThis Chapter

In this chapter, we focused on these key topics and learning points:

* The value of PMOs and processes supported in PPM
* The integration of issues, risks, and deliverables in the SharePoint/Project server Environment
* Leveraging lists to help project collaboration, “not just schedules anymore”
* Synchronized project lifecycle management in Project Server and its benefit to reinforcing processes
* Technical solutions or needs and best practice approaches

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