Chapter 9

Intelligent Business Planning and Controlling Using Microsoft Project 2010

In This Chapter

In this chapter, we describe how strategic planning with Project Server facilitates the linkage between the strategy and program/project execution for the organization. Microsoft Project 2010 is one of the best project management (PM) and collaboration tools that supports organizational linkage between strategy and execution.

What You Will Learn

* How Project Server enables strategic planning
* The value of linking strategy to performance
* The shape of the Portfolio Lifecycle with Project Server
* How to leverage business drivers for success in projects
* How to use Project Server to master demand management
* Best practices for determining portfolio selection criteria
* How to create portfolio views and link dependent projects
* How to view or address constraints in a portfolio
* How to creating multiple scenarios for portfolio planning
* How to commit new work through portfolio planning
* Project Server’s optimization of governance for project management offices (PMOs).

Understanding Strategic Planning with Project Server

The content in this section has been structured around [AU: which ones? state clearly in text] key portfolio management knowledge constructs illustrated in the graphic below, and describes how Project Server 2010 can be used to provide a complete end-to-end integrated solution to address the portfolio management needs of a department or enterprise. This next graphic, illustrates the topic map for key knowledge concepts and components. [AU: insert text ref. to this and all figures;]

Figure 9.1 Portfolio Analysis Knowledge Topic Map [09-01-portfolioAnalysisKnowledgeTopicMap.tif]

Source: Advisicon

What Is Strategy and Strategic Planning?

The online Bing.com dictionary defines “strategy” as “a carefully devised plan of action to achieve a goal, or the art of developing or carrying out such a plan.” Strategic planning is the process by which leaders of an organization determine what the organization intends to be in the future and how it will get there. In other words, leadership develops a vision for the organization’s future and determines the necessary priorities, procedures, and strategies to achieve that vision.

Although most organizations have a strategic plan, it is often in the form of a mission or purpose comprising a set of products and services, a set of quantifiable goals, or just some narrative or spreadsheets describing how the company will achieve the plan. It is uncommon for organizations to have a set of actionable strategies and plans that detail how organizational resources will meet their objectives. Even less common is the presence of a corporate-wide project portfolio management (PPM) system that provides visibility, insight, and control into the execution of the organization’s strategic plan.

Project Server 2010 facilitates this critical linkage by providing a fully integrated PPM solution that spans the vision of the executives: through project management, through the realization of benefits to the enterprise, and through the successful delivery of products and services in the marketplace.

Importance of Strategic Planning

Strategic planning helps ensure that an organization remains relevant and responsive to the needs of its customers and contributes to organizational stability and growth. It provides a basis for monitoring progress and for assessing performance. It facilitates new program development. It enables an organization to look into the future in an orderly and systematic way. This next picture shows an example of a business plan. In thinking about creating new proposals or projects, addressing the business need is a key element that increases the likelihood of acceptance and selection of a project.

Figure 9.2 Business Plan [09-02-businessPlan.eps] [AU: insert text ref. to figure ]

Source: Advisicon

From a governance perspective, strategic planning enables executive management to establish goals and strategies to guide the organization and provides a clear focus to the managers and staff for program implementation and PM.

From a performance perspective, strategic planning helps organizations define, prioritize, and deliver those initiatives, programs, and projects that are important to the overall success of the business. Doing the right things versus doing things right!

Linking Strategy to Performance

Measuring performance provides an organization and its key leadership resources to assess the overall health and vitality of the enterprise. Most important, however, performance measurement enables an organization to assess, monitor, and course-correct performance to align all employees with key business objectives. This clears the way for the company to implement its business strategy.

Key performance factors are quantifiable metrics that reflect the critical elements of the enterprise, department, or project. Some examples of key performance factors include:

* Increased market share
* Improved employee performance
* Increased return on investment (ROI)
* Reduced time to market

A metric-based scorecard approach is certainly one way of measuring performance; however, this approach is akin to flying an airplane using a rearview mirror. We need to pay more attention to where we are going (so we don’t fly the aircraft into a mountain) and pay less attention to our instruments and flight plan. Many organizations focus on past trends or metrics of project performance without spending the necessary time to integrate project metrics based on future expectations. By combining future results with existing work, an organization gains the ability to see where it is going in the context of where it expected to be.

Our flight plan starts with the ultimate goal and mission of the organization that eventually must align with all the business units and departments. Teams need to align with the means (our methods to achieve our desired outcomes).

Figure 9.3 Mapping Strategic Objectives to Organization Performance [09-03-flowtForWord.eps]

Source: Advisicon

A simplified view depicting the strategic linkage in the project portfolio is presented in Figure 9.4. Here we can visualize how the goals and strategies act in concert to help align the work (the programs and projects) to the mission of the organization. Now we are on course with an approach that we can dynamically adjust as strategic intent of the organization changes due to external and internal conditions. We are in control of our flight.

Source: Advisicon

In the next section, we show how mapping organizational strategy to programs and projects is accomplished by defining business drivers. Utilizing Project Server allows us to support executive decision making to better understand and manage priorities, resources, and the work of the organization. W

The Portfolio is the critical control point in the enterprise. If properly implemented, it can become the single source of truth for all work demand and resource utilization. However, work managed outside the Portfolio results in an overallocation of resources because their actual availability will not be accounted for accurately. When this happens, it is extremely difficult (if not impossible) to reflect true demand versus. capacity in the rollup reporting to management. Without an accurate depiction of this relationship, management cannot make informed decisions about work priority or assignment. This is a common problem in most enterprises; often it is considered a resource management problem.

Creating and Managing Portfolio Lifecycle for Project Server

Portfolio management is the art and science of balancing an organization’s PM skills and resources to achieve optimum strategic, financial, and operational impact across all product lines in all lifecycle phases.

Project Server 2010 enhances the overall support of the Portfolio lifecycle by streamlining DM from idea creation to successful execution and close-out. The best-of-breed portfolio management techniques are included in Microsoft Project Server 2010, providing a single server with end-to-end PPM capabilities.

This section describes how Project Server supports the entire lifecycle of projects in an organization.

Portfolio Lifecycle

The Portfolio lifecycle follows a project from the initial concept to business case analysis and project initiation to tracking the project through various stage gates of progress with workflow to the final measurement of success using tools that provide accurate and timely reporting of project and portfolio results.

Figure 9.5 is an example Portfolio lifecycle that illustrates four key phases: create, select, plan, and manage. A phase represents a collection of stages grouped to identify a common set of activities in the project lifecycle. A stage represents one step within a project lifecycle (e.g., propose idea, deliver project).

Figure 9.5 Example Portfolio Lifecycle [09-05-projectManagementLifecycle.vsd]

Source: O’Cull, 2009

Phases and stages are managed in Project Server 2010 through the use of enterprise project templates (EPTs) that help guide projects through each stage through the use of workflows.

Portfolio Lifecycle Governance and Workflow

Portfolio governance and lifecycle management enable organizations to define processes that synchronize the efforts of distributed teams to consistently create the best possible products, capture greater market share, and increase customer satisfaction.

The project workflow models the organizational governance processes to provide a structured way for projects to proceed through the various Portfolio phases and stages. Workflows, along with other project attribute data in project detail pages (PDPs), are captured and integrated within Project Server 2010.

To better understand workflows, it is important to understand the relationships and roles of the key Project Server 2010 components. These components are illustrated in Figure 9.6.

Figure 9.6 Components of a Project Server 2010 Workflow [09-06-relationshipProjectServer2010Elements.tif]

Source: Advisicon

Every project is associated with an EPT, which governs it through the Portfolio lifecycle.

Planning for the Portfolio Lifecycle

Portfolio management is focused primarily on defining the needs of the business: capturing total demand, aligning to the priorities of the business, and then selecting projects for detailed planning and execution—essentially ensuring that the organization is focusing on the right projects.

PM then entails the detailed planning, execution, monitoring, reporting, and final closure at the completion of the project (in other words, doing projects right).

Figure 9.7 provides an overview of the Portfolio Project lifecycle.

Figure 9.7 Overview of the Portfolio Project Lifecycle [09-07-overviewProjectPortfolioLifecycle.tif]

Source: Advisicon

The remainder of this chapter addresses how Project Server 2010 supports each of the next key aspects of the portfolio management lifecycle:

* **Defining business drivers,** the interface between the business strategy and the Portfolio of Projects.
* **Capturing demand** to provide a detailed understanding of the entire work and resource demands. Doing this helps to align all of the requests for work and resources to the business priorities and capabilities of the organization. We use portfolio management methods, techniques, and analytics.
* **Aligning to business priorities.** How work (programs and projects) aligns to the mission (or purpose) of the organization.
* **Performing constraint analysis.** The review of restrictions of resources, budget, or proposals that are dependent on each other.
* **Selecting an optimal mix of projects,** by applying strategic portfolio analysis and selection criteria to a group of proposed projects.

These key project management aspects are shown here to provide a complete picture of the integrated PPM lifecycle.

Understanding and Building Business Drivers

What are business drivers? They are the main factors and resources that provide the essential products, services, marketing, sales, and operational functions of a business. Stated another way, business drivers are the people, information, and tasks that support the fulfillment of a business objective. Business drivers include the people, knowledge, and conditions (e.g., market forces) that initiate and support activities for which the business was designed.

Common key business drivers are listed next.

* **People and their competencies** help define the long-term intent, objectives, and strategies of an organization. They manage the execution of critical decisions and provide constant innovation to move the business forward.
* **Products and services** are developed and delivered by the organization in response to critical customer pains. These pains result from changing market forces and customers’ ability to assimilate new methodologies.
* **Technology and innovation** are also key differentiators in today’s competitive business environment. Innovative technology is a key enabler that can assist businesses with everything from managing large volumes of data, to analysis of trends, to the support of organizational planning through the use of decision support systems.

Most business drivers are specific to a particular industry or aspect of an organization (e.g., construction, aerospace, consumer packaged goods, or information technology [IT]). Some business drivers, however, are common to all organizations in one respect or another (e.g., customer experience and satisfaction, quality of goods and services, and ROI).

Value of Using Business Drivers

The intended purpose of business drivers is to help us define the priorities of the business. They are derived by having a clear definition of the mission, vision, goals, metrics, and strategies of the organization. Figure 9.8 illustrates this relationship.

Figure 9.8 Interface Between the Business Strategy and the Portfolio [09-08-interfaceBetweenBusinessStrategyAndPortfolio.eps]

Source: Advisicon

Business drivers act as the interface between the business strategy and the Portfolio of Projects to define key business priorities and to assist with the prioritization and scheduling of work and resources.

Too many tools and too many organizations fail to combine their portfolio and work planning with the existing set of approved projects, which results in an incomplete and inaccurate understanding of the organization’s total work demand and capacity.

Understanding and properly defining business drivers is a key step in ensuring the success of a portfolio management system. Business drivers are an effective way to ensure alignment between strategy and execution as they:

* Provide the linkage between the business strategy and the Portfolio of Projects.
* Ensure a consistent way for key stakeholders to agree on cross-organization business objectives.
* Help establish a basis for mapping projects back to business priorities.
* Offer a central single source of truth for all ongoing and planned work so that prioritization can be properly performed.

Defining Business Drivers

Here is where we separate the approach of defining business drivers from creating the business and technical aspects (keeping in mind they are both necessary elements). The business approach to deriving business drivers is usually done in a facilitated workshop. Defining business drivers in Project Server involves succinct steps in the definition process with the goal of building a business driver with a quantifiable metric (enabling specific and measurable information gathering for business intelligence (BI) analysis both before and after the project).

Art of Defining Business Drivers

A facilitated-workshop approach can be used to determine the key priorities of the business. This approach is an important first step, as it solicits key input from the business leaders, knowledgeable subject matter experts, and other key stakeholders in the organization to obtain strategic-level and goal-oriented input that will be used in defining the business drivers.

It is important to focus on the definition of the business drivers without putting too much emphasis on how to configure the Project Server environment. The initial focus should be on the key business aspects, including the long-term strategic intent of the organization, its vision, mission, goals, metrics, and proposed strategies.

As stated earlier, business drivers are somewhat specific to particular industries or aspects of an organization, so it is difficult to list a complete set as they will in turn be heavily influenced by the goal set, metrics, and strategies of the organization’s business strategy.

Technology of Business Drivers

Project Server 2010 provides an integrated PPM platform to help organizations break down their strategy into actionable, measurable, and discrete business drivers. This solution helps define and effectively communicate the business strategy in actionable terms to provide a blueprint that can be understood and implemented by departments throughout the organization.

Now that you have derived your business drivers, you can start to consider how you are going to define them in Project Server. This process includes:

* Creating business drivers in the driver library.
* Selecting those departments containing projects that will be measured against a given business driver.
* Establishing driver impact statements that describe how specific projects support a given business driver.
* Objectively prioritizing business drivers to drive consensus within the executive team.

Creating New Drivers

The steps for creating or removing business drivers are fairly straightforward and easy to manage from Project Server’s interface.

Typically, after you have worked with your executive team and subdivided your strategic goals and objectives into succinct business drivers, you will need to enter each driver into PWA in the driver library.

To get started with drivers, it is recommended that you first enter the driver name and description. The description provides a more detailed explanation of the driver, which includes how it maps to strategic goals. It should also provide an overall goal for the driver, such an increase in repeat business.

An organization can review the business drivers periodically and respond to changes in industry trends or business directional changes. The referential information will help to link the original drivers and what their focus or intent was at the time of their creation.

It is best practice to keep the name for your business driver somewhere between two and six words on average; doing so makes the name easier to read in the views and rating and ranking screens provided by Project Server.

To create a new driver (see Figure 9.9):

1. From the Quick Launch, click Driver Library.

2. On the ribbon in the Driver group, click New.

3. In the Name and Description section, enter the Name and Description.

4. On the ribbon, click Save & Close.

Figure 9.9 Creating a New Driver [09-09-creatingANewDriver.tif]

Source: Advisicon

Deleting Drivers

Drivers that are no longer used or needed should be deleted. Doing so will reduce the list of drivers that you have to pick from and may help simplify the creation of a new driver prioritization.

Be careful in removing or deleting drivers. Deleting a driver is permanent and cannot be undone. You do have an option to make a driver inactive, which we will address later in this chapter.

To delete a driver (see Figure 9.10):

1. From the Quick Launch, click Driver Library.

2. Select the driver you want to delete by clicking on any portion of the row that does not have hyperlinked text.

3. On the ribbon on the Driver tab in the Driver group, click Delete.

4. In the Message from webpage dialog box, click OK to complete the deletion process.

Figure 9.10 Click OK in the Message from Webpage Dialog Box (09-10-clickOkInTheMessageFromWebpageDialogBox.tif)

Source: Advisicon

Understanding Project Impact Statements

It is important to establish a Project impact statement for every proposal or project being evaluated in the Portfolio Management module. Without a project impact rating scale, each project that affects a business driver would be given the exact same rating against that driver. If so, it would be virtually impossible to assess which project might be better to select over another, especially if multiple projects are connected with the same business driver.

The advantage of the business driver feature in Project Server is that each driver is affiliated with both an impact rating scale and an affiliated impact statement. This ensures that you can differentiate between projects of various impacts against a strategic objective. Also, a very important reason for completing the impact statement is it identifies a standard for each level that everyone must follow so there is common understanding of what it means, for example, to rank a project in low or moderate value, there should be a definition that is understandable for the person creating the project/proposal.[AU: moderate what?]. Failure to fill in the project impact statement leaves a lot of room for individual interpretation and reduces consistency between project and portfolio managers.

To enter a project impact statement:

1. From the Quick Launch, click Driver Library.

2. Click the name of the driver you want to edit.

3. On the Edit Business Driver: name page, in the Project Impact Statements section, enter information that will clearly describe each level.

4. On the ribbon, click Save & Close.

Types of Driver Prioritization

Since not all organizational objectives have equal importance, you will need to complete driver prioritization so Project Server can make appropriate suggestions when doing a portfolio analysis. There are two types of driver prioritizations: calculated and manual.

Two different types of driver prioritizations are necessary because in some cases you will want to compare driver to driver and let the software calculate a scale of importance. In other cases you may want to enforce an executive preference. Should you choose to enforce an executive preference, you will need to use the manual driver prioritization type. Both of these types are explained further in upcoming topics.

Creating New Manual Prioritization

Project Server allows you to establish your own unique process for prioritizing business drivers by creating a manual process. When you create a manual prioritization, you specify a priority value for each driver. Doing this allows you to create a prioritization that meets the needs of an executive, team, or department. Be sure that whatever driver you give the highest value to is actually the most important business driver in relation to the other drivers selected for the prioritization.

Priority values must total 100 percent. If you fail to achieve 100 percent, the system will make adjustments to result in a total of 100 percent. The overall concept is very simple: Each driver prioritization is compiled to score up to 100 percent. This gives an overall ranking for all drivers that equal the maximum rating or ranking.

In many cases, organizations will return and fine-tune the percentages either up or down as the portfolio of work is evaluated in order to achieve a more realistic ranking system for new project proposals. This next image, shows the prioritization of drivers. It is good to note that as the Portfolio rating and ranking process is going on, that many organizations come back in and tune these over and over again until each scenario and driver is giving good overall ranking of projects.

Figure 9.11 Prioritizing Drivers (09-11-prioritizingDrivers.tif)[AU: insert text ref. to figure]

Source: Advisicon

To create a new manual prioritization:

1. On the Quick Launch, click Driver Prioritization.

2. On the ribbon, in the Prioritizations group, click New.

3. In the Name and Description section, enter the name and description.

4. Optional: In the Department section, select a Department from the Select Value button.

5. In the Prioritization Type section, select Manual.

6. In the Prioritize the Following Drivers section, select each driver and click Add. Alternately, you can click Add All to choose all the drivers.

7. On the ribbon in the Prioritization group, click Save. When complete, click Close.

Creating New Calculated Prioritization

The default process is to utilize Project Server’s prioritization engine. This fits most organizations that are using the out-of-the-box features. When you choose to do a calculated prioritization, you compare each driver to every other driver that was selected for the prioritization. The comparison is based on this fixed seven-point scale:

7. Is extremely more important than

6. Is much more important than

5. Is more important than

4. Is as important as

3. Is less important than

2. Is much less important than

1. Is extremely less important than[AU: verify that order of numbering is correct][AU: clearly the CE has assumed we will change to ascending order--OK?]

This process is also called a pair-wise comparison and will yield driver priority values that will total 100%.

To create a new calculated prioritization:

1. On the Quick Launch, click Driver Prioritization.

2. On the ribbon in the Prioritizations group, click New.

3. In the Name and Description section, enter the name and description.

4. Optional: In the Department section, select a department from the Select Value button.

5. In the Prioritization Type section, select Calculated.

6. In the Prioritize the Following Drivers section, select each driver and click Add. Alternatively, click Add All to choose all the drivers.

7. Click the button Next: Prioritize Drivers.

8. Using the Select a Rating list, choose the appropriate scale when presented with each driver comparison.

9. Click the Next Driver button to complete the next series of comparisons. Repeat until finished.

Reviewing Driver Priorities

After creating business drivers, it is best practice to review them and their weighted prioritization ranking. In many organizations, fine-tuning the ranking process occurs even during the portfolio evaluation process as the results sometimes don’t match expectations.

Following completion of a new driver prioritization, you will have the opportunity to review the list of driver priorities. This list is in order of highest priority at the top and lowest priority at the bottom. (See Figure 9.12.)

Figure 9.12 Drivers Arranged in List of Descending Priority (09-12-theDriversAreArrangedInAListOfDescendingPriority.tif)

Source: Advisicon

If you have selected manual prioritization, you are free to make additional changes to the priority values until you are satisfied with the results. You can use the normalize feature to adjust the values to total 100 percent, or you can manually make adjustments to reach that total.

If you have selected calculated prioritization, it is recommended that you go back and review your pair-wise comparison if the priority values seem to be unexpected.

To normalize a manual prioritization:

1. On the Driver Priorities page, review the priority values entered and make changes as desired.

2. On the ribbon in the Values group, click Normalize. Notice the values will be recalculated to total 100.

Significance of Consistency Ratio

Just below the view showing the prioritization list is a consistency ratio rating scale graphic. (See Figure 9.13.) It measures how many logical conflicts occur in the driver prioritization. If one driver is less important than all the other drivers in one instance, it should not be marked as the most important driver when compared again against the same drivers. This would be a logical conflict.

Figure 9.13 Consistency Ratio (09-13-theConsistencyRatio.tif)

Source: Advisicon

Normally the consistency ratio is less than 100 percent; a number around 75 percent or higher is considered to be a good ratio. Very low numbers typically indicate mistakes or inaccuracies; you may want to consider completing a new driver prioritization before accepting a low ratio.

Using Project Server to Master Demand Management

The overall aim of Portfolio Management[AU: this is the module, right? otherwise term should be lowercase] is to provide an organization with the ability and flexibility to quickly adapt to changing market conditions, make better investment choices for projects and initiatives, and in general make better-informed decisions. In order to do that, we need to centrally manage requests for all work and account for the planned and in-flight allocation of all resources.

In most situations, demand generally exceeds the ability of an organization’s resources to deliver. As discussed in the introduction to this chapter, there are many strategies and priorities for the different business units and departments of the enterprise. These requirements eventually result in project requests that need to be reflected in a total demand picture. We need an agreed-on mechanism by which we can objectively track and manage demand.

Value of Demand Management

The starting point to good governance and planning is to have a clear and complete understanding of the total work picture and demand for resources in an organization, including both new and in-progress projects. Demand management[AU: verify that lowercase is ok throughout] provides a consolidated view of the total work and resource demand picture across the entire organization.

Demand management (DM) provides us with a detailed understanding of the entire work and resource demand to help align all of the requests for work and resources to the business priorities and capabilities of the organization, using portfolio management methods, techniques, and analytics.

DM provides the ability to:

* Have a single collection point for the capture of work and resource requests.
* Have a starting point for end-to-end insight for stakeholders, eliminating the black hole of requests.
* Make smarter decisions faster (based on the latest demand), collaborating better, and attain optimal ROI.
* Align investment decisions across the organization by having a total view of all work requests.

Role of Demand Management in an Organization

Often there may seem to be an opaque ceiling blocking your view into items resulting in limited organization’s success in regard to project execution. Or worse yet, there is no opaqueness as the organization chooses to not keep limitations in sight at all.

Successful DM often requires organizational change. Executives and senior management must incorporate the balance of projects (demand) and constraints (supply) to make the best project decisions for the organization. Doing this requires clear identification of business goals and objectives as well as a transparent definition of organizational constraints. Streamlined communication is required from the team member to the chief executive officer.

Through openly visible criteria defined for project selection and measurement, paired with consistent governance and thorough analysis of project data and requests, organizations will have created the best internal environment to have the support of the entire team in driving project success.

Planning for Demand Management

It is important to leverage the key pieces in Project Server to get the most out of establishing a good demand and work forecasting and management system.

Some of those elements are:

* Enterprise project types
* Custom fields and lookup tables
* Project detail pages
* Project phases
* Project stages

In this section, we provide some straightforward tips, tricks, and building techniques for creating these Project Server entities. Building some or all of these objects rapidly increases the adoption, simplification, and ease of use for project creation, management, and reporting around demand management.

Enterprise Project Types

Every project or proposal that is placed in Project Server is started with an enterprise project type (EPT)[AU: same acronym was used for enterprise project templates; please adjust throughout volume as needed]. EPTs are associated with specific types of projects, such as new product development or software upgrade. Different EPTs may be needed for various departments that may have stages or processes that do not follow the organization’s typical stages or phases.

One of the best ways to automate the creation of projects and help speed up the process of getting an accurate and consistent schedule is to leverage EPTs. Doing so sets the stage for decreasing time for project managers or planners to create schedules and to see the upcoming or new demand of work in the existing or future work portfolio.

What Makes Up Enterprise Project Types?

Every project that is created in Project Server from the ribbon begins with an EPT. An EPT is a template for a specific kind of project that may or may not be associated with a workflow. Some areas where you may need different EPTs include internal versus external projects, departmental- versus enterprise-level projects, or for-profit versus nonprofit projects. An EPT can include all or some of these components:

* Phases
* Stages
* Workflow
* Project detail pages
* Project, task, resource regular, and custom fields

Default Project Server Enterprise Project Type

Since the EPT is a building block to project creation, it is important to begin with a selection of initial EPTs. Default EPTs provide a great place to get started. However, creating schedules that have the same building blocks of tasks will rapidly expedite the schedule creation process for organizations looking to streamline project types.

New projects are not necessarily just project schedules. They may include a series of enterprise fields necessary for keeping information about a proposal or a project through is project lifecycle.

Microsoft has created some sample default EPTs for every deployment. These are the ones that appear in the Project Center when you click on the New button on the Projects tab on the ribbon. Clicking the New button displays the EPTs in a list format. Only two default EPTs are provided initially:

1. **Sample Proposal.** This is affiliated with the sample proposal workflow and is located right above the Basic Project Plan in the list of EPTs.

2. **Basic Project Plan.** No workflow is associated with this EPT. It contains only the schedule and Project information detail pages. It is the default EPT during project creation.

A nice feature is that EPTs without a workflow have a schedule icon next to the name, while EPTs with a workflow display an icon with a curved arrow on them.

To display the default EPTs:

1. On the Quick Launch, click Project Center.

2. In the ribbon on the Projects tab, click New to display the list of default EPTs.

Creating an Enterprise Project Type

Project Server allows you to create Project types and link them to specific departments. This method enables a multiple-use scenario for different parts of an organization to use Project Server, without having to wade through a large list of choices.

To satisfy the needs of different departments or to account for differences between various types of projects that your organization creates, you will need to create new EPTs.

To create an EPT (see Figure 9.14):

1. On the Quick Launch, click Server Settings.

2. In Workflow and Project Detail Pages, click Enterprise Project Types.

3. On the Enterprise Project Types page, click New Enterprise Project Type.

4. In the Name section, type a name for this EPT.

5. In the Description section, type a description (optional).

6. In the Site Workflow Association section, in the list, click the desired site workflow association.

Figure 9.14 Adding an Enterprise Project Type (09-14-addingAnEnterpriseProjectType.tif)

Source: Advisicon

If you click No Workflow, the options in the next section will change.

7. In the New Project Page/Project Detail Pages section, click the desired New Project Page.

8. In the Default section, check the box “Use this as the default Enterprise Project Type during Project Creation” if you want this to replace the existing default EPT (optional).

9. In the Departments section, select the desired department from the Select Value button (optional).

10. In the Image section, type the URL for the desired image (optional).

11. In the Order section, check the option to Position this type at the end (if desired) or click the EPT item in the list that you want to appear before your new EPT.

12. In the Project Plan Template section, click the desired Project Plan Template (optional).

13. In the Project Site Template section, click the desired Project Site Template.

14. Click Save.

An important step in building an EPT is the taking time to map and plan out exactly what you are looking for. Doing so saves time and rework later.

Modifying or Deleting Enterprise Project Types

EPTs allow you to organize the fields and what is displayed for an end user. Essentially, they are for organizing and presenting the metadata associated with a project to a specific page. These PDP pages are SharePoint pages tied to the project they are created with.

The creation, modification, and removal of EPTs are relatively simple processes.

To modify an EPT:

1. On the Quick Launch, click Server Settings.

2. In Workflow and Project Detail Page, click Enterprise Project Types.

3. Click the name of the EPT you want to modify.

4. Make the desired changes and click Save.

To delete an EPT:

1. On the Quick Launch, click Server Settings.

2. In Workflow and Project Detail Page, click Enterprise Project Types.

3. Select the EPT(s) you want to remove and click Delete Enterprise Project Type.

4. When you receive the message: Are you sure that you want to delete the selected enterprise project type(s), click OK.

If possible, plan your custom fields out in advance of creating projects to reduce or eliminate the need to open and modify existing projects.

When you create a custom field, you will have to fill in key informational fields as described later the Entity and Type field selections. Proper selection of the Entity and Type is required to ensure your ability to report on these fields and enter desired information later on.

Enterprise Custom Field Entities

Project Server allows you to quickly and efficiently create additional fields to help enable BI reporting, viewing, sorting, filtering, and comparison analysis.

In demand and strategic analysis, these field entities are broken into different categories related to the major databases behind the scenes.

* **Project.** Used for a field that will be applied at the overall project level (e.g., project sponsor, or project industry type).
* **Resource**. Used for a field that further describes a resource (e.g., level of college, or speaks Russian).
* **Task.** Used for a field that will be applied at the task level (e.g., accounting code, task priority level).

Enterprise Custom Field Types

There are different custom field types to choose from. Listed next is a breakdown of what you can leverage for project to portfolio usage. Remember that if you are going to do manual portfolio evaluation, you will definitely want to leverage these different custom field types.

* **Cost.** Accepts numbers and is formatted using the currency settings configured for Project Web App.
* **Date.** Accepts only a date.
* **Duration.** Accepts a numeric value that represents a time span.
* **Flag.** Accepts only two options, yes or no.
* **Number.** Accepts only numbers.
* **Text.** Accepts any combination of letters and numbers as well as some symbols and special characters.

Some other important options when creating a field include:

* **Custom attributes.** “Single line of text” is recommended.
* **Department.** Choose a department only if this field will be limited to individuals in a specific department.
* **Values to display.** “Data” is recommended.

This next figure illustrates the additional options that are important to enabling customization or different types of portfolio rating raking and dashboards.

Figure 9.15 Examples of Other Important Field Options (09-15-examplesOfOtherImportantFieldOptions.tif)[AU: insert text ref. to figure]

Source: Advisicon

To create a new custom field:

1. From the Quick Launch, click Server Settings.

2. Under the Enterprise Data heading, click Enterprise Custom Fields and Lookup Tables.

3. In the Enterprise Custom Fields section, click New Field.

4. Complete the fields as desired.

Any field with an asterisk symbol is required.

5. Click Save.

Custom Fields and Lookup Tables

Project Server offers flexibility and customization so organizations can incorporate their own way of doing business into the software. Most organizations need to add information that does not currently match with an existing Project Server field.

The use of custom fields and optional lookup tables is a very simple way to capture that information. There are many advantages to using custom fields, such as the ability to create views and reports tailed to the information in the fields. It is possible to use custom fields to integrate with third-party applications.

In this section, we walk through the process of creating custom fields for the three different entities in Project Server. We show how to create a lookup table that can be attached to a custom field to provide a pick list and discuss how to control user behavior with various custom field options.

Creating New Custom Fields

Each custom field is a designated space you are adding to the Project Server database for capturing additional information. Custom fields are needed when your organization wants to include information in each project that existing fields do not account for. These fields typically are created to facilitate custom views online or to facilitate reports.

Creating New Lookup Tables

A lookup table contains a list of values. Lookup tables can be assigned to custom fields so an individual can select an option from the list instead of having to type in a value. A lookup table can be attached to a field to ensure that individuals always pick from a limited list of choices. This attribute simplifies data entry and the options when this field is used for reporting purposes.

When creating a lookup table, you must differentiate between two choices:

**1. Code mask.** This is used to define the structure of the lookup table. A different line is created in the code mask for each level you desire. Levels can contain information that matches one of four types: numbers, characters, uppercase letters, or lowercase letters.

**2. Lookup table.** This is where you enter the actual values that will be displayed in the field. You also designate the level at which each item belongs.

You do not change levels by typing the level; instead, you indent the item that you want to move to the next level. Doing this automatically changes the level number.

To create a new lookup table:

1. From the Quick Launch, click Server Settings.

2. Under the Enterprise Data heading, click Enterprise Custom Fields and Lookup Tables.

3. In the Lookup Tables for Custom Fields section, click New Lookup Table.

4. Complete the fields as desired.

Any field with an asterisk symbol is required. The example below illustrates the required field. Remember if you make a field required, it will have to be filled out. In many instances, especially early on, the information may not be known, so take that into consideration.

Figure 9.16 Name Field Is the Only Required Field (09-16-nameFieldIsTheOnlyRequiredFieldHere.tif)[AU: insert text ref. to figure]

Source: Advisicon

5. Click Save.

To assign a lookup table to a custom field:

1. From the Quick Launch, click Server Settings.

2. Under the Enterprise Data heading, click Enterprise Custom Fields and Lookup Tables.

3. In the Enterprise Custom Fields section, click the name of the field you want to assign a lookup table to.

4. In the Custom Attributes section, select Lookup Table and choose the name of the lookup table you created in the list.

5. Choose any additional options as desired with the Custom Attributes section.

6. Click Save.

Determining Behavior of Custom Fields

The organization may further tailor custom fields so the use of that field is mandatory during specific phases of the project. Requiring a field during a workflow stage or before information can be saved means the individual is forced either to enter a value or to choose from the field list (if available). This is a way for an organization to enforce a corporate standard and to ensure that specific types of reports are able to be run because the information was required.

A drawback to requiring fields to be filled out is that individuals may cancel their work on a specific page when they don’t know what information goes in that field. Instead of having a project with some partial information, you may end up with a project with even less information provided due to the restriction of the required custom field.

The behavior of a custom field can be controlled in these ways:

* **Behavior controlled by workflow.** Choose this option if you want a specific stage of the workflow to require this field to be filled in before moving to the next stage.
* **Require that this field has information**. Select “Yes” on this option only if you want to prevent information on a specific page from being saved until that field is filled in.

When the behavior is controlled by a workflow, you do not have the option to choose whether or field has information.

To modify the behavior of a custom field:

1. From the Quick Launch, click Server Settings.

2. Under the Enterprise Data heading, click Enterprise Custom Fields and Lookup Tables.

3. In the Enterprise Custom Fields section, click the name of the field you want to change the behavior of.

4. In the Behavior section, choose the options you desire.

5. Click Save.

Project Detail Pages

When you work with Project Web App, you may not realize that you are using a series of PDPs presenting a collection of Web parts. With the functionality available in Project Server 2010, it is possible to create, customize, and even trigger these PDPs based on actions in Project Web App. Since so much functionality is available, it is important that you understand the PDP.

Throughout this section, we want to explore the use of PDP pages and how they are integrated with features in Project Web App.

What Is a Project Detail Page?

A project detail page is another way of describing a Web page available in Project Web App. These pages consist of Web parts, and each PDP page can be used for either collecting information or displaying information. Many PDP pages are already available, but you can create additional ones as the need arises. Furthermore, PDPs can be associated with stages in a workflow.

Default Project Detail Pages Available in Project Server

Before making any modifications to PDPs, it is useful to have an understanding of what pages are already available and how they are integrated in Project Web App.

If your organization does not use all of the features of Project Web App, some PDPs will not be needed.

The titles for the default PDPs are listed next. You can review the description for these items on the same page as the PDP list to gain a general understanding of how each page integrates with Project Web App.

* Post Implementation Review
* Project Details
* Project Information
* Proposal Details
* Proposal Start and End Dates
* Proposal Stage Status
* Proposal Summary
* Schedule
* Strategic Impact

Each PDP has a page type associated with it. Three page types are available within the PDPs. You can see the page type next to the display name of the PDP page when you review the PDP list.

1. **Project.** This type is used when working with an existing project.

2. **Workflow Status.** This type is used to display the status and stage of a project.

3. **New Project.** This type is used when creating a new project and typically is connected with an enterprise template.

Not all PDPs will display information when you click on them; some require specific project information. The ones that do display will look like an online form.

To review the list of PDP pages:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Project Detail Pages.

Components of PDPs

A PDP is made up of one or multiple Web parts. Some PDP default pages include Web parts specifically designed for that page.

It is possible to combine multiple Web Parts from various categories to make a more complex PDP page. Web Parts can be from both Project Server and SharePoint Server.

This is a list of all the Web Part categories for reference:

* Lists and Libraries
* Business Data
* Content Rollup
* Filters
* Forms
* Media and Content
* Outlook Web App
* PerformancePoint
* Project Web App
* Search
* Social Collaboration
* SQL Server Reporting

Creating a PDP

In working with PDPs, you may discover that the available ones do not meet your needs, and you may want to create a new one. Building a new PDP is a way to fully customize a piece of Project Web App without requiring a developer. It is also a way to help enforce organizational processes or data entry requirements.

To create a new PDP:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Project Detail Pages.

3. Click the Documents tab on the ribbon.

4. Click New Document.

5. Enter a Name for your new PDP, then choose the desired layout and click Create.

6. In each portion of your PDP, you can choose the desired Web Part. Click one of the Add a Web Part hyperlinks.

7. Click the desired Category, click the desired Web Part, click the desired Field and click Add.

The Project Web App category is a popular place to start when building PDPs.

1. Your Web Part will be previewed in the area you previously selected.

2. Click another Add a Web Part hyperlink and repeat step 7 until all the Web Parts are filled in.

3. On the Page tab, click Stop Editing to finish the PDP.

4. On the Navigate up Arrow, click Project Detail Pages and see your new page listed.

New PDPs are automatically assigned the Project type. You can change this by editing the properties of the PDP.

Modifying and Deleting PDPs

As your organization’s use of Project Server evolves, you probably will discover a need to further refine your PDPs. This could involve modifying a page or deleting one that is no longer needed. Becoming skilled in both of these areas will allow you to make changes relatively quickly and will free up your Project Server administrator to perform other tasks.

To modify a PDP:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Project Detail Pages.

3. Click the Documents tab on the ribbon.

4. Select the check box next to the PDP you want to modify, and on the Document tab, click Edit Document.

To delete a PDP:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Project Detail Pages.

3. Click the Documents tab on the ribbon.

4. Select the check box next to the PDP you want to modify, and on the Document tab, click Delete Document.

5. When prompted to confirm this action, click OK.

Deleted PDPs go to the recycle bin on the main PDP. Your administrator determines how long items are available in the recycle bin.

Workflow Stages

This section will help you learn how to create and modify stages and phases as part of a preinstalled Project Server workflow. A workflow is simply a process for achieving a goal. In terms of Project Server, a workflow is used to support your project lifecycle.

If you have difficulty completing these steps in your own environment, you will need to contact your Project Server administrator.

Developing a custom workflow is best supported by your Project Server administrator and is beyond the scope of this book.

Within each workflow, individuals must go through a number of steps (also called stages) to complete each phase. Project Server supports a sequential series of stages to ensure that every project is created in the same way and important business information is captured at the exact time it is needed. Since stages are building blocks toward a phase, they are addressed first. Throughout this section, we explore the existing concept of stages and how they relate to PDPs to address a business need. While working with stages, you will create, modify, and deletePDPs.

What Is a Stage?

A stage is a step within a project lifecycle or project workflow. Stages are subcomponents of phases. Each stage has a minimum of one project detail page associated with it. Using multiple stages can enforce a business process. Some things that can be controlled on the PDP include being required to enter information in certain fields and submit the page before you can continue. Some stages require another party to approve your submission before moving to the next stage.

As you move from stage to stage, additional PDPs can be shown while other PDPs can be hidden to prevent changes to submitted information. Hiding select PDPs also prevents individuals from jumping ahead and creating a schedule when the high-level proposal for the project has not been approved yet.

Default Stages Available in Project Server

To get started with a workflow in Project Server, Microsoft has provided a five-phase workflow containing multiple stages. You can choose to accept the stages provided, modify them, or delete them as desired. Since each stage represents a step in the workflow, you can compare your current business process with the listed stages and look for the deltas. Pending internal discussion, you can then make modifications as needed. The rest of this section focuses on changes to stages; the next section focuses on changes to phases.

The next list presents the default phases with their associated default stages.+

* Phase—Create
* Automated Rejection
* Initial Proposal Details
* Initial Review
* Proposal Details
* Rejected
* Selection Review
* Phase—Select
* Not Selected
* Proposal Selection
* Phase—Plan
* Canceled
* Resource Planning
* Scheduling
* Phase—Manage
* Execution
* Phase—Finished
* Completed
* Final Assessment

You can review affiliated PDPs and a description of each stage on the Workflow Stages page.

Creating a New Stage

After reviewing a stage, you may notice that it needs to be divided into two steps to facilitate different approvals, or you may notice that a step in a particular phase is missing. In both of these cases, you will need to create a new stage.

Here is a checklist of things you will need to have available before creating a new stage:

Information to Obtain

* Name for the stage
* Description (optional)
* Description/tool tip for the individual (optional)
* Phase the stage belongs in
* Introduction PDP—typically Project stage status
* List of additional PDPs individuals should be able to see at this stage (will be displayed on the quick launch)
* Additional descriptions for the visible PDPs—may be used to help remind an individual about the purpose of each page during this stage (optional)
* Required custom fields—fields that were required before entering this stage (Note: These fields must have been added previously to a PDP.) (optional)
* Read-only custom fields—fields you want individuals to see but not change, such as budget (optional)
* Strategic impact behavior—if required, you will need to determine a strategic impact value for every business driver (for portfolio analysis)
* Project check-in required—if required, the project will need to be checked in before completing this stage and submitting it to advance the project to the next stage (optional)

To create a new stage:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Workflow Stages.

3. On the Workflow Stages Page, click New Workflow Stage.

4. On the New Workflow Stage Page, enter or complete the information as needed and click Save.

Modifying and Deleting Stages

As your business processes evolve, you may choose to modify steps in the workflow or even delete outdated steps. This is done by either modifying or deleting stages.

To modify or delete a stage:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Workflow Stages.

3. On the Workflow Stages Page, click the name of the stage you want to modify.

4. Make any necessary modifications on the stage name details page and click Save.

To delete a stage:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Workflow Stages.

3. On the Workflow Stages Page, select the row of the item you want to delete.

To select the row, click the gray box to the left of the phase name or click anywhere on the row that does not have hyperlinked text.

4. Click Delete Workflow Stages.

Workflow Phases

An important next step to managing stages is managing phases, which are a higher level than stages in the PM lifecycle.

If you have difficulty completing these steps in your own environment, you will need to contact your Project Server administrator.

Throughout this section, we explore the concept of phases, including the phases available instantly when Project Server is fully installed. You will make a series of changes to phases, which include creation, modification, and deletion. As part of the discussion in this section, you will explore the benefits of using a naming convention when working with phases.

What Is a Phase?

A phase is a collection of stages that are grouped together for a common purpose, such as project selection or project scheduling. By grouping your entire enterprise list of projects into phases, you can easily identify trends and make decisions based on where the majority of projects fall.

For example, a majority of projects still in the project selection phase might indicate a backlog with the individuals or teams responsible for approving projects or assigning projects to a project manager. In the next few sections, we cover creating, modifying, and deleting phases and the importance of naming conventions.

Default Phases Available in Project Server

There are five default phases in Project Server. These phases support many PM lifecycles and business processes but can be easily tailored to your organization’s needs. The available default phases are listed next, in workflow order:

1. Create

2. Select

3. Plan

4. Manage

5. Finish

Creating a New Phase

The existing phases available from Project Server may not completely cover your organization’s PM lifecycle. It is relatively simple to create a new phase. After that phase is created, you can either create new stages or modify stages so they become part of the new phase. Doing this will support your project management lifecycle.

To create a new phase:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Workflow Phases.

3. On the Workflow Phases Page, click New Workflow Phase.

4. On the New Workflow Phase Page, enter the name and description of the new phase and click Save.

Modifying and Deleting Phases

As your business lifecycle evolves, you may choose to make changes to phases in the workflow or remove outdated phases. This is done by either modifying or deleting phases and takes place after you have already modified the related stages that may be affected.

To modify an existing phase:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Workflow Phases.

3. On the Workflow Phases Page, click the name of the phase you want to modify.

4. Make the changes as desired and click Save.

To delete an existing phase:

1. On the Quick Launch, click Server Settings.

2. Under Workflow and Project Detail Pages, click Workflow Phases.

3. On the Workflow Phases Page, select the row of the phase you want to modify.

To select the row, click the gray box to the left of the phase name or click anywhere on the row that does not have hyperlinked text.

4. Click Delete Workflow Phases.

5. When prompted to confirm the action, click OK.

Before deleting a phase, it is a good idea to verify that no stages are connected to the phase to avoid problems with your workflow.

Deciding Naming Convention for Phases

A naming convention is a standard that you create to apply structure to your phases. There are three reasons why you might want to consider a naming convention for phases.

1. You may want to differentiate between organizational phases and those provided by Project Server.

2. You may want the phases to be listed in a particular order when you sort by phase.

3. You may want to differentiate which phases belong to which workflow.

It is recommended that you plan out your naming convention structure and, if necessary, explain it to Project Server users to ensure complete understanding of how these phases will illustrate your organizational lifecycle.

Building Project Selection Criteria

In order to help manage the new work being evaluated with an organization or a PMO, Project Server has an opportunity to create selection criteria options that will help an organization to rate, rank, and select the right projects rather than just selecting based on discussion. By allowing the user to rate, rank and score a project, it helps to provide better selection criteria when evaluating and choosing projects over each other.[AU: clarify: users of Project Server can create selection criteria options?]

It is important to have a weighted or metrics-driven selection or ranking criteria as it helps to drive out the emotion of project prioritization and lends a system of balanced scoring based on quantifiable metrics.[AU: clarify meaning]. Of course, in most organizations, there will be selection of projects, regardless of whether they score higher or lower. These may be pet projects or projects that have a relationship with an already started or approved project. In this case, Project Server enables users to create dependencies between projects or during the selection process to force a project in.

If a project is forced in, other higher-rated projects may be forced out, but it the status of each project is shown within the tool so that those who are in the review and selection process can see the impact of their choices.

In Project Server, different selection criteria can be specified to help prioritize the new work being reviewed. These selection criteria are made up of elements within the Project Portfolio Server module within Project Server and include business drivers (associated to a project), impact statements, and the risk score. Later in this chapter, we detail these further[AU: where?].

Our intent is to showcase the fact that if an organization is interested in leveraging Project Server as a scalable solution, these prioritization and ranking features [AU: which ones?] do not require you to have all of the local details or tactical activities built in Project Server, for example a fully built schedule, in fact the idea is to put proposals on the table that after selections are made can be further detailed out. Some organizations use this flexibility to help map and plan the work that will be approved and then managed either in or outside of Project Server. The key here is that you don’t have to do both rating, ranking and prioritizing and building detailed schedules. You can start with a portfolio approach and then grow up your detailed schedule and resource planning capabilities.[AU: both what?]. Project Server can act as a scalable top-down planning tool as well as a bottom-up detailed scheduling solution.

Project Dependencies

Figure 9.17 outlines the impact that project dependencies have on the portfolio selection criteria and Figure 9.18 showcases the dependencies drop down that allows you to link projects together. Note some projects are dependent upon other projects, so if one is cancelled the other should not be undertaken

Figure 9.17 Project Dependencies [09-17-projectDependencies.tif]

Figure 9.18 Project Dependencies Dropdown [09-18-projectDependenciesDropDown.tif][AU: insert text ref. to figure]

Source: Advisicon

Creating New Portfolio Analysis Views

The power of a portfolio analysis[AU: here and throughout: verify that this term doesn’t need to be capped] view is the ability to control the information you see across the enterprise list of projects selected for a specific portfolio. Creating a new view is a way to display fields of information that would meet the needs of specific departments or could be mapped to specific executive needs, such as the chief information officer. It is easier to switch between existing views than to configure the fields of information displayed.

To create a new portfolio analysis view:

1. On the Quick Launch, click Server Settings.

2. In Look and Feel, click Manage Views.

3. On the Manage Views page, click New View.

4. On the New View page, in the Name and Type section in the View Type list, click Portfolio Analyses.

5. In the Name box, enter a name for the new view.

6. In the Table and Fields section, click the desired table(s) and field(s) and click Add. Use CTRL to select more than one field at a time.

7. In the Security Categories section, click the desired category (or categories) and click Add.

8. Click Save to save your new view.

Working with Driver Prioritizations

Working with business drivers as independent entities does not represent how an organization typically operates. There are relationships between drivers, and these relationships help influence decisions in an organization. As the preferences of executives vary and as the needs of different areas of the business vary, it is possible that the priorities and collection of related drivers will vary too. This section focuses on setting up two types of driver prioritizations, essentially allowing for multiple scoring and ranking criteria to be used based upon different business priorities. This allows the PMO or the portfolio team to be able to [AU: clarify] evaluate and adjusting the results until the consistency ratio is acceptable in the business driver planning scenario.

As in building business drivers, the driver prioritization, whether automatic or manual, values must always total 100 percent. If you fail to achieve 100 percent, the system will make adjustments to result in a total of 100 percent.

If you decide to create a new manual prioritization, follow these steps:

1. On the Quick Launch click Driver Prioritization.

2. On the Ribbon, in the Prioritizations group click New.

3. In the Name and Description section, enter the Name and Description.

4. (Optional) In the Department section, select a Department from the Select Value button.

5. In the Prioritization Type section, select Manual.

6. In the Prioritize the Following Drivers section, select each driver and click Add or click Add All to choose all the drivers.

7. On the ribbon in the Prioritization group click Save, and when complete, click Close.

Defining Portfolio Analysis Properties

When creating a new portfolio analysis, there are several decisions you need to make that will affect options available during the analysis and will affect how the portfolio analysis behaves. After you apply these options, you can enable:

* A portfolio analysis for a specific department.
* A portfolio analysis that maps to a driver prioritization.
* A designated value that can be used for the total portfolio budget.
* An identified value that resources will be categorized on.
* Designated reasons to include and exclude projects.
* Necessary project relationships.

Complete understanding of how and when to apply these options is critical since most of these options cannot be changed after the portfolio analysis is saved, and the setup of these options will impact how you are able to work with an existing portfolio analysis.

Prioritization Types

There are two prioritization types you can pick from when doing a portfolio analysis. If your organization has already subdivided your strategic objectives into business drivers and also created a driver prioritization, you should select the first type, “Prioritize projects using business drivers.” If instead your organization has not created business drivers or is still evaluating the capabilities of Project Server, you should choose the second type, “Prioritize using custom fields.” This option generates an additional step during the portfolio analysis that enables you to select the custom fields and their weights.

The only way the software can create a recommendation on which projects to include or exclude from your portfolio is to have some basis for prioritization. That is why this option is important. The first option is recommended since it can be applied easily to other portfolios, and the option represents work by your executive team in figuring out what key variables projects must be measured on. The custom fields option is more of an on-the-fly prioritization that may not be replicated easily and may not be fully tied to strategic objectives.

To specify the prioritization type:

1. On the Quick Launch, click Portfolio Analyses.

2. On the ribbon in the Analysis group, click New.

3. In the Prioritization Type section, select Prioritize projects using business drivers.

4. In the Driver Prioritization list, select the desired option.

5. Continue with the Portfolio Analyses.

Configuring Force-in and Force-out Options

The force-in and force-out feature of portfolio analysis gives you the option of manually designating a project that must be included or excluded from the portfolio, ignoring Project Server recommendation. If you choose to use the default settings for these options, the software simply displays force-in or force-out. Instead, you could choose a custom lookup field for force-in and another custom lookup field for force-out. If you do this, you can choose from a list of reasons why a project must be included or excluded. For example, you could indicate “executive preference” as a force-in reason and “postponed” as a force-out reason.

To configure force-in and force-out options:

1. On the Quick Launch, click Server Settings.

2. In Enterprise Data, click Enterprise Custom Fields and Lookup Tables.

3. In Lookup Tables for Custom Fields, click New Lookup Table.

4. In the Name section, enter Force-in.

5. (Optional) Modify the Code Mask section.

6. In the Lookup Table section, enter the reasons for forcing in a project.

7. Click Save.

To use the lookup tables during a portfolio analysis:

1. On the Quick Launch, click Portfolio Analyses.

2. On the ribbon in the Analysis group, click New.

3. Expand the Alias project Force-in and Force-out options section.

4. Check the Alias Force-in option, and select the Force-in lookup table from the list.

5. (Optional) Repeat this for the Force-out option.

6. Continue with the Portfolio Analyses.

Configuring Project Dependencies

After a portfolio analysis is created and listed on the Portfolio Analyses page, you will be able to set Project Dependencies. A project dependency is a relationship you want to include between projects that will influence the portfolio. This relationship may result in additional projects moving during a force-in or force-out situation or moving as the portfolio changes. Available dependencies are listed next.

* **Dependency.** Unless a specific list of dependent projects are included in the portfolio, this specific project will not be selected.
* **Mutual Inclusion**. All or nothing. Either all of these projects are selected or none is.
* **Mutual Exclusion**. Alternative projects. Selecting one project will exclude another project.
* **Finish to Start.** Designates a priority of projects. In other words, one project must finish before another project starts. Note: This does not guarantee that the successor project will be in the portfolio.

To create project dependencies:

1. On the Quick Launch, click Portfolio Analyses.

2. On the ribbon in the Navigate group, click Project Dependencies.

3. On the Project Dependencies page in the Dependencies group, click New and choose the desired dependency option.

4. In the Name section, type the Name for the dependency.

5. Following the options provided with each dependency type, complete the requested information including the selected projects.

6. On the ribbon in the Dependency group, click Save, and when complete, click Close.

Prioritizing Projects and Reviewing Priorities

An important next step in defining the properties for a portfolio analysis is mapping each project and its relative importance to each business driver. Doing this will result in a highest to lowest priority listing of projects. Project Server has enabled a six-point prioritization scale, for review and to allow the planner to adjust factors that drive project priorities. For further analysis, Project Server allows you to export the information from these areas to Excel. Many organizations use this Excel document to further test and adjust prioritization between drivers before coming back and making adjustments in Project Server.

The seven-point scale[AU: why are 7 choices listed? compare with text on p. 7 and adjust. Verify order of numbering] comes out of the box with Project Server. Each driver can have these rankings against other drivers:

7. Is Extremely More Important Than

6. Is Much More Important Than

5. Is More Important Than

4. Is Important As

3. Is Less Important Than

2. Is Much Less Important Than

1. Is Extremely Less Important Than

Exporting Data to Excel

If you decide that you want to share your project to driver prioritizations and the resulting levels with individuals who may not have access to Project Server, you can export this information to Excel. You will have this option during the Prioritize Projects step or the Review Priorities step.

To export data to Excel:

1. Complete the prioritization of projects and review the resulting priorities.

2. On the ribbon in the Share group, click Export to Excel.

What the Efficient Frontier Is and How to Use It

Efficient frontier analysis was originally popularized by Dr. Harry Markowitz, a professor of finance at the Rady School of Management at the University of California, San Diego. He won the Nobel Memorial Prize in Economic Sciences in 1990 for his work on the foundations of portfolio theory.

Simply stated, the efficient frontier is the combinations of investments that produce the highest return for the lowest possible risk. Figure 9.18 illustrates the concept of the efficient frontier curve.

Source: Advisicon

Each point on the curve represents a portfolio comprised of multiple projects. Those projects that show up first on the left side of the curve provide the best ROI. There is a point in the curve (just as it starts to flatten out) where there is a declining return in the value obtained with each additional increment of cost.

Project Server 2010 utilizes efficient frontier analysis tailored to PPM analysis. There are some key differences from efficient frontier’s initial use with financial applications and the way it is used in Project Server:

1. Projects address a range of strategic goals instead of having a single focus on financial ROI.

2. Programs and projects are not merely traded like financial transactions. There can be significant costs to cancel a project and move its resources over to another project.

3. Projects are complex and constrained by factors other than just cost (e.g., resources requiring specific knowledge or skills).

The value of the efficient frontier in Microsoft Project is that:

* It can be used in conjunction with other portfolio analytics to provide what-if scenario analysis and derive a set of projects that yield a desired risk/return value.
* Efficient frontier also supports the modeling of many combinations of projects in a variety of prioritizations and combinations of primary constraints. This allows the efficient frontier to predictively determine the outcome of the selection of a specific portfolio combination.
* It allows an organization to obtain the greatest possible value from any specified available budget.

Understanding and Using the Efficient Frontier

In Project Server’s Portfolio Analysis tool, there is a view with the label “The Efficient Frontier.” (See Figure 9.20.) This view is comprised of an  *x*-axis that represents total budget from zero to N and a *y*-axis of strategic value percentages based on the selection of projects that meet the business drivers. This overall line chart shows the efficient frontier with a 100 percent being all project selected. As fewer projects are selected, it showcases what percentage of strategic value is ultimately delivered. The overall goal is to get the highest percentage with the budget or capacity available to deliver the projects.[AU: clarify last part of sentence]

Figure 9.20 Efficient Frontier Example [09-20-efficientFrontierExample.tif]

Source: Advisicon

In general, the efficient frontier view is to help guide the parties using the tool in managing budgets of revenue or resources to get the highest strategic value in selecting the right projects. As a user or organization makes changes, choices, forces projects in or out, or reduces the overall budget for projects, the tool recalculates which projects make the selection and the efficient frontier line shows a maroon square where the actual value is ranked at with[AU: reaches what with?] the remaining selected projects.

Analyzing Cost Scenarios

There are two options when analyzing a portfolio: evaluate costs or evaluate resources. This section covers costs, and the next section covers resources. Since portfolio analysis is about choosing the right mix of projects, when you are evaluating costs, you are considering the budgeted cost of a proposed group of projects. These projects may or may not be selected for further planning and schedule development.

In this section, we review the efficient frontier of projects against cost and strategic alignment. Project displays different ways to view and edit the selected projects, including in a scatter chart where you can also adjust the budget and review the impact to the portfolio.

Baseline Cost Scenario

The first time you create and save your portfolio analysis, that portfolio analysis becomes the baseline scenario. This scenario is automatically maintained so you can compare the baseline with your desired scenario (if you choose to create one). The baseline cost scenario is especially useful if you review the portfolio later when projects are in progress or finished to evaluate how your budget compares with actual costs or costs to date.

For this baseline cost scenario to be useful, you must have values entered in your primary cost constraint field.

To create a baseline cost scenario:

1. After you have accepted the driver priority levels, click “Next: Analyze Cost.”

2. After the Cost Constraint Analysis page displays, on the ribbon in the Analysis tab, click Close.

Notice that the name of the portfolio analysis is listed on one row and the baseline scenario is listed directly below.

Comparing Projects with Business Drivers

The second step after setting up a portfolio analysis is prioritizing projects. When considering a Portfolio of Projects, you will designate how projects relate to each business driver in terms of importance, and this will further refine the results in the portfolio. This step is important because it will help determine the strategic value for the overall portfolio and will indicate a priority level for each individual project (if desired). The overall goal is that each project is rated against the business drivers in a 7-point[AU: see earlier query re 6 or 7 points] scale ranging from “no rating” to “extreme.”

To compare projects with business drivers:

1. Complete the Define Properties portion of the portfolio analysis.

2. Click the Next: Prioritize Projects button.

3. For each project, under each business driver, select the appropriate rate from the 6-point scale.

Using the Scatter Chart for Analysis

The scatter chart is the plot of all projects in the portfolio, including both selected and not selected projects. You can identify forced-in or forced-out projects as well. The *x*-axis for this chart is total cost, while the *y-*axis is strategic value. The information in the scatter chart is the same information in grid, just represented visually with a diagram showing the value delivered by the selected projects.[AU: same information as where?], but it is organized in a different way, which may be more visually appealing and easier to explain to some executives.

You can pause on each bubble in the scatter chart to display information about that project.

To display the scatter chart, click Scatter Chart on the ribbon in the Projects group of the Cost Constraint Analysis page.

Forcing Projects In and Out

When you force a project in or out, you are overriding the portfolio and choosing specific projects to include or exclude. The force-in or force-out dropdown list will pull up the custom lookup field you selected when you defined the portfolio analysis properties. The purpose of this feature is to override the portfolio when necessary and to evaluate the impact on costs, resource requirements, and strategic values.

To force a project in or out:

1. On the Cost Constraint Analysis page in the Projects section, locate the Force in/out column.

2. For the project you want to force in or force out, click the force in/out cell and choose the appropriate reason from the select value button that appears to the right.

Reviewing Project Priorities

Through the information you specified in the driver to project comparison, Project Server will calculate the project priority levels. The levels will total 100 percent. You should review this information to ensure that the priority matches what you expected since this information helps drive project selection in your portfolio in the next step. If necessary, you can return to the prior step to make changes that will adjust the priority levels.

To review the list of project priorities:

1. Complete the prioritizing of projects in the portfolio analysis (previous topic).

2. Click the Next: Review Priorities button.

3. Review the priority levels listed, and either accept the results or click the Previous: Prioritize Projects button to go back and make changes.

Working with Constraints in Portfolio Planning

Portfolio management is all about establishing strategic goals and a governance model and then reaching an understanding of organizational resource capacity, including financial, cost, and other means. It is important to understand what constrained resources are and how they affect resource planning and project portfolio planning.

Microsoft Project Server 2010 includes new features to help evaluate whether project proposals comply with financial and resource constraints. These new Portfolio analysis capabilities provide the ability to prioritize projects and make selection decisions based on cost and resource constraint analysis.

Cost Constraints

Following the creation of the portfolio analysis and review of the relative priority values of the proposals, the next step is to analyze the proposals based on high-level cost constraints. Cost limits can be set that help narrow the list of proposals that can reasonably be approved as projects, based on available funding.

Figure 9.21 depicts the cost constraint analyses capabilities of Project Server 2010, where multiple scenarios can be created against a baseline set of projects. Additional cost limits can be added to the analyses from a predefined list of available constraints (e.g., including enterprise custom fields). Fields can be added to the view that potentially can be used as portfolio selection scenario totals. The aggregated values for all selected projects will be shown for each selected field.

Figure 9.21 Cost Constraint Analysis Cost Constraint View [09-21-costConstriantAnalysisCostConstraintView.tif]

Source: Advisicon

Resource Constraints

Once we have analyzed the portfolio based on high-level cost constraints, the next step is to review resource requirements to determine if proposed projects in the portfolio can be executed in the time frame specified. After examining the project schedule and timephased resource requirements of a portfolio, many of the proposals cannot go forward without significant schedule or resource plan modifications. Resource constraint analysis identifies resources for projects by using role-based availability and project requirements (calculated from the resource oool availability data).

Figure 9.22 illustrates the resource constraint analysis view of Project Server 2010 that support multiple scenarios from a single portfolio baseline, including manual adjustment of project start dates, hiring of additional resources, and the ability to force projects in or out of the portfolio analysis.

Figure 9.22 Resource Constraint Analysis Resource Constraint View [09-22-resourceConstraintAnalysisResourceConstraintView.tif]

Source: Advisicon

Baseline Resource Scenario

As indicated earlier, the baseline cost scenario is created automatically, as is the baseline resource scenario. Both cost and resource scenarios are listed with the baseline portfolio scenario. It is very useful to have a baseline resource scenario for a later analysis against a change in resources, including the number available in each resource role.

If a resource plan was not created and if you have not designed a specific Resource Role field for both the portfolio and the resources in the resource plan, you will not be able to use the resource scenario.

To create a baseline resource scenario, evaluate the baseline cost scenario and then click Next: Analyze Resources. The baseline scenario will be created automatically.

If you previously closed the cost scenario, you can simply open the baseline scenario and display the resource information by choosing Analyze Resources.

Analysis Primary Cost Constraint

The option for the primary cost constraint is where you designate a specific field that Project Server will use to represent the budget for the analysis. Some organizations use calculated cost values for this purpose. However, when you are in the process of selecting projects, this level of cost detail may not exist.

In those cases, it is suggested you that create a field that can be used during initial planning of the proposal that will represent the anticipated budget (e.g., a high-level budget). You will be able to view the overall totals of this field during the display of the portfolio of projects.

The default field for this purpose is Sample Proposal Cost.

To specify the primary cost constraint:

1. On the Quick Launch, click Portfolio Analyses.

2. On the ribbon in the Analysis group, click New.

3. In the Analysis Primary Cost Constraint section, select the desired field from the list.

4. Continue with the Portfolio Analyses.

Efficient Frontier and Strategic Alignment

Project Server calculates the efficient frontier by factoring in the cost of each project against its strategic value and plots the list of projects. Given the cost value (either generated by the baseline scenario or entered by the portfolio manager), the efficient frontier of projects is identified. Essentially this means that given an amount of available money, Project Server can determine the highest strategic value that can be achieved with the mix of projects in the portfolio. The efficient frontier is automatically displayed when you display a cost constraint analysis. You can switch the display to the strategic alignment list instead.

To display the efficient frontier or strategic alignment:

1. On the Cost Constraint Analysis page, you will see the efficient frontier chart.[AU: is “notice” the way to display something?]

2. (Optional) Click the strategic alignment link to display the list of drivers.

Modifying Cost Limits

One of the benefits of cost constraint analysis is the flexibility to run various scenarios. By simply changing the total cost for the portfolio and by the end user clicking on the recalculation button, it will do a recalculation and refresh the screen with the newest changes.[AU: clarify: user changes total and tells program to recalculate?], Project Server will re-rank the highest strategic value projects and the portfolio selection view will showcase the newly prioritized projects with the new cost budget applied. This flexibility allows you to run scenarios with slightly higher budget values, slightly lower budget values, or very large changes in budget values. The resulting project list can help you determine if a large increase to the budget will generate a large increase in the strategic value of the portfolio.

To modify the cost limits:

1. On the Cost Constraint Analysis page, under Cost Limits, change the Total Cost value to a new number.

2. On the ribbon in the Portfolio Selection group, click Recalculate.

Resource Role Custom Field

If as part of your proposal planning you created a high-level set of your needs in a resource plan, you will be able to expand your portfolio analysis with an added resource analysis. Since the resource plan feature is time oriented instead of task oriented, you will also be specifying time-related options as part of your resource options. One required field when including resource information is the resource role. This field is where you designate something specific about each resource that can be used for high-level grouping.

To clarify, a portfolio analysis is done at a role level, not a resource level. For example, let’s say you have a resource named Penelope Coventry whom you planned you would need for eight days in March and another resource named Mahmoud Magdy whom you would need for three days in March. If both resources are assigned to the role of Lab, the portfolio analysis would display Lab at 11 days in March. Since the goal of a portfolio is to make high-level decisions about which projects to include and exclude, resource role information is all that is required at this level.

To designate the resource role custom field:

1. On the Quick Launch, click Portfolio Analyses.

2. On the ribbon in the Analysis group, click New.

3. In the timephased Resource Planning section, select Analyze timephased project resource requirements against organizational resource capacity. This displays some additional options.4. In the Resource role custom field section in the Role Custom Field list, select the desired field.

5. Continue with the portfolio analyses.

Resource Assignments

The resource assignments page allows you to review all of the project work assigned to each of the resources in a centralized view. This can be useful when project priorities are shuffled and decisions about who might be available when a task in one project needs to be reassigned changes. It can also identify trends in resource assignments that might show when an organization continuously overassigns or underassigns work to specific resources.

Two options are available on the resource assignments page:

1. **Gantt Chart** displays a Gantt chart for each resource that includes a grouping by project within each resource’s section.

* 2. **Timephased** **Data** displays a resource usage view for each resource that includes a grouping by project within each resource’s section. This option can be further modified with the Set Date Range option, which allows you to adjust the way assignments are filtered in or out on this page by changing the assignment date range.

To check resource assignments:

1. In the Quick Launch menu, click Resource Center.

2. In the Resource Center page, click the check box next to several resources and click Resource Assignments.

3. In the Assignments tab, click Timephased Data.

4. In the Assignments tab, click Set Date Range, modify the From and To dates and click OK.

5. In the Assignments tab, click Resource Center.

Requirements Details versus Gantt Chart View

There are two useful views to use when considering resources in the portfolio. The Gantt Chart view is similar to the Project Center view except that it illustrates a grouping of selected and unselected projects. One very useful column in this view is the “Has Resource Requirements” column, which will help you determine if a project was planned out with resources or without. How the project was planned may influence your resource decisions based on which projects will be impacted.

The other view is the Requirements Details view, which is a timephased breakdown of resource needs by the Resource Role you specified earlier and by the selected versus unselected list of projects. An advantage to this view is that time periods where there is a shortage of resources will be highlighted.

To display different resource display options, click either the Gantt Chart button or the Requirements Details button in the Projects group (on the Resource Constraint Analysis page).

General Settings

After populating the enterprise resource pool, it will be necessary to fill in other fields of information about each resource. We are collectively calling these other fields of information “general settings.” The importance of addressing all of these settings now is that they will help to drive the features that use resources, such as time sheets. Completing these general settings will also complete the process of planning how each resource will be used throughout a collection of projects. To enhance the power of resource management in Project Server, we are going to explain some optional features and their uses.

Optional features include:

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* **.**B ,
* **.**B
* **.**Changes in the list of resources are cwho

All use any of these items:

1. On the Quick Launch menu, click Resource Center.

2. Select a resource and then click Edit Resource. The Edit Resource Web Page appears.

Hiring Resources

Careful evaluation using the Requirements Details view will highlight specific projects or time periods where you will need to hire resources to meet project needs and remove any deficits. There are two options in terms of hiring resources.

1. Return to the proposal and adjust the resource plan.

2. Hire resources in the portfolio and allow Project Server to specify where the hired resources should go.

To hire resources in the portfolio:

1. On the Resource Constraint Analysis page in the Portfolio Selection group in the Scenario list, select [Current].

2. In the Metrics section under Resource Constraints, change the value in the Hire Resources field to a number greater than 0.

3. On the ribbon in the Portfolio Selection group, click Recalculate.

Viewing Deficit and Surplus Reports and Hired Resource Reports

Two reports are available in the Resource Constraint Analysis to help you make decisions about hiring resources.

1. **Deficit and Surplus.** What is displayed represents either a surplus or a deficit. Positive numbers indicate a surplus, negative numbers are a deficit.

2. **Hired Resources Report**. This report displays resource roles that were hired after changing the hired resources from 0 to another number.

The Hired Resources Report is available only after the process of hiring resources (explained in the previous topic) has been completed.

To display one of the resource reports, select the desired report from the Reports button in the Portfolio Section of the Resource Constraint Analysis page.

Creating and Running Multiple Scenarios for Portfolio Planning

In 1998, the U.S. Government General Accounting Office released “An Executive Guide: Measuring Performance and Demonstrating Results of Information Technology Investments,” which describes portfolio management as one of four strategic enterprise objectives including:

1. Enterprise strategic planning and goal accomplishment

2. Enterprise management of the portfolio of IT applications

3. IT financial and investment performance

4. Use of IT resources across the enterprise

Project Server 2010 aids both governmental organizations and private sector enterprises by providing the ability to prioritize and assess projects using multiple scenarios for portfolio planning. It does this by utilizing key portfolio modeling capabilities, including:

* Strategic value, financial value, and risk score analysis, to provide objective comparisons of portfolio scenarios
* The use of the cost constraint analysis view to help model varying budget constraints that employ an optimization algorithm to recommend the project portfolio that best aligns to the business strategy of the enterprise
* The use of efficient frontier, strategic alignment, and compare scenario views to provide key information to help executives identify trade-offs and evaluate and refine portfolio selection

Creating and running multiple scenarios for planning portfolios of projects provides the opportunity for PMOs and key decision makers throughout the enterprise to have rich (yet objective) conversations regarding capital investment decisions and resource planning.

Creating Multiple Scenarios

One of the important new features of Project Server 2010 is the ability to analyze data from projects and resources and build multiple portfolio scenarios. The process of providing an optimized and balanced portfolio is facilitated through the use of the Compare Portfolio Selection Scenarios view illustrated in Figure 9.23.

Figure 9.23 Compare Portfolio Selection Scenarios [09-23-comparePortfolioSelectionScenarios.tif]

Source: Advisicon

It is important to understand that Project Server 2010 does not automatically specify an optimal portfolio solution set. Instead, it provides the analyst with the opportunity to adjust portfolio settings to identify specific scenarios until an acceptable scenario is determined.

Scenarios can be run and compared to other scenarios as well as to the baseline portfolio calculation. Force-in and force out options are available in the Gantt Chart view of the Resource Analysis screen. Other incremental resources options can be found on the Options tab of the Resource Analysis view.

****Portfolio Baseline****

The portfolio baseline is the starting point where typically all of the revenue or resources are available and all projects are included. This includes a working starting point for making changes or returning to a starting point.

In doing what-if planning, you can make changes to project, start periods, and budget available, and see what the overall impact is. At any point, you can save that view and return to a standard baseline to continue doing comparison or prioritization planning.

Portfolio Scenarios

With Project Server you can create different scenarios for reviewing different business drivers and optimizing and selecting project. Each scenario typically will include a set prioritization ranking against a set of business drivers.

What is useful about having scenarios is that different parts of an organization can create their own optimized portfolio selection for proposals or projects. These different scenarios can then be compared against each other. Organizations with different funding or fiscal budgets to plan with can apply different scenarios depending on their budgets.

In general, you can do a tremendous amount of what-if planning, fine-tuning business drivers and prioritization of selection criteria quickly and easily, and save them for review or for comparison. This feature is one that many planning organizations use to save and review planning periods against other planning periods (like quarterly selection), where [AU: clarify meaning] each portfolio selection period can evaluate if projects are no longer relevant and that project needs to be cancelled or delayed as the organization uses this feature to queue up and prioritize new projects that may have a higher relevance or are needed to respond to market demands.

Saving New Scenarios

After you experiment with changing various options in your portfolio view, you may want to keep the results for future discussions or for comparison against the baseline. Each recalculation that you perform can be saved as a scenario within the same portfolio.

This ability allows you to test different options and save those options for later review. Portfolio decision teams can come back to where they left off after validating or reviewing options for changes or additions to the portfolio being reviewed.

To save a scenario:

1. Complete the changes and be sure that the portfolio has been recalculated.

2. In the ribbon in the Portfolio Selection group, click the Save As button.

3. Enter the desired scenario name and click OK. The scenario will be available in the Scenario dropdown list in the Portfolio Selection group of the ribbon.

Comparing Scenarios

After you have at least one scenario saved in addition to the baseline, you can perform a comparison. A comparison allows you to view the similarities and differences between each scenario. The main advantage to the Compare option in Project Server is that it compares all the scenarios at once, allowing strategic reviewers to review the variance of one scenario versus another. This compound view will showcase which projects tend to be higher across all scenarios and any resource or cost differences that can be expected in gaining the most value from selecting projects in the Portfolio Analysis process.

A very useful portion of the comparison is that it creates a list of projects and displays which ones are in which scenario. You can use this information to identify trends. For example, if one project is not selected for any of the scenarios, perhaps it does not belong in the portfolio.

To simplify the comparison window, save only a limited number of scenarios.

To perform a comparison:

1. In the ribbon in the Portfolio Selection group, click the Compare button.

2. To exit a comparison, click the Close button in the upper right corner.

Applying Strategic Analysis for Corporate to Departmental Needs

As discussed earlier, corporate strategy defines the goals and priorities of the business. Business strategy defines how organizations compete to gain market share and maintain a competitive advantage. Effective strategic planning results in making informed decisions that enable an organization to achieve its goals. Key metrics measure the performance of a company’s goal set and help us understand how much progress has been made toward achieving those goals. Defining the corporate portfolio and striving to improve worker performance enables corporate success.

Project Server 2010 provides a level of autonomy while maintaining enterprise standardization and control. Using the Department field, Enterprise Project Types, Resources, and Custom fields can be associated with specific departments. Doing this eliminates unnecessary clutter and allows departments to focus on their data while supporting the needs of an enterprise rollup for executive reporting and decision making.

Think of the “Department” field as a grouping mechanism within Project Server 2010. If a company has a Sales and Marketing Department that has three separate functions (e.g., a Sales Order Desk, a Field Sales team, and a Marketing organization), even though these groups are all within a single “department,” they will likely have separate work processes, business requirements, and reporting and analysis needs. The primary purpose of the Department field is to be a filter for:

* **Projects,** which can be assigned to none, one, or multiple departments. Projects associated with different departments will show only their associated custom fields.
* **Resources and Resource Custom Fields.** Different groups can have their own custom fields. (Note: Custom fields that are not assigned to a department are available for global use.)
* **Enterprise Project Types.** Different groups can see different user interfaces based the department field, the pivot field new in Project 2010, as it[AU: the dept. field? clarify] can be used to filter Enterprise Project Templates and Custom Fields.

The value of using the Department field is that it:

* Helps manage the custom field list and helps define (at a resource, task, or project level) which fields are required or not required.
* Can be used for Online Analytical Processing (OLAP) database data filtering from any of the 13 OLAP cubes created from Project Server’s reporting database or a hypercube built by an end user against Project Server data.
* Allows for enterprise-wide consistency and support different processes, forms, and fields for different areas and groups.
* Supports the assignment of users to none, one, or multiple departments. Note that Departments are not tied directly to the resource breakdown structure.

Portfolio drivers and driver prioritization can be associated with departments. Driver prioritization can be associated with specific departments, or the prioritization settings can be open for use with any analysis.

Using Custom Fields in Strategic Analysis

Project stakeholders and management often have difficulty identifying relevant project information across a portfolio of projects. Project Server 2010 offers six types of custom enterprise fields at the task, resource, and project level (including an unlimited number of Cost, Date, Duration, Flag, Number, and Text fields).

Enterprise custom fields can use lookup tables, including hierarchical selection(for text)[AU: is a noun missing?] with code-masks. Formulas and graphical indicators can also be used with enterprise custom fields. Microsoft Project Server 2010 calculates the values of formulas for project, task, and resource custom fields when a project is published.

An example of using a custom calculated field to derive a common project “value” score is shown in Figure 9.24.

Figure 9.24 Formula to Create Common Value [09-24-formulaToCreateCommonValue.eps]

Source: Advisicon

The value of using a formula to derive a common currency for each project is that the resulting number indicates how much net new cash you can expect from the project (i.e. the project’s value to the bottom line).

Departmental Association of Business Drivers

As part of a portfolio analysis, you map a collection of projects against a collection of business drivers. To simplify the process of selecting business drivers, each driver can be associated with a department. Then, as an individual who is a member of that department logs in, the list of drivers will be filtered to display only those relevant to his or her department. This will simplify the PWA page and provide a tailored list for each department.

To associate a driver with one or more departments:

1. From the Quick Launch, click Driver Library.

2. Click the name of the driver you want to associate with a department.

3. On the Edit Business Driver: name page, in the Department section, click the Select Value button and click the department(s) that you want this driver to be associated with.

4. On the ribbon, click Save & Close.

Creating New Portfolio Selection Views

When you are choosing projects for your portfolio analysis, you have the ability to create a new view that will list different fields of information for each project. This is extremely important since it will help you identify which projects should be considered in the analysis by your executive team. If you do not create a new view, you will only have basic information available about each project in the summary view:[AU: is next list of the basic information? clarify in text]

* Project Name
* Project Departments
* EPT Name
* Workflow Stage Name

The Portfolio Selection View is available only from the Prioritize these projects section when you create a new portfolio analysis.

To create a new portfolio analysis project selection view:

1. On the Quick Launch, click Server Settings.

2. In Look and Feel, click Manage Views.

3. On the Manage Views page, click New View.

4. On the New View page in the Name and Type section in the View Type list, click Project Analysis Project Selection.

5. In the Name box, enter a name for the new view.

6. In the Table and Fields section, click the desired table(s) and field(s) and click Add. Use CTRL to select more than one field at a time.

7. In the Format View section, click a Sort by and Order option (optional).

8. In the Filter section, click Filter to create a new filter, select the filter values, and click OK (optional).

9. In the Security Categories section, click the desired category (or categories) and click Add.

10. Click Save to save your new view.

Committing New Work Portfolios and Measuring for ROI

An old management adage states “You can't manage what you don't measure.” The small percentage of people who do set goals, however, do so incorrectly. If you really want to bring about change, you must measure it. Another way of stating this is “Whatever you measure, you will focus on, and what you focus on you will change.”

Portfolio analysis involves creating analyses and prioritizing projects, analyzing the portfolio based on high-level cost constraints, and assessing timephased resource requirements. When an analysis is complete and agreement on the proposed projects has been reached, the next step is to commit the portfolio selection and communicate it to the stakeholders.

In the last section, you learned how to create a driver prioritization (a collection of drivers with priority levels tailored based on either calculated or manual settings). The driver prioritization is selected when you first define the portfolio analysis. By reading through this section, you will understand how to create a portfolio analysis and explore various properties you can set and how they impact the portfolio, and you will map selected projects to business drivers.

Two main constraint scenarios are generated with a portfolio analysis; cost and resource constraints will be explored as options to assist with selecting the optimum mix of projects. You will learn how to generate and compare various scenarios and make additional decisions for the purpose of forecasting, such as hiring resources and increasing the budget. This section wraps up with selecting the most appropriate scenario to commit, which will drive projects to the next step in the workflow.

Managing Scenarios

This final section is about fine-tuning the scenarios and finally choosing the scenario that will be committed. Several options will be explored regarding this fine-tuning, including overriding the selection of projects and designating a preference to include or exclude specific projects. As part of the evaluation process, it is important to create one or several scenarios and compare them against each other to ensure that the most appropriate scenario is selected.

After a full evaluation of scenarios is complete, you will learn how to commit the Portfolio of Projects for future detailed planning and to advance the projects through additional phases and stages in the workflow.

****Commit a Portfolio Analysis****

The Commit button in the Portfolio Analysis tool signals to Project Server 2010 that a portfolio has been committed and Project Server can now move to the next phase in the project lifecycle. Once the Commit button is selected, a warning dialog box will displayed indicating that the portfolio selection is about to be committed. (See Figure 9.25.)

Figure 9.25 Commit Portfolio Selection Dialog Box [09-25-commitPortfolioSelectionDialogBox.tif]

Source: Advisicon

The only other indication that the portfolio selection has occurred is that, after pressing the OK button illustrated in Figure 9.25, there will be a message that “the Portfolio Selection Scenario has been committed,”

The Commit button triggers the population of a total of six project-level fields:

**1. Committed Planned End Date.** The finish date of the project as committed to in a Portfolio Selection Scenario during resource constraint analysis.

2. **Committed Planned Start Date.** The start date of the project as committed to in a Portfolio Selection Scenario during resource constraint analysis.

**3. Committed Portfolio Selection Decision (Cost).** The result of a cost constraint analysis on a project. You can choose Selected, Unselected, Forced-In/Out, or Custom Forced-In/Out.

**4. Committed Portfolio Selection Decision (Schedule).** The result of a resource constraint analysis on a project. You can choose Selected, Unselected, Forced-In/Out, or Custom Forced-In/Out.

**5. Committed Portfolio Selection Decision Date (Cost).**The commitment date of a Portfolio Selection Scenario as determined during cost constraint analysis.

**6. Committed Portfolio Selection Decision Date (Schedule).**The commitment date of a Portfolio Selection Scenario as determined during resource constraint analysis.

These fields can also be added to the Portfolio Analysis and Portfolio Analysis Project Selection views.

It is important to understand that there are two independent Commit Selection Portfolio decisions. The next enterprise fields are updated when the portfolio selection is committed independently for each of the Analyze Cost and Analyze Resources selections:

1. **Analyze Cost view**. Where the Committed Portfolio Selection Decision (Cost) and the Committed Portfolio Selection Decision Date (Cost) fields are populated

2. **Analyze Resources view.** Where the Committed Portfolio Selection Decision (Schedule) and the Committed Portfolio Selection Decision Date (Schedule) fields are populated

Internal to Project Server 2010, the next conditions also occur:

* If there is a workflow attached to the various projects, the Commit button will fire the OnProjectCommit event to allow a workflow to be triggered.
* The Commit button will also write to the Project Server ReportingDB table called MSP\_EPMProjectCommit. This table contains all projects within the Portfolio Analysis and their relative decisions (Selected, NotSelected, Forced in/out, etc.).

Once committed, the projects in the portfolio analysis now move to the Select phase of the Project portfolio lifecycle, as illustrated in Figure 9.26. In this generic PPM model, these selected projects are now authorized for detailed planning and execution in the Plan and Manage phases of the PPM lifecycle.

Figure 9.26 Project Portfolio Management Lifecycle [09-26-projectManagementLifecycle-selected.tif]

Measuring for ROI

Monitoring and reviewing the performance of a portfolio is highly recommended. It can be performed by the use of dashboards and other reporting formats supported by the Project Server 2010 solution.

Before we start configuring the tool, we must have a good understanding of what we plan to measure. As we indicated earlier in this chapter, performance measurement enables an organization to assess, monitor, and course-correct performance and align all employees with key business objectives. We need to be aware of the impact that our selection of metrics can have on performance in an organization and be mindful of the impact on motivation and behavior.

Let’s first examine some popular financial measures, starting with some of the more common investment analysis techniques.

Once you have created an optimized mix of projects and fully evaluated this mix against costs and resources, you are ready to commit the portfolio and move the projects to the next collection of stages and phases for detailed planning and executing of projects. The process of committing takes field information from a saved scenario and applies it to views and fields in other project detail pages. Many of the fields are locked as baseline fields so you have a baseline value for later comparison against actual results.

Return on Investment Analysis

According to Investopedia, ROI can be defined as “a performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio.” The following formula illustrates the ROI ratio.

ROI = (Gain from Investment - Cost of Investment) ÷ Cost of Investment

Furthermore, the definition states that “if an investment does not have a positive ROI, or if there are other opportunities with a higher ROI, then the investment should be not be undertaken.”

**When comparing one potential project with another, the term “ROI” applies to cash flow analysis. In this case “ROI” simply means the “return” (incremental gain) from an action, divided by the cost of that action, over time. Three ways to maximize ROI are represented in Figure 9.27: reduce costs, increase benefits, and accelerate the returns. An ideal opportunities for which will** [AU: which of the 3 ways do you mean, or all? ] **produce deliverables in the Project Portfolio ahead of schedule.**

Figure 9.27 Cash Flow Investment Curve [09-28-cashFlowInvestmentCurve.eps]

Source: Advisicon

**Several factors can complicate ROI calculation or interpretation. For that reason, many organizations do not attempt to present ROI as a quantitative result. Instead, they incorporate financial metrics into their portfolios such as present value (PV), discounted cash flow, internal rate of return, and Payback Period.**

As we have seen throughout this chapter, the Project Server 2010 solution provides the basis for tracking initiatives, including their proposed benefits. Using Enterprise Custom fields, it is easy to calculate the ROI using the investment formula. What is not so obvious is how to calculate the “gain” or “benefit” of an investment.

Cost of Ownership

Sometimes called total cost of ownership, cost of ownership is the total cost of acquiring, installing, configuring, developing, and training over an extended period of time. The cost of ownership can be the cost side of a cost/benefit analysis. However, cost analysis does not take into consideration the benefits of the initiative.

Cost/Benefit Analysis

**This analysis is used for planning, decision support, program evaluation, proposal evaluation, and other purposes in a variety of ways. The term itself has no precise definition other than that both positive and negative impacts are going to be analyzed and weighed against each other. The upside to this approach is that both the investment and the payback are analyzed to ensure that a net value can be derived for any given investment.**

Present Value Analysis

Using PV and future cash flows of an investment, an interest rate can be calculated by using the PV calculation. The PV formula is useful for predicting future expected future cash flows for a given level of risk. The PV formula is shown in the following formula, where PV is the present value, FV is the future value, r is the discount rate (measure of risk), and n is the number of periods.

PV = FV × 1 ÷ (1 + r)n

Balanced Scorecard

Measuring for financial ROI is most certainly top of mind for senior management[AU: of whose mind?], especially during the challenging economic period at the time this book was published. Financial analysis is, however, only one aspect of scoring or ranking projects for viability. [AU: of what?], Other business drivers, such as future expansion, optimizing efficiency, etc., should also be taken into consideration when doing portfolio analysis.

Drs. Robert Kaplan and David Norton introduced the performance measurement framework in the mid-1990s. It added nonfinancial performance strategic indicators to traditional financial metrics to give managers and executives a more “balanced scorecard” of organizational performance.

Figure 9.28 illustrates a view that the organization should consider from four perspectives to develop performance metrics, collect data, and analyze it relative to each of the next perspectives:

* **Financial.** The traditional aspect of financial data
* **Customer.** The importance of customer focus and satisfaction
* **Learning and Growth.** Employee training and corporate culture
* **Internal Business Processes.** Internal business processes or metrics

Figure 9.28 Using the Balanced Scorecard as a Strategic Management System [09-30-balancedScorecardStrategicManagementSystem.eps]

Source: Advisicon

The balanced scorecard is not a piece of software. Unfortunately, many people believe that implementing software amounts to implementing a balanced scorecard. Once a scorecard has been designed and implemented for the organization, however, Project Server 2010 BI and reporting capabilities can provide a powerful set of key performance indicators and dashboards with visual representation of the necessary performance indicators to enable a strategic management and planning system.

Figure 9.29 illustrates an example of a Project Server 2010 dashboard.

Figure 9.29 Project Server 2010 Dashboard [09-31-projectServer2010Dashboard.tif]

Source: Advisicon

Project Server Optimizing Governance for PMOs

First come, first-serve project management is an ineffective way for organizations to analyze, prioritize, select, and assess a portfolio of current and future projects. Most organizations continue to experience significant challenges.

The Gartner Group provides many different statistics on the percentages of projects canceled due to inadequate risk management as well as the percentage of projects that actually will succeed. While we cannot provide the actual statistics here, and the studies from change year to year, we recommend that you check this source of reference statistics on the success and failure percentages of projects.

Investments in a PMO as a work management discipline can provide common planning and reporting processes and bring structure and support to evaluating, justifying, defining, planning, tracking, and executing projects.

Enable the Strategic Role of a PMO

A number of key steps need to be undertaken to properly enable the strategic role of a PMO:

* Implement a PPM office, including appropriate governance, methods, roles and responsibilities, and oversight of the program and project management.
* Institutionalize disciplines and processes to help build, refine, and prioritize programs and project portfolios.
* Align organizational strategies and plans, business cases for investment proposals and performance, and success metrics for enterprise programs and initiatives.

There are three basic organizational styles for a PMO. Which one you select will determine the role of the office within the project development to management lifecycle:

1. **Project repository.** The project office simply serves as a source of information on project methodology and standards. This method is often used as a first step to consolidating or sharing management practices. However, it falls short of direct project oversight within the business. Project managers continue to report to their respective business areas.

2. **Project coach model.** This model assumes a willingness to share some project management practices across business functions and uses the PMO to coordinate the communication with the various stakeholders. The PMO in this model is a permanent structure with staff and has PM responsibility for all projects. A dotted-line reporting relationship exists between business-staffed project managers and the PMO for performance and reporting.

3. **Enterprise Project Management Office (EPMO).** This is the most consolidated organizational model. The EPMO will have direct management and oversight over larger enterprise projects within the organization.

****PMO Governance****

The PMO is assigned the key roles of assessing and validating project estimates as well as staffing the project manager function. Five key roles must be incorporated into the design of a PMO, although implementations vary based on business structure, the degree of dysfunction, and the sense of urgency across business divisions that a need exists for a shared solution to project control.

1. **Standard methodology.** A consistent set of tools and processes for projects is necessary for clear communication.

2. **Resource evaluation.** The initial assessment of resources (i.e., people, money, and time) is critical to organizational capacity planning.

3. **Project planning.** The project plan is a cooperative effort coordinated by the PMO, which serves as a PM competency center and as an archive for previous project plans.

4. **Project management.** Consistent practices, frequent reviews, and a governance responsibility are the baseline roles for management within the PMO.

5. **Project review and analysis.** Enterprises need to know if project deliverables are achieved on time, on budget, and deliver the required functionality.

****Collaboration Infrastructure****

Although governance is a critical component of the PMO, a second major enabler is the provision of tools and best practices for an organization to support collaboration across the enterprise. Most organizations are running their businesses today on e-mail, spreadsheets, and PowerPoint. This is not only costly, complex, and does not scale, but it is becoming increasingly apparent that it is an ineffective way to manage the increasing work and resource demands, given today’s ever-changing business environments and requirements.

Project Server 2010 enables a PMO to step into a more strategic role and begin to help lead organizational initiatives to increase the likelihood of success for the projects it is responsible for staffing, managing, tracking, reporting on, and evaluating whether they have hit their goals.

Project Server 2010 provides the key collaborative infrastructure elements to support the information demands of the divisional or enterprise PMO:

* Demand management
* Portfolio planning and scenario analysis
* Capacity planning
* Scheduling planning and tracking
* Cost management
* Resource planning and management
* Risk and issue management
* Team collaboration
* Management reporting

It is increasingly critical to organizations that project data is accessible and reportable. These requirements typically are key for effective delivery to the strategic objectives, which makes Project 2010 much more inviting to enterprise decision makers.

****PMO Competencies****

Certain critical competencies also are required for the successful implementation of a PMO. These competencies include technology skills, domain expertise, business process aptitude, communication skills, and other related “soft” skills.

To function at a highly competent level in the modern PMO environment, there is significant need for competency development beyond the baseline PM knowledge areas. Much of this can be gained through a PMI certification (such as the Project Management Professional or PMI Scheduling Professional or PMI Risk Management Professional competencies) and technical competencies. It is also imperative that practitioners continue to develop their competencies on an ongoing basis.

Important Concepts Covered in This Chapter

In this chapter, we reviewed the portfolio analysis tool within Project Server. The tool addresses cost constraints as well as resource constraints and allows an organization to leverage business drivers and the ranking and rating system to help select upcoming new work from a portfolio of choices.

We also reviewed the phases and stages that can be enabled to help leverage the native workflows in Project Server as well as the Department field, which can help a company to pivot and have multiple views, fields, and portfolio selection criteria in a single instance of Project Server. This happens, all without having to expose different objects, views, portfolio criteria, business drivers, or Project detail pages to any other group not associated to that department. Essentially sheltering all the customizations of one group from any other group using Project Server.[AU: reword to full sentence]

As organizations mature in a PM culture, simply managing project tasks and schedules is not enough. More vigorous management of project initiatives is needed.

This vigorous management takes the form of developing a stable program management practice where related projects are grouped together to reap benefits that can be realized only from this higher level of management. The next step in PM maturity is portfolio management, where strategic business goals and objectives are introduced and all project work is aligned in support of these measures.

Project Server 2010 provides a scalable tool to accommodate this organizational growth by providing organizations with a consolidated platform. This platform enables organizations to manage all aspects of PPM from tracking work at the project task level to performing project selection analysis through data-driven criteria application, while balancing internal and external constraints.

In this section, you completed a portfolio analysis. To take advantage of the different properties when defining a portfolio, you learned that you need to designate a primary cost constraint field and a resource role and that projects need to have a resource plan. The importance of force-in and force-out custom lookup fields was illustrated by how they allow you to designate a reason for selecting or unselecting projects in the portfolio.

Several topics illustrated how Project Server generates the priority levels using previously defined driver prioritizations and using the seven-point[AU: verify number of items in scale] comparison scale against drivers. Once the portfolio was generated, you learned that you can modify the total available budget in a cost constraint analysis and modify the hired resources in a resource constraint analysis. Multiple scenarios in the portfolio can be saved and compared against before you choose the final scenario to commit and to advance the group of the projects to the next step in the workflow.

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