



# Cost Management Software

**BUYERS GUIDE**



# INTRODUCTION

This guide is intended to help you organize your business and functional requirements so you have fact-based information to evaluate your options for cost management software tools. This guide focuses on the cost management software tool that complements or integrates with other project control software tools such as schedule and risk to ensure technical, schedule, cost, and profit objectives are met. The content is organized into three main sections:

- 1 Defining Business Requirements
- 2 Documenting Requirements
- 3 Implementation



# 01

## Defining Business Requirements

**What is your objective? What problems are you trying to solve? How will a new cost management software tool support or improve your project control process?**

Taking the time to articulate your issues, business needs, and objectives provides a documented basis to determine which software tool provides the best return on investment.

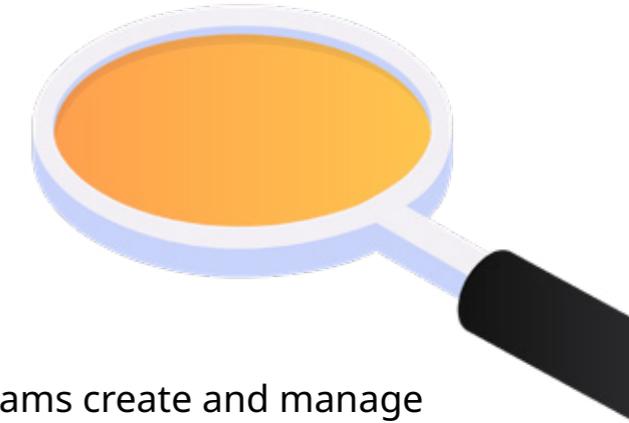
Create a simple framework to capture your top cost management issues. Define specific actions to eliminate or mitigate the root cause of the issue. Where possible, identify a means to measure the business impact of eliminating the issue.

This can help you create the functional requirements list for the software tool. The following examples illustrate this thought process.



## Issue

Project managers use ad-hoc Excel spreadsheets to manage budget and actual costs for their project. They do not routinely create cost estimates for the remaining work. This limits the ability to create credible cost at completion forecasts for corporate financial and return on investment (ROI) analysis.



## Root Cause

Lack consistency in how project teams create and manage their budget data as well as track actual costs expended.

Project teams lack direction on how to produce estimate to complete data.

## Requirement

Establish a single cost management tool with a standard base configuration as a central database for all project teams to maintain budget, actual cost, estimate to complete, and estimate at completion data.

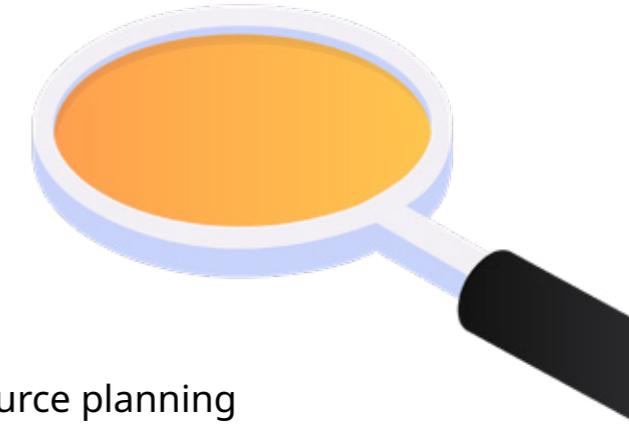
Must have an easy to use Excel-like grid view to enter and manage the data so project teams can adapt quickly to the tool. The tool should provide a collaborative working environment where all team members can manage and view the data as well as track changes. Update process and procedures so project teams have the guidance they need to produce and maintain quality cost data that can be summarized for use at the business unit and corporate level.

## Expected Outcome

A significant increase in the consistency and quality of project time phased cost data used for financial reporting. Corporate has useful source project data to do financial analysis for selected groups of projects, across product lines, and across business units. With a central source for the time phased cost data, this eliminates the need to collect and transform data from over 50 projects. Anticipate a reduction of at least 85% in the time required to produce financial reports.

## Issue

Unable to gather the necessary quantifiable data to adequately determine resource availability and resource requirements to support existing projects as well as pending or likely contract awards. As a result, the business units are either hiring resources they don't need or are lacking key resources that requires temporary expensive outside resources which impacts the company's profit margins.



## Root Cause

Lack credible source data for resource planning and management. Business unit managers produce inconsistent ad-hoc Excel spreadsheets that lack substantiation.

## Requirement

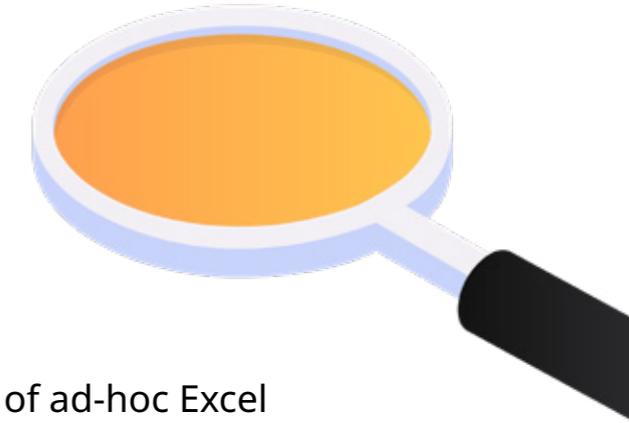
Establish a central cost database that enables the ability to consistently produce time phased resource requirement data views or reports for in process or planned project tasks across business units as well as company-wide. Project teams use the central cost database to create and maintain the time phased budget, actual cost, and estimate to complete data for the work tasks and related resource assignments. Project teams are able to leverage resource profiles and learning curves to increase the accuracy of time phased resource requirements.

## Expected Outcome

Business unit and corporate management are able to quickly produce data driven resource plans using a standard report template on demand. As a result, they can routinely assess the likely resource demand for existing projects and what is in the pipeline to proactively manage resource requirements. Significantly increases resource planning predictability and accountability as well as employee retention. Anticipate a 20 to 30% reduction in employee attrition and related hiring costs. Anticipate a 60% reduction in temporary hires for surge support following contract awards for new projects.

## Issue

Unable to proactively manage projects because of limited visibility into project status. Project manager progress assessments are often inconsistent and incomplete. This limits management's ability to make timely decisions. Costly issues often surface without warning. The financial impacts are often significant and impact the company's profit margins.



## Root Cause

Project teams are using a mixture of ad-hoc Excel spreadsheet or legacy tools to manage the time phased cost data that are not integrated with the schedule tool. Actual costs are tracked separately in the accounting system. Project teams lack direction on how to define objective project performance measures and use them to proactively manage the work effort. Project managers lack the necessary tools to manage the time phased cost data and produce performance metrics.

## Requirement

Establish a single cost management tool as a central database to maintain the time phased cost data. The tool must support industry standard methods for measuring work performance and calculate standard work performance metrics. The schedule and cost tools must be integrated to create schedule driven budget and estimate to complete data with schedule status as the basis for claiming performance. Update process and procedures so project teams have the guidance they need to produce quality schedule and cost data for performance measurement and analysis.

## Expected Outcome

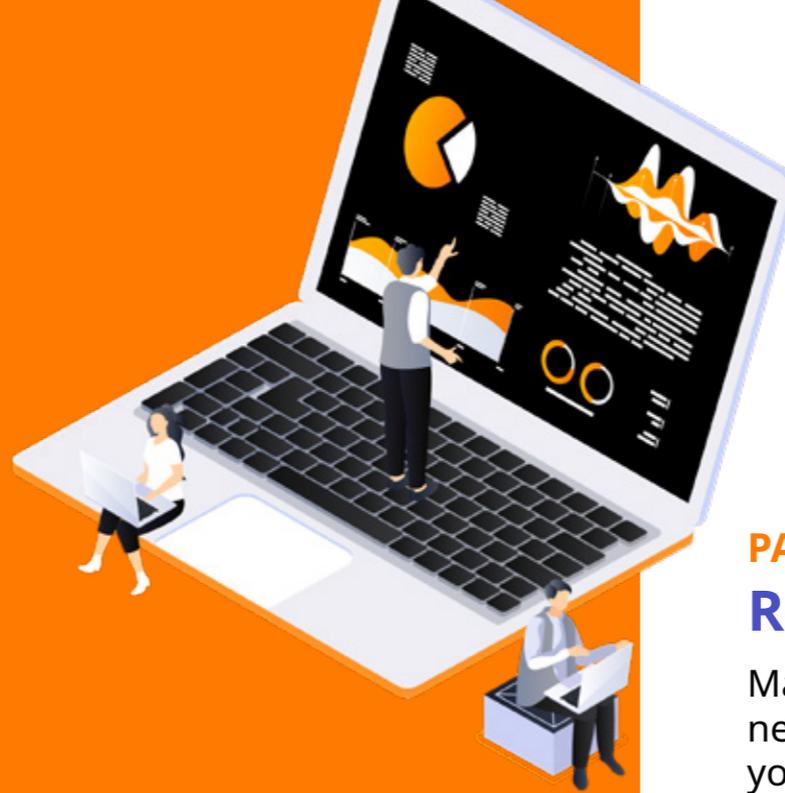
Incrementally improve management visibility into the current status of projects over the next 18 months. Enhanced process establishes the means to identify potential issues early so appropriate actions can be implemented quickly to mitigate or otherwise limit cost impacts to the projects. Reduce costly project surprises that adversely impact the company's profit margins by 70% within that 18-month time frame.

# 02

## Documenting Requirements

Documenting your requirements is useful for establishing an objective means to determine which cost management software tool would work best for your environment. An example framework for gathering your requirements follows.

- 1 Required Functionality
- 2 User Community
- 3 Deployment Environment
- 4 Process Improvement Support
- 5 About the Vendor and Tool



### PART I

## Required Functionality

Make a list of the functionality you need. Organize the items to align with your project control process or other grouping that aligns with your business requirements. This can help you during the software implementation process to verify the tool meets your needs.

You may want to rank the line items to identify which ones are more important to you. This can be as simple as noting whether a line item is required or a nice to have – a bonus when the functionality is included. Or, establish a weighted methodology. Add a column for each software tool you are evaluating so you can easily do fact-based comparisons. Add a notes column to include details about tool functionality you can reference during the evaluation process. For example, perhaps one tool partially supports a requirement. Make a note of any limitations. Or, perhaps another tool includes functionality you didn't think about. Make a note of other capabilities that can help address other business needs or make things easier for a user.

An example requirements list organized by process follows.

## CONFIGURATION, SETTING UP CORE DATA

FUNCTIONALITY	RATING	TOOL A	TOOL B
Can establish a standard accounting calendar template	Required	✓	✓
Can define project specific reporting calendars as well as resource calendars	Required	✓	
Can establish a standard base project configuration new projects can use as a template to enable cross-project reporting and analysis	Required	✓	
Can create an unlimited number of user defined code lists and structures, add a variety of different types of user defined fields (text, codes, flags, Boolean, dates) to support project unique data views and reporting requirements	Required	✓	
Can establish a standard rate template and rate calculations with ability to create custom expressions	Required	✓	
Can build complex rate structures with ability to apply escalation factors	Required	✓	
Can create an unlimited number of rate structures for different cost types (budget, actual costs, estimates)	Required	✓	
Can import current rates from the accounting system	Required	✓	
Can establish a standard hierarchical resource structure template with element of cost categories (labor, material, travel, other direct costs, subcontract)	Required	✓	
Can easily import data from other systems using Excel	Required	✓	

## PLANNING

FUNCTIONALITY	RATING	TOOL A	TOOL B
Build WBS structure	Required		
Import WBS from Excel	Required		
Import WBS from scheduling system (identify specific tools such as Microsoft Project or Oracle Primavera P6)	Required		
Can produce a WBS dictionary or equivalent	Required		
Can parse statement of work (SOW) document paragraphs into a code structure to map to WBS elements	Bonus		



## BUDGETING

FUNCTIONALITY	RATING	TOOL A	TOOL B
Easy to use grid view similar to Excel to enter data with built-in hierarchical structure to view the data at summary, intermediate, and detail levels	Bonus		
Ability to change the order of the columns, hide or show columns, sort and filter the data in the grid view similar to Excel	Required		
Project team members can collaborate and share the cost data with optional user locks	Bonus		
Import proposal cost estimate data	Required		
Can enter budgets in hours, full time equivalents (FTEs), or cost and select the rate structure to apply direct and indirect rates	Bonus		
Can create custom budget distribution spreads and learning curves	Required		
Import resource loaded activity data from scheduling system to produce the time phased budget data	Required		
Ability to enter basis of estimate, statement of work, and other text documentation with the budget data at user determined level of detail	Required		
Can create hierarchical bills of material (BOM)	Required		
Supports standard performance measurement techniques: 0/100, 100/0, 50/50, User Defined, Percent Complete, Milestones, Level of Effort, and Apportioned Effort	Required		
Supports rolling wave planning techniques	Required		
Built-in budget log to track management reserve and time phased budget changes	Required		
Can create a library of historical project performance data for future proposals and basis of estimates	Required		

## MEASURING PERFORMANCE

FUNCTIONALITY	RATING	TOOL A	TOOL B
Import schedule activity status as the basis for the work package performance claimed in the cost tool	Required		
Import actual costs from accounting system on a weekly and monthly basis	Required		

## ANALYZING PERFORMANCE

FUNCTIONALITY	RATING	TOOL A	TOOL B
Built-in cost data validation analysis view and report to identify common data anomalies	Required		
Import resource loaded activity data from scheduling system to produce time phased estimate to complete data	Required		
Ability to do what-if analysis and create different estimate to complete scenarios	Required		
Ability to enter or calculate an unlimited range of estimates at completion	Required		
Calculates standard work performance and cost metrics	Required		



## REPORTING

FUNCTIONALITY	RATING	TOOL A	TOOL B
Built-in ad-hoc and pivot table reporting	Required		
Easy to use built-in report wizard	Required		
Ability to establish report templates	Required		
Built-in standard work performance reports	Required		
Built-in element of cost reports including time phased resource planning reports, travel expense tracking reports	Required		
Rate reports by element of cost categories	Required		
Ability to combine time phased cost data and documentation in one report	Bonus		
Single project, multi-project, or enterprise level portfolio analysis reporting	Required		

## WORKFLOW, MANAGING CHANGES

FUNCTIONALITY	RATING	TOOL A	TOOL B
Ability to define user roles	Required		
Ability to define routing rules and workflow queue to manage the development and maintenance of project data	Required		
Document versioning, red lining	Required		
Detailed transaction audit trail to track who made what changes when	Required		
Ability to manage baseline change requests and track them to closure	Required		
Ability to manage work authorization forms	Required		
Approved baseline change requests automatically update work authorization forms and budget log	Required		



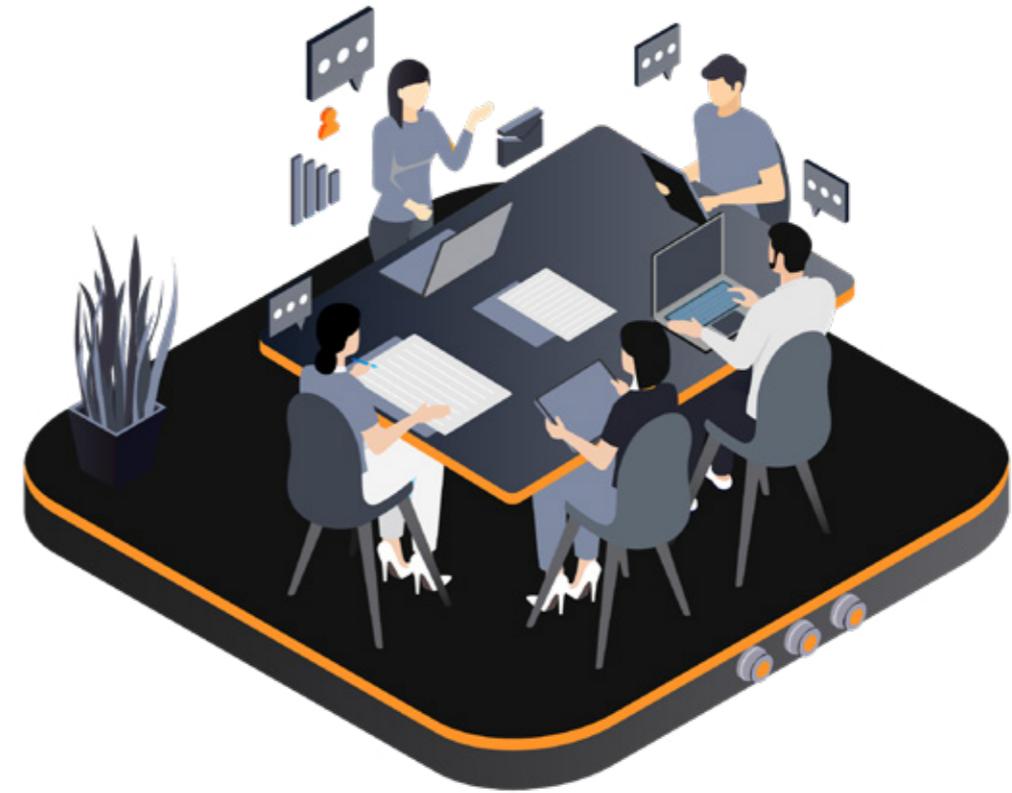
## PART II

# User Community

### Identify the functional roles of the people who will be using the cost management software.

For example, functional roles could include project managers, schedulers, cost analysts, and potentially technical resources. These people will need some level of training on how to use the new tool effectively. Functional or business managers may want a say in the decision-making process or at least be informed about introducing a new tool into the project control process.

Use this information as the basis for developing a role-based training plan to encourage user acceptance of the new tool. How many people will need to be trained? How do you plan to conduct the training? What is the format, timing, and duration of the training? What is the scope of training? Do you want to incorporate process and



procedure training along with the tool training? Engage the functional users so they can learn for themselves how to use the software to accomplish their project control tasks. You may need different types of training sessions to target specific functional roles.

### Determine the likely number of software users.

The software vendor will need this information for pricing. Depending on the vendor's pricing model, be prepared to identify the likely number of concurrent users – the total number of users using the software at one time.



## PART III

# Deployment Environment

Identify the requirements for how you plan to deploy the cost management software. You may need help from your CIO or IT resources to document specific computing environment, technical, or security requirements the vendor must comply with. An example of a basic list follows.

DEPLOYMENT AND SECURITY REQUIREMENTS	TOOL A	TOOL B
On-premises license option available?	✓	✓
SaaS subscription option available that is compliant with standard industry cyber security requirements?	✓	
User access controls: Project level	✓	✓
User access controls: Data locking at the WBS level	✓	
User access controls: Role-based or user specific grid view to enter or update data for specific WBS elements	✓	

Document other environment specifics that can impact the cost of purchasing the tool or supporting the tool. Here is a short list of items to consider.

### Q One or multiple locations?

This is needed to define the scope of the implementation.

### Q How many projects? What is the complexity and duration of the projects? Can the tool scale to support the smallest as well as the largest projects you have?

The intent is to provide the vendor with an idea of the volume of time phased cost data you intend to maintain. Depending on the tool architecture and how IT deploys the software tool internally, a large volume of data has the potential to impact how quickly the software responds to user inputs.

### Q Format used to create project backups?

Are you limited to a vendor propriety format or can you create project backup files using an open format such as XML? Some vendors also encrypt their proprietary data backup format. This is useful information so you are aware of any limitations should you need to access the backup data using other means.



## PART IV

### Process Improvement Support

Document how the cost management software tool may help to simplify or enhance process and procedures. This can help you identify additional items to add to the required functionality list (Part 1).

Implementing new tools often facilitates needed changes to outdated process and procedures. How can the tool help to save time, streamline a workflow, increase data traceability, or enhance the value of the cost data? Is it possible to create an environment where there is a single reliable source for schedule, cost, and risk data? What can help project personnel implement practices so it is easier for them to create quality schedule and cost data from the start, accurately plan resource requirements, objectively measure completed work, proactively manage the remaining work, and implement approved changes?

For example, perhaps the tool can help to establish a set of base templates project teams can leverage during the project initiation phase to reduce the time required to create the project's time phased budget plan. This could include a foundation template for creating a new project that reflects a standard base configuration that enables cross-project reporting and analysis at the corporate level. Other templates could include base work breakdown structures for routine task orders or a process library of repeatable tasks with resource and material requirements designed to help project teams save time and produce quality data. Establishing report templates can streamline the process and reduce the time required to produce expected resource planning, performance analysis, or financial analysis reports.

**A tool with built-in workflow as well as automated transaction audit trails, forms, and change tracking helps to simplify the change control process.**

Easy to use report wizards helps project teams to create data views and reports to proactively manage resources as well as the remaining work on the project.



## PART V

### About the Vendor and Tool

As part of your assessment, you also want to gain an understanding of the tool's architecture, history, update cycles, and how the vendor responds to software issues. Tap your professional network to talk with other users of the cost management software. Ask the vendor for client referrals you can contact. Here is a short list of things to consider.

#### Q Single database?

What often happens is that vendors acquire tools from other companies. As a result, the data may reside in different databases requiring users to continually import and export data between the tools. There is an automatic process penalty when the data doesn't reside in a single, central database.

#### Q What is built into the tool or are add-ons required? Do you need to purchase additional tools or utilities from the vendor to be able to meet your requirements?

Verify what functionality is built into the tool. For example, does the tool include built-in:

- Workflow?
- Easy to use report wizard?
- Enterprise level reporting?

If not, do you need to purchase other tools or utilities? There are hazards with including other tools in the mix because they add a layer of complexity and are external to the main tool's database. They often have a different user interface. They also increase the total cost of ownership.

#### Q What is the average release cycle for updates?

This provides a gauge of how quickly the vendor responds to user enhancement requests or to address software issues.

Does the vendor do periodic major releases? How often do these occur? Twice a year, once a year?

Or, does the vendor follow an agile approach where they do fast, incremental releases to continually enhance the product?

#### Q What is the average response and resolution time for software issues?

This is where other users of the software can provide useful information. Does the vendor respond in hours, days, weeks, or months?

#### Q How configurable is the tool?

The intent is to gain an understanding of the scope of the configuration options in the tool. Is it flexible enough to accommodate your business environment? Can you create the necessary user defined codes, structures, and other fields to align with your business needs? Can you easily integrate the tool with other business systems? Can you organize, sort, select, and group data as desired? Can you produce the results, outputs, or reports you need? Do you have to "transform" data in some manner to use it?

This can help you identify any potential need for the vendor to customize the tool for your environment.

#### Q How difficult is it to maintain and use the software? A tool with legacy components, a mixture of databases, and add-ons will be more difficult to maintain over time.

This is another area where other users of the software can provide useful information. Did they need to hire a number of administrators to manage the tool or provide on-going assistance to the users? You may need to factor in additional internal resource requirements as part of the total cost of ownership.

# 03

## Implementation Planning

Software features and functions are only part of the equation. You also need a plan and schedule for how you intend to update processes and procedures as well as implement the cost management software. Identify the likely tasks and required resources as you build out your schedule.

Ask about the vendor's implementation methodology. This can help you define your schedule activities as well as estimate the time and cost required to implement the tool. You can often update your process and procedures as parallel activities to the software implementation.

Estimate the level of vendor support needed to implement the software. What activities do you intend to do yourself? Where do you need help from the vendor? This is useful information for the vendor so they can produce a more accurate support services proposal for you.

For example, do you intend to implement the tool without any customization? Or, are you looking for a 90 percent solution where you know you will need to allocate time for business process engineering and development time?

## Common Implementation Steps



Do you intend to do your own training needs analysis, produce your own training materials, and conduct your own training? Or, do you want the vendor to do that for you?

A typical best practice is to conduct a pilot or select a candidate project to learn how to apply the software for your environment. That way you can fine-tune the tool configuration options and verify software functionality. It also provides an opportunity to identify any potential implementation issues when you deploy the software to a broader community of users.

### **The benefit of doing a pilot implementation is it gives you time to:**

- Set up common core data or a library of templates to help users get started.
- Update your process and procedures as you work through each process area such as organizing the work, planning and scheduling, budgeting, measuring performance, analyzing performance, and managing changes.
- Generate task specific work instructions so users can easily learn how to apply the tool to their project control tasks.
- Identify your training needs and produce training materials.
- Train your core project control personnel.



# About Us

ProjStream helps cost engineers and estimators achieve a standardized methodology to create data-driven estimates efficiently. Not only can we generate historical data for estimate basis, we also assist with the creation of repeatable asset templates so your company can benefit from real data-driven estimates and improve profitability and credibility with your customers.



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