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A Project Manager’s Guide to Tracking Time and Resources

Resource shortages. Scope creep. Cost over-runs. Successful project managers strive to avoid these pitfalls to complete projects within time and budget parameters. Project managers employ different methodologies to achieve project objectives and each methodology differs somewhat in its approach to the project lifecycle. Regardless of the project management method used, timekeeping and budgeting software tools can greatly increase a project manager’s efficiency during resource allocation, project monitoring, and reporting.

This paper will present a brief overview of popular project management methodologies and the challenges of proper resource management. Then, we will focus specifically on ways to effectively forecast and track budgets during each stage of the project lifecycle. Finally, we will introduce you to Sage Timesheet and its application in successful project management.

Project Management Methodologies

Project managers employ a specific methodology to guide a project from inception to completion. Many methodologies have evolved, but each shares a common purpose – to outline a series of steps or phases that a project manager can apply to every project. These steps form a project lifecycle and provide a framework against which the project manager can plan a project, monitor its progress, manage for risks/change, and analyze end results.

Project Management Body of Knowledge (PMBOK®)

Developed and supported by the Project Management Institute (PMI®), the Project Management Body of Knowledge is one of the most widely-used project management methodologies. PMBOK is based in large part on Traditional Project Management, first developed during the Cold War for the Space Race. PMBOK gathers together many generally accepted principles and best practices for project management.

Quality Improvement Models

Beyond project management methodology, organizations seek to manage and continuously improve the quality of the processes used to create products. Quality methodologies seek to incorporate quality controls and process improvement into project management, and frequently, more widely across an organization. These models include Six Sigma, Total Quality Management (TQM), OPM3, and ISO 9000.

Six Sigma seeks to eliminate defects from processes and products through rigorous measurement and quantitative evaluation. The goal of Six Sigma is to reduce variability in all aspects of business to less than 3.4 million defects per million opportunities. Six Sigma employs a five part process: Define-Measure-Analyze-Improve-Control. The discipline is applied to management across organizations and processes, as well as individual projects.

Organizational Project Management Maturity Model (OPM3®) is the newest quality/maturity model from the Project Management Institute. It brings together best practices from project management and applies them to improving not only individual projects, but also programs and portfolios. The model helps a company gain knowledge of what constitutes best practices within the organization, assess the current level of maturity within the project management processes, then identify a plan for continuous improvement to reach the highest level of process maturity.
The Project Lifecycle

Every project follows a lifecycle beginning with the inception of an idea or recognition of a need and ending with a finished deliverable. Myriad project lifecycle models exist reflecting the variations in project management approaches between industries and types of projects. Specialized lifecycles have been developed for defense contracts, architecture design, software development, and electrical engineering, for example.

For the purposes of discussing time and budget management within a project, we’ll examine a generic project lifecycle model, based on Traditional Project Management (TPM) that can be fitted to any industry or task. The traditional approach divides projects into five phases, as follows:

| SCOPE | DEVELOP | LAUNCH | MONITOR | CLOSE |

Scope Phase (also known as Concept or Initiation)

In this initial phase of a project, project managers seek to establish the goal of the project and to define its deliverables. They develop a clear understanding of the problem or opportunity the project is to address and identify the criteria that would define success. They also try to foresee and plan for risks and obstacles to a successful project resolution.

Project parameters are determined to limit the scope of the project. During this phase, parameters regarding overall project duration or budget might be established, but the project manager has not yet defined specific tasks or scheduled resources within tasks. After reaching agreement on project scope, no additional objectives should be added to the project, or the resulting “scope creep” could jeopardize the project delivery date or final quality of the deliverables.

Development Phase (also known as Planning)

In the second phase of the project lifecycle, project managers map out their operational plan. First, they define the tasks and subtasks within the project that must be completed in order to meet the project objectives. Next, they identify the resources (people, time, money, equipment) required to accomplish each task. Finally, before closing this phase of the project, a project manager completes a written budget and resource plan that can be shared with the project team. This plan also enables the project manager to carefully monitor the project’s progress against actual costs and resources.

Project management software greatly facilitates the development phase of a project. The project manager inputs tasks and defines subtasks directly into the software and can easily reorder the subtasks as they work through the project. Project management software enables the project manager to estimate and allocate portions of the overall project budget for each task. Additionally, the project manager makes assignments to the person(s) who will complete each part of the project and allocate the time period allowed for each task or subtask.

Project Launch Phase (also known as Execution or Production)

After developing a complete project plan, the project manager launches the project by creating teams and making resource assignments. After receiving assignments, project team members learn the specifications of how they are to complete assigned tasks. The project manager also establishes and communicates the project’s operational rules and educates team members about reporting and tracking requirements.

At this stage, project management and timesheet software become more widely used by the entire project team. Project workers refer to project assignments and schedules housed within the project management solution and record the time they spend on various tasks and subtasks within an electronic timesheet that can be monitored by the project manager in real-time.
Monitor & Control Phase
After the project launches, the project manager must actively monitor the progress of each aspect of the project. If delays or resources shortages impede progress, the project manager must make decisions about changes to the project schedule and resource allocations. Changes require change requests and problem escalation procedures to provide continuous feedback when obstacles occur.

Project management software allows project team members to update the status of project tasks and provides the project manager with real-time feedback about the time and resources being used in different parts of the project. He or she can track and monitor project expenses and schedule additional resources if a task delay jeopardizes project objectives.

Project Close Phase
When the project is completed, it is delivered to the client and accepted. The project manager then conducts a project audit and issues a final project report. Finally, the client billing is prepared. Project management software simplifies the project audit and client billing processes. Comprehensive reports regarding resources used, actual budget expenses vs. projections, and time spent on tasks help the project manager thoroughly review the project’s strengths and weaknesses. Data from time and expense tracking features can be shared with automated billing systems to prepare client invoices.

Allocating and tracking resources
As in life, managing time and money present challenging aspects of a project manager’s duties. Although a project manager might negotiate for more time or additional resources during the scope and development phases of a project, he or she rarely gets everything needed. The relationship between time, budget, and scope in a project is often represented as an equilateral triangle of resource management.

Maintaining the quality of a project requires a careful balance of time and budget resources. If tasks within the project are not completed on time, it becomes much more difficult for the project to deliver within budget. If the scope of a project increases, both time and budget parameters will be compromised. Timekeeping and budgeting software helps project managers monitor the use of these resources in real-time for careful management and adjustments when necessary.

Sage TimeSheet helps project managers track time and budget throughout the project lifecycle
Project managers can accurately forecast labor allocation, expenses, time-to-completion, and more with Sage TimeSheet. It streamlines processes, organizes data, and provides the high-level reporting features needed to monitor and deliver projects on time and under budget.

The Project Budgeting module in Sage TimeSheet enables you to easily forecast and track budgets for each of your projects, providing both the performance and flexibility you need to manage multiple projects and budgets. Sage TimeSheet Project Budgeting empowers project managers in each phase of the project lifecycle:

**Scope:** During the initial phase of a project, you can use Sage TimeSheet to create the project and input your top-line budget and time constraints to prepare for detailed planning.

**Develop:** As you create a detailed plan for your project, Sage TimeSheet provides flexible features to help you define tasks and assign resources. You can create tasks and subtasks using parent and child task levels, then create schedule entries to assign tasks to team members.
Launch: Creating teams and assigning tasks is a snap with Sage TimeSheet. The Project Budgeting module allows you to select the individual resources and groups assigned to a given project. Resources can be assigned at the parent task level, the child task level, or a combination of both.

The Schedule View allows you to see scheduled time entries distributed across team members using a graphical Gantt bar presentation. Schedule entries can easily be moved from one team member to another and time for a task can be changed by extending or shortening the associated Gantt bar.

There are several options available to ensure accurate project data. The “Allowed to View” option provides a way for specific employees to view a project, but not make changes. The “Allowed to Edit” option lets the project manager assign editing rights for projects or specific subtasks. Employees assigned View or Edit rights for a specific project or subtask will see only that information in the Budget View when they log on to the program, providing an added level of security.

Monitor & Control: The Project Budgeting module provides advanced budget and project tracking capabilities. Project managers can closely monitor a project’s budget and status in real time for more precise project tracking and reporting. Sage TimeSheet features detail and summary reports, as well as sophisticated Crystal reporting options that provide quick and easy access to critical business information. Project managers can create up to 100 custom columns in the budget view and assign colors to highlight data that falls short of, or exceeds, specific thresholds. This feature provides project managers with instant, graphical feedback comparing variances between the project plan and actual resources used.

During the Control Phase, Sage Timesheet enables you to:

- Track employee time spent on projects and tasks
- Monitor total project budget vs. actual expense in real-time
- Track costs associated with individual employees or tasks in real-time
- Manage changes with additional resource allocations
- Review a project’s percentage of completion
- Estimate project completion costs
Close: Sage TimeSheet eases the burden of project close audits by providing project managers with easy-to-use robust reporting for quick analysis. Sophisticated reporting options using Crystal Reports® and Microsoft Excel templates allow you to analyze data, track trends, and review efficiency of current and past projects. Sage TimeSheet gives you the ability to create custom Summary Reports or use the report wizard that steps you through the process.

Sage TimeSheet reporting tools enable you to:

- Consolidate activities from multiple projects or employees.
- Compare actual amounts vs. budgeted amounts on a month-to-month or year-to-year basis.
- Summary Report Calculation method allows for multiple-function columns on a per entry basis.
- Export reports to a variety of formats including Microsoft Excel, Microsoft Word, HTML, WordPerfect, dBase, and others.

When it is time to invoice clients, Sage TimeSheet simplifies internal charge-backs and client billing. During the project, you can capture rate information at numerous levels of detail for internal charge-backs or client billing. And integration to most accounting and billing applications expedites billing process upon project completion.

Conclusion

Regardless of methodology or lifecycle model employed, every project manager benefits from the automation of critical aspects of budgeting, resource allocation, monitoring, and reporting throughout a project. Project managers need to know the real-time status of project tasks in order to control risks, manage for change, and properly allocate resources for successful project delivery.

Sage TimeSheet provides project managers with up-to-the-minute detail about actual costs of a project, budget projections, resources, and timeliness. Its robust project management features are designed to save time as well as empower business decision-making during each stage of the project lifecycle.
Sage North America is part of The Sage Group plc, a leading global supplier of business management software and services. At Sage, we live and breathe business every day. We are passionate about helping our customers achieve their ambitions. Our range of business software and services is continually evolving as we innovate to answer our customers’ needs. Our solutions support accounting, operations, customer relationship management, human resources, time tracking, merchant services, and the specialized needs of the construction, distribution, healthcare, manufacturing, nonprofit, and real estate industries. Sage North America employs more than 5,000 people and supports nearly 2.9 million small and medium-size business customers. The Sage Group plc, formed in 1981, was floated on the London Stock Exchange in 1989 and now employs 14,800 people and supports 5.7 million customers worldwide.