Creating a Project Budget: What You Need to Know

~ By Duncan Haughey

When starting a project, it is difficult to know how much it will cost. Project managers are held to account for their budget estimates and with so much uncertainty in projects, it can be one of the project managers’ greatest challenges.

The ability to create an accurate budget is an essential skill for a project manager. It can be a daunting task, especially for new project managers; however, once you have created your first budget, you will have an approach to use, and it will become easier for future projects.

Budgeting Basics

There are two main approaches you can take when creating a budget:

1. Top-down approach: deciding how much the project will cost and dividing the amount between the work packages.
2. Bottom-up approach: estimating the total cost of the project by costing the lowest-level work packages and rolling up.

Both approaches have their advantages and disadvantages and as a project manager, you will be faced with both at some time in your career. Let’s take a look at each approach in more detail:

Top-Down Budgeting Approach

The decision is made, often by senior management, about how much the project should cost. This amount is divided between the work packages. Keep in mind that this approach is more than guessing; you need to explain how you will do the work within the allocated amount of budget for each work package. Prior experience from other projects will play a part in validating the budget allocation for work packages. It should be asked whether the budget looks realistic based on experience from past projects.

The advantage of the top-down budgeting approach is that it focuses on achieving the project within the budget allocated and leads to efficiencies and reduction in wasteful practices.

A disadvantage of the top-down budgeting approach is that it assumes that the person creating the budget has enough knowledge and expertise to make a reasonable cost estimate. If they do not, conflict may occur when a person required to execute the project is given an unrealistic budget that is insufficient to deliver the project. There is a risk of deliberately low budgets created with the belief that it will encourage cost savings.
Bottom-Up Budgeting Approach

The team, often involving the final budget holder, identify the tasks and activities needed to complete the project. The project is based on the lowest-level work packages and rolled up to arrive at the total project cost. The direct and indirect costs are calculated for each work package.

The advantage of the bottom-up budgeting approach is its accuracy (as long as you have not missed any task or activity). It is good for team morale because the project manager involves the team in budget creation. This approach is sometimes called participative budgeting for this reason.

A disadvantage of the bottom-up budgeting approach is the difficulty in getting a full list of tasks and activities needed to complete the project. It is easy to miss some that will be needed and that will later throw the budget out.

Different Cost Types

There are two cost types that concern project managers when they create budgets: direct and indirect costs.

Direct Costs

These costs are easily attributed to the project and charged on an item-by-item basis. Examples are:

- Labour (people)
- Consultant fees
- Raw materials
- Software licences
- Travel

Indirect Costs

These costs are for items that benefit more than one project, and only a proportion of their total cost is charged to the project. Examples are:

- Telephone charges
- Office space (rent)
- Office equipment
- General administration
- Company insurance

Reserve Analysis

A contingency reserve or buffer is added to projects (usually a percentage of the total project cost and time) to cover risk. This fund is used when encountering unexpected events during the project. You should adjust your contingency reserve to the risk level identified for the project. A routine, well practised project will have a lower contingency reserve than a project breaking new ground.

Your budget will be made up of direct and indirect costs, with a small amount assigned for contingency reserve.
Estimating Costs

In addition to the top-down and bottom-up budgeting approaches, there are a number of other techniques that project managers use to create their budgets. These are five alternative approaches used to create budget estimates:

1. **Expert Judgment**: This approach uses subject matter experts (SMEs) to calculate the total cost of the project. This approach can be useful because, with the aid of expert knowledge and experience, you can account for factors that are not always apparent to non-experts.

2. **Supplier Bid Analysis**: This approach compares bids from different suppliers to arrive at a cost estimate for the project.

3. **Analogous Estimating**: This approach uses history from similar projects to create an estimate. It looks at how much past projects cost while taking any differences with the new project into account.

4. **Three-Point Estimating**: This approach uses the weighted average of three estimates -- best-case, most likely case and worst case -- to gain a greater degree of control over how the value of a task or activity is calculated.

5. **Parametric Estimating**: This approach uses a statistical relationship between historical data and other variables, such as lines of code in a software application or square footage of a building to calculate an estimate.

Monitoring the Budget

Once you have finished your budget and your project starts, you should regularly check actual spending against your budget estimate by using a spreadsheet, such as this Budget Analysis and Forecasting Template (//cdn.projectsmart.co.uk/docs/project-budget-analysis-and-forecast-template.xlsx) (MS Excel, 15 KB) developed by Brad Egeland. This will tell you whether the project is progressing as planned or corrective action is needed.

Final Thoughts

It is better to come in slightly under budget than over budget. Your customer will be happier, and it will reflect well on your ability to create an accurate budget and stick to it.

Whichever budgeting approach you choose, spend time to create your budget, check it carefully, and review it often to make sure you stay on track.