Online Courses

How to estimate Work Breakdown Structures

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What's a Work Breakdown Structure Anyway?

A fixture in classic project management methodology and systems engineering, the WBS is a method that breaks a project down into a hierarchy of deliverables, tasks, and subtasks. It's a helpful tool that defines a detailed cost or time estimate and provides guidance for schedule development and control.

Essentially, by using a WBS, you should be able to take a top-down look at your project and break it into the tasks and subtasks that will get you to completion. By breaking your project down into tasks, you'll find that you can start to see the forest through the trees. It's a simple, yet methodical way of organizing and understanding your project scope in smaller, manageable components. Sound easy? Well, maybe not. But keep reading and you'll get there fast.

Why Use a Work Breakdown Structure?

Creating a WBS for any plan or set of tasks helps you get granular about the work that needs to be done on any given project. If you estimate your projects based on units—whether it be weeks, days, or hours—using a WBS will help you understand very quickly if your estimate will exceed the intended budget or deadline.

How to Use a Work Breakdown Structure

When you're comfortable with the overall process of creating a WBS, you will be able to adapt the practice to any project—from moving your house to building a complex database with 75 offshore teams. That's right, the WBS will be your friend. But before you go off and start creating these documents (and on-point estimates), let's walk through a process that will help ensure a solid, workable estimate.

Step 1: List High-level Deliverables

If you've got a project scope, you're going to find getting started on your WBS very easy. If you don't have a scope, you better turn right around and talk to your clients or boss about the scope. Starting any project without a scope is dangerous, because it sets the stage for what will be delivered and when.

First, sit down with your team and list out what will need to be delivered in order to meet your project's end goal. For instance, if you are building a new website, you might deliver:

•Sitemap

•Wireframes

•Page designs

•Front end code

•Back end code

Make sure you're being very inclusive of all tasks, and that you're not leaving anything out. For instance, if you're working on a website redesign project, have you accounted for content? If you miss a deliverable now, you will regret it. So, listing things out as a team is very helpful, as it ensures that all of your bases are covered. A team conversation will also help you to set expectations for who will be responsible for deliverables and tasks, all while engaging the team on the overall process of the project. See, you're winning already!

Step 2: Think About Tasks

Once you've identified the high level deliverables for your project, you're going to take a deeper look into what actually needs to be done within each one of them individually. This isn't just a simple exercise where you say, "Who will do this and how long will it take?" It goes much deeper than that—and that's a good thing because that is how you will be able to create a better estimate.

As you dig into the high level deliverables, you should discuss (or ask yourself):

•What needs to be done to create this deliverable?

•What other related project tasks will contribute to successfully completing this deliverable?

•What are the requirements of the tasks?

•Are we cutting any corners here? (Make sure you list everything and anything—don't cheat yourself!)

As you conduct this exercise, keep in mind that you truly want to list every possible task that could go into the high level deliverable. Remember, the point here is to account for all time so that you can create a reasonable estimate. You won't be able to do that if you're not thinking it through properly.

Using the website redesign as an example, here is how you might break up the first deliverable, which was "Sitemap":

•Review current site

•Test the current structure with 5 site users

•Review test findings

•Organize the sitemap in a spreadsheet

•Review the first low-fidelity version with the team

•Revise the structure using the team's input

•Create a visual version of the sitemap

•Annotate sections

•Write description of the new sitemap

•Present the sitemap to clients

•Review client feedback

•Implement feedback

•Deliver v2

•Conduct meeting with clients

•Finalize sitemap

This list of tasks is an estimate for all of the work that will need to be done in order to get to a finalized sitemap. This might not be the way you'd do it, and that is just fine. When you sit down with your team to discuss these tasks, you'll want to be sure that you're operating with a common understanding of how things are done, or that you're at least talking through the process you want to enact. No matter what, listing out every single detail will help you to spell out the effort it will take to complete the deliverable.

Step 3: Get Granular

That's right: you want to make your WBS as detailed as possible. The only way to do that is to examine every step that you've identified and list out tasks. It's all about elaborating effort and determining the work that will need to be done in order to successfully complete the deliverable. It's a process that takes time and thought, but if you make an investment to do this, you'll find less room for missed expectations and budget overages in the long term. So, take the next step and detail out what will go in to each task.

Using the website redesign as an example, here is how you might break up the deliverable, which was "Test the current structure with 5 site users":

•Recruit users

•Schedule sessions

•Write test script

•Conduct 5 sessions

•Compensate users for time

•Write up findings and recommendations

This one task is proof that any single line item in a scope can be an expensive one! Not only did this example include 6 subtasks, it also included a line item that requires payment to a party outside of the project. You're going to want to know about these expenses in advance of scoping your project, and your clients will too. So be sure to account for them early on so nothing comes as a surprise when you are knee-deep in your project.

Step 4: Format and Estimate

Traditionally, you'll find that Work Breakdown Structures are presented in flow charts that resemble website sitemaps. That format happens to work very well because it shows a hierarchy of tasks and is easily numbered and referred back to. But, some people like to list them out on whiteboards or put them in spreadsheets. The format isn't what matters here—it's the completeness and accuracy of the tasks included. You can create your WBS in any format that makes you comfortable.

When you've listed all of your tasks and subtasks in a format that makes sense, you'll want to re-review it and make sure that you've included all of the possible tasks and subtasks. Once that's confirmed, go through the list and discuss each task in terms of level of effort. This could be in minutes, hours, days, weeks…it really depends on how granular you need to get and how your organization estimates projects. Assigning an increment of time to each task will help you to add up a total estimate of time (and possible cost), and will help you to create a project plan when you get to that step in your project. When you're done, you will know if you're in scope, out of scope, or actually operating on another planet. It's true: you might run this exercise and find that you've articulated too much time or effort to do everything within the scope of the project. The good thing is that you've set the baseline for what's needed, and as a group, you can scale back on tasks to fit the scope or the timeline(and help yourself avoid the awkward deliverable due date dance).

The Quick Work Breakdown Structure

Sometimes you'll get requests to add to your project scope. In that case, you'll need a quick (but solid) estimate to float by a team or a client—just to ensure that you're covering your bases with that new thing. Maybe you don't have the time to pull the team together to run through the steps above, but using a WBS in this instance to map out a quick set of deliverables can be extremely helpful. In fact, creating a quick WBS on your own can be extremely helpful when a client tells you they have X dollars to spend or X days to get something done. If you map out your tasks to get to an estimate, you can easily explain what can and cannot be done. And, if your estimates are too high, you can lean on your work breakdown structure to negotiate the scope down quickly.

For example, if I had to cut down on cost/time on building that sitemap, I could likely remove the "Test the current structure with 5 site users" step from my "sitemap" deliverable (though that could be risky and I might not want to do that). Use the WBS to your advantage this way and you'll not only create a project estimate that maps to a specific budget, you'll work out a solid set of project requirements.