Work Breakdown Structure 101

The Foundation of Project Planning

~ By Duncan Haughey

The Work Breakdown Structure, usually shortened to WBS, is a tool project managers use to break projects down into manageable pieces. It is the start of the planning process and is often called the 'foundation' of project planning.
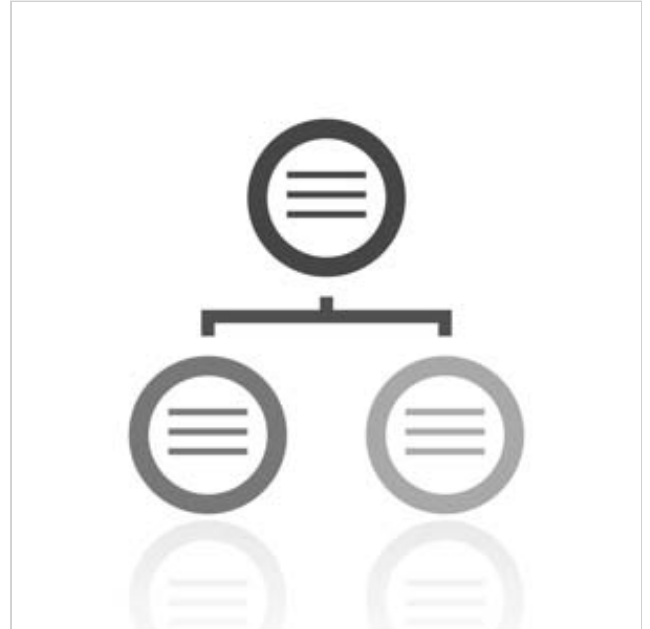
Most project professionals recognise the importance and benefits of a WBS in outperforming projects without one.

What is a WBS?

A WBS is a hierarchical decomposition of the deliverables needed to complete a project. It breaks the deliverables down into manageable work packages that can be scheduled and have costs and resources assigned to them.
As a rule, the lowest level should be two-week work packages. Another rule commonly used when creating a WBS is the 8/80 rule. This rule says no single activity should be less than 8 hours, or greater than 80 hours.

A WBS is deliverables based; meaning the product or service the customer will get upon the project's completion. There is another tool called a Product Breakdown Structure (PBS), which comes before the WBS and breaks a project down into outputs (products) needed to complete the project.

Why Create a WBS?

These are some of the benefits of a WBS:

- Provides a solid foundation for planning and scheduling
- Breaks down projects into manageable work packages
- Provides a way to estimate project costs accurately
- Makes sure no important deliverables get forgotten
- Helps a project manager with resource allocation
- Provides a proven and repeatable approach to planning projects
- Provides an ideal tool for team brainstorming and for promoting team cohesion

WBS Inputs

There are three inputs to the WBS process:

1. **Project Scope Statement:** Detailed description of the project's deliverables and work needed to create

them

2. **Statement of Requirements:** Document detailing the business need for the project and describing the deliverables

3. **Organisational Process Assets:** The organisations policies, procedures, guidelines, templates, plans, lessons learned, etc.

These items give you and your team all the information needed to create the WBS. You'll also need a WBS template.

WBS Outputs

There are four outputs from the WBS process:

1. **Work Breakdown Structure (WBS):** Deliverables based decomposition of the total project scope

2. **WBS Dictionary:** Accompanying document describing each WBS element

3. **Scope Baseline:** The Project Scope Statement, WBS and WBS Dictionary

4. **Project Documentation Updates:** Changes and additions to project documentation

How to Create a WBS

A WBS is easy to build. Once the aims and objectives of the project are understood, a meeting can be arranged where the project team breaks down the deliverables needed to complete the project. Conducting a team exercise for WBS creation is best. This approach helps engage your team and gives them an emotional stake in the project. It's a good idea to involve your stakeholders at this point.

There are two formats in which to express a WBS, tabular form and graphical form. Use a spreadsheet to create the tabular form numbering each level and sub-level. The graphical form can be created using drawing software, creating a tree-style diagram. Either form starts with the project name as its first level. Then all the top-level deliverables are added. Remember, at the second level, you are looking to identify *everything* needed to complete the project.

Break down each second level deliverable until you reach work packages of no less than two weeks. As a general rule, two-week work packages are manageable. You might also consider the 8/80 rule at this point. It is up to the team how each item is broken down; there are no rules that define this, and it will reflect the style of the team creating the WBS. It's important to note that a WBS does *not* include activities and tasks, these are planned out from the work packages later.

Check no major areas or deliverables are missing, and you've only included the work needed to complete your project successfully. Your WBS should contain the full project scope, including the project management work packages. Conducting the WBS creation as a team exercise helps make sure nothing is forgotten.

This level of decomposition makes it easy to cost each work package and arrive at an accurate cost for the project. Similarly, people can be assigned to the work packages; however, you may prefer to add the skills needed for the work packages and leave the people allocation until you create your schedule when you can see the timeline.

The next step is to transfer your WBS output into a project schedule, typically a Gantt chart. Expand the work packages with the activities and tasks needed to complete them. The Gantt chart is used to track progress across time of the work packages identified in your WBS.

Summary

The need for an emphasis on planning is what separates project management from general management. The WBS is the first step in producing a high-quality project plan and setting you and your team on the road to success. Neglecting this process in preference to getting on with the work has been the downfall of many projects. Improve your chances of success by always producing a WBS for your projects.