Project Scope and WBS

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Project Scope Statement

A document that defines the project and product scope besides defining what is included and what is excluded.

- It should be very concise and clear
- However it should be as detailed as possible since this forms the basis for detailed planning and serves as the single source of truth.

The scope statement must include

- Product scope description
- Product acceptance criteria
- Project deliverables
- Project exclusions
- Project constraints
- Project assumptions

Work Breakdown Structure - WBS

Breaking work into smaller tasks is a common productivity technique used to make the work more manageable and approachable. For projects, the Work Breakdown Structure (WBS) is the tool that utilizes this technique and is one of the most important project management documents. It single handedly integrates scope, cost and schedule baselines ensuring that project plans are in alignment.
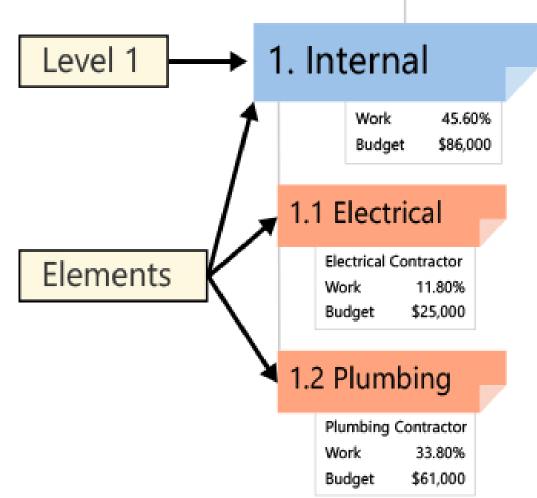
The Project Management Institute (PMI) Project Management Book of Knowledge (PMBOK) defines the Work Breakdown Structure as a "deliverable oriented hierarchical decomposition of the work to be executed by the project team." There are two types of WBS: 1) Deliverable-Based and 2) Phase-Based. The most common and preferred approach is the Deliverable-Based approach. The main difference between the two approaches are the Elements identified in the first Level of the WBS.

Deliverable-Based Work Breakdown Structure

A Deliverable-Based Work Breakdown Structure clearly demonstrates the relationship between the project deliverables (i.e. products, services or results) and the scope (i.e. work to be executed). Figure 1 is an example of a Deliverable-Based WBS for building a house. Figure 2 is an example of a Phase-Based WBS for the same project.

Phase-Based Work Breakdown Structure

In Figure 2, a Phase-Based WBS, the Level 1 has five Elements. Each of these Elements are typical phases of a project. The Level 2 Elements are the unique deliverables in each phase. Regardless of the type of WBS, the lower Level Elements are all deliverables. Notice that Elements in different Legs have the same name. A Phase-Based WBS requires work associated with multiple elements be divided into the work unique to each Level 1 Element. A WBS Dictionary is created to describe the work in each Element.

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                          Commercial
                           Project

  Initiation      Planning        Execution         Control          closeout

  Evaluation      Scope            Lay             Resource          Audit
                  statement       Foundation       Management

  Charter         Plan schedule   Excavation       Cost             Site cleanup
                                                    Management

                  Budget          Pour                              Document
                                  concrete                          handover

                                  Interior work
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How to Make a Work Breakdown Structure

1. GATHER CRITICAL DOCUMENTS

• Gather critical project documents.

• Identify content containing project deliverables, such as the Project Charter, Scope Statement and Project Management Plan (PMP) subsidiary plans.

2. IDENTIFY KEY TEAM MEMBERS

• Identify the appropriate project team members.

• Analyze the documents and identify the deliverables.

3. DEFINE LEVEL 1 ELEMENTS

- Define the Level 1 Elements. Level 1 Elements are summary deliverable descriptions that must capture 100% of the project scope.

- Verify 100% of scope is captured. This requirement is commonly referred to as the 100% Rule.

4. DECOMPOSE (BREAKDOWN) ELEMENTS

- Begin the process of breaking the Level 1 deliverables into unique lower Level deliverables. This "breaking down" technique is called Decomposition.

- Continue breaking down the work until the work covered in each Element is managed by a single individual or organization. Ensure that all Elements are mutually exclusive.

- Ask the question, would any additional decomposition make the project more manageable? If the answer is "no", the WBS is done.

5. CREATE WBS DICTIONARY

- Define the content of the WBS Dictionary. The WBS Dictionary is a narrative description of the work covered in each Element in the WBS. The lowest Level Elements in the WBS are called Work Packages.

- Create the WBS Dictionary descriptions at the Work Package Level with detail enough to ensure that 100% of the project scope is covered. The descriptions should include information such as, boundaries, milestones, risks, owner, costs, etc.

6. CREATE GANTT CHART SCHEDULE

- Decompose the Work Packages to activities as appropriate.

- Export or enter the Work Breakdown Structure into a Gantt chart for further scheduling and project tracking.

Simple Gantt Chart Demo

Task	Aug 16	23	30	Sep 6	13	20	27	Oct 4	11	18	25	Nov 1	8	15	22
Market Research															
Define Specifications															
Overall Archiecture															
Project Planning															
Detail Design															
Software Development															
Test Plan															
Testing and QA															
User Documentation															