

Project management for researchers and evaluators



Developing Work Breakdown Structures

Work Breakdown Structures provide a strong foundation for more comprehensive project planning

When beginning a new research or evaluation project, we start by getting organized and creating our project plan. As part of this planning, it can be incredibly helpful to apply one of project management's most fundamental tools: a Work Breakdown Structure (WBS).

A Work Breakdown Structure does just what it sounds like it should – it is a tool for breaking a project down first into its major components, and then into each component's required tasks. While it can take several forms, the Work Breakdown Structure essentially provides a visual representation of the tasks required to complete a project.

Uses of a Work Breakdown Structure

While this is a pretty straightforward activity, a Work Breakdown Structure is an incredibly useful tool that provides the foundation for many other project management components. Once developed, your work breakdown structure has many potential uses, including helping you:

- **Prepare a plan for carrying out the project** – Seeing all of the major tasks laid out provides a general road map for moving forward.

- **Estimate project cost** – Mapping out costs for each required activity typically starts with a Work Breakdown Structure.
- **Establish a project timeline** – Having the project broken down into its components and tasks also provides a foundation for creating a timeline.
- **Build consensus** – Reviewing the Work Breakdown Structure with the project team and client ensures that stakeholders are on the same page regarding project activities and that no critical tasks were omitted from the plan.
- **Assign team responsibilities/roles** – Dividing the project into its components can support decisions regarding the responsibilities of each team member.
- **Track progress status** – Comparing actual work to the Work Breakdown Structure provides a sense of overall project status, including progress in completing tasks.
- **Prevent scope creep** – Establishing a clear understanding of what is included in the project, and what is not, can prevent scope creep (in which the project evolves and includes work not originally intended).



- **Identify potential project risks** – Seeing the general project approach can inform discussions about potential challenges the team is likely to face, and strategies to address these risks.

How to develop a Work Breakdown Structure

The process for creating a Work Breakdown Structure is fairly straightforward. The first step is to divide the project into its major components. These

components, or “summary activities”, are high-level components that can be broken down further. The components should make sense for your project, but could include your project phases or milestones.

The second step is to break each summary activity into the detailed activities required to complete it. In project management terminology, a detailed activity that cannot be divided further is also called a “work package” and the process of breaking it down is called “decomposition.”

Tips for developing a Work Breakdown Structure



Describe tasks in terms of actions

As you develop the breakdown of tasks, phrasing them in terms of the actions to be taken provides a useful beginning for the project action plan.



Follow the “8/80 rule”

It is generally recommended that the most detailed activities in the Work Breakdown Structure should require approximately 8-80 hours of work. If the task requires less time, it may not be significant enough to break out on its own. If it will take more time than that, it may be too complex and should be divided into several separate activities.



Include all intended project activities

You should also follow the 100% rule, which states that every intended project task should be included in the Work Breakdown Structure. Any tasks that are not required for your project should be excluded.



Make tasks mutually exclusive

Do not include any activity more than once – tasks should be mutually exclusive, or else it creates complications in creating your budget and work plan.



Use about three levels of detail

A Work Breakdown Structure typically includes about three levels of detail (i.e., overall project phase or component, summary activities, and detailed activities). This level of detail tends to provide a clear overview of the project and the relationships between various activities.



Assign roles and responsibilities

If you have a research or evaluation project team, assign responsibilities to the team in alignment with the components of the Work Breakdown Structure.



Experiment with different ways of building your Work Breakdown Structure

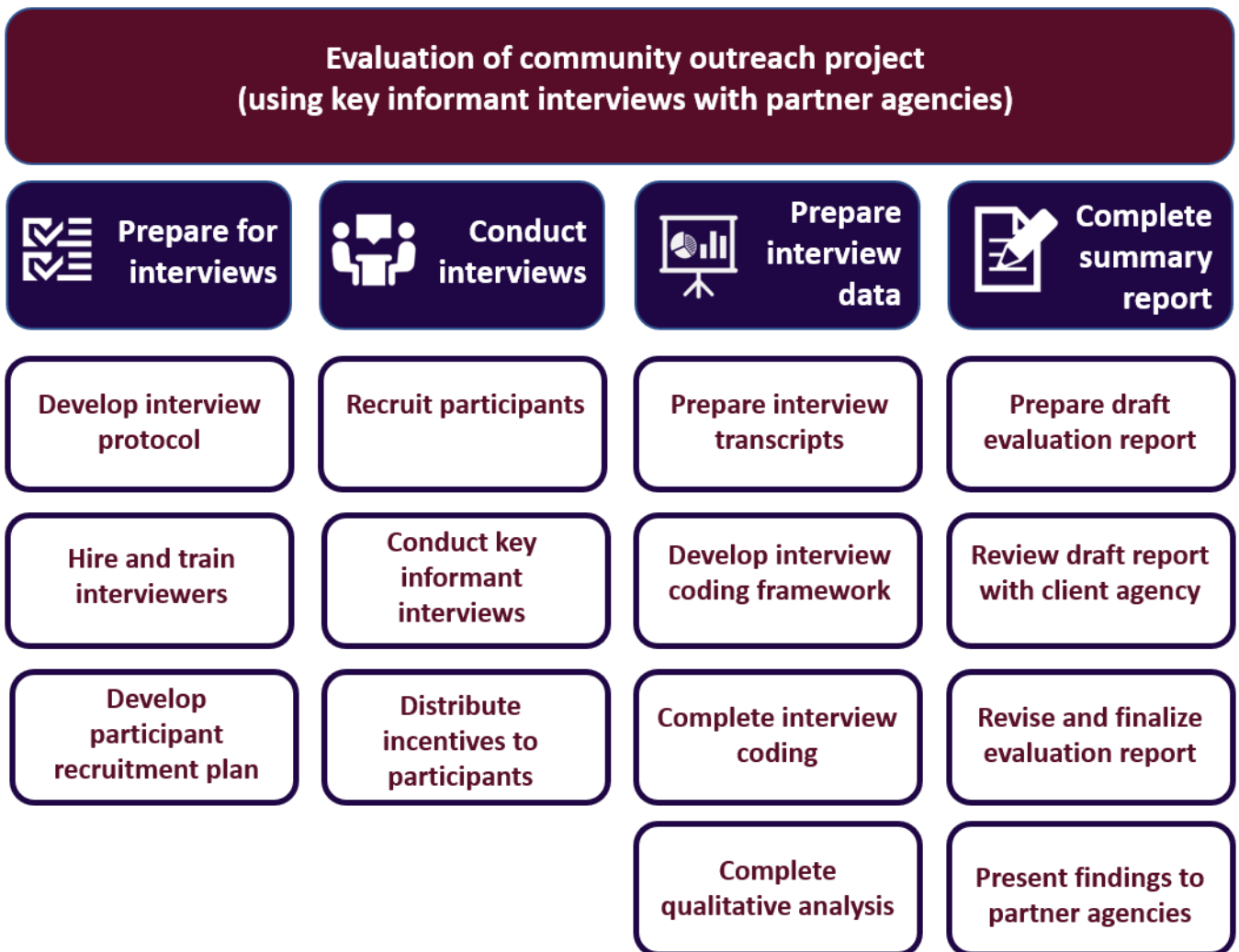
There are many different ways to create your Work Breakdown Structure, depending on the complexity of your project and your comfort with technology. When constructing the Structure for the first time, moving Post-It notes around on a wall can be a very useful way to experiment with various breakdowns. When you are ready to formalize it, you can create a Work Breakdown Structure using a variety of specialized software packages, along with standard programs like Microsoft Word or Powerpoint.

The following is an example of a fairly simple Work Breakdown Structure using a “tree structure” format. The tree structure presents a nice visual option for illustrating the Work Breakdown Structure. The sample Work Breakdown Structure is based on a very simple evaluation that relies on a small number of key informant interviews. Work Breakdown Structures should reflect the actual complexity of the project, so

would be more detailed for projects with many components or activities.

While the tree structure is a fairly common strategy for presenting a Work Breakdown Structure, it’s not the only option. Other common frameworks for organizing a Work Breakdown Structure include outline and table approaches.

Sample Work Breakdown Structure



Outline format Work Breakdown Structure

1 Prepare for interviews

- 1.1 Develop interview protocol
- 1.2 Hire and train interviewers
- 1.3 Develop recruitment plan

2 Conduct interviews

- 2.1 Recruit participants
- 2.2 Conduct interviews
- 2.3 Distribute incentives

3 Analyze interview data

- 3.1 Prepare interview transcripts
- 3.2 Develop coding framework
- 3.3 Code interviews
- 3.4 Complete analysis

4 Complete summary report

- 4.1 Prepare draft report
- 4.2 Review draft report with client agency
- 4.3 Finalize report
- 4.4 Present findings to partner agencies

Table format Work Breakdown Structure

Evaluation of community outreach project	Prepare for interviews	Develop interview protocol
		Hire and train interviewers
		Develop recruitment plan
	Conduct interviews	Recruit participants
		Conduct interviews
		Distribute incentives
	Analyze interview data	Prepare interview transcripts
		Develop coding framework
		Code interviews
		Complete analysis
	Complete summary report	Prepare draft report
		Review draft report with client agency
Finalize report		
Present findings to partner agencies		

Once you have developed your Work Breakdown Structure...

On its own, the Work Breakdown Structure is not a comprehensive project plan. However, once it is developed, you can use it as a foundation for other project planning tasks. For instance, you can use the Work Breakdown Structure to brainstorm costs associated with each task, and then roll the costs up to create a project budget. You can map out the sequences and dependencies between tasks, and create a critical path diagram, which is very useful when creating your project timeline.

Review the Work Breakdown Structure with the project stakeholders, including the client, to ensure that you have a shared understanding of the project and how it will be carried out.

Do not complete the Work Breakdown Structure and then put it away for the rest of the project. Use the completed overview as a guide for monitoring actual status and ensuring that you are completing the work as intended. If you find yourself spending project time on activities not in the plan, that will be a good reminder to pause. Did you forget to put something important into your Work Breakdown Structure? If so, it is okay to add it. However, be cautious about adding tasks that are not necessary, as that can indicate scope creep. Review the Work Breakdown Structure regularly - perhaps weekly on very active or complex projects - and determine which tasks are on track for completion and which may need to be modified to avoid falling behind.

“A goal without a plan is just a wish.”

- Antoine de Saint-Exupery

AUTHOR: Cheryl Holm-Hansen, PhD is the founder and principal consultant at Community Research Solutions, LLC. She has more than 30 years of experience conducting community-based research and evaluation projects. A community psychologist by training, she also has a continuing education certificate in project management.