



Requirements are not enough:

Using a WBS to maximize project success

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- **Q&A will be taken at the close of this presentation**
- **There will be time at the end of this presentation for you to take a few moments to complete the session survey. We value your feedback which allows us to improve this annual event.**

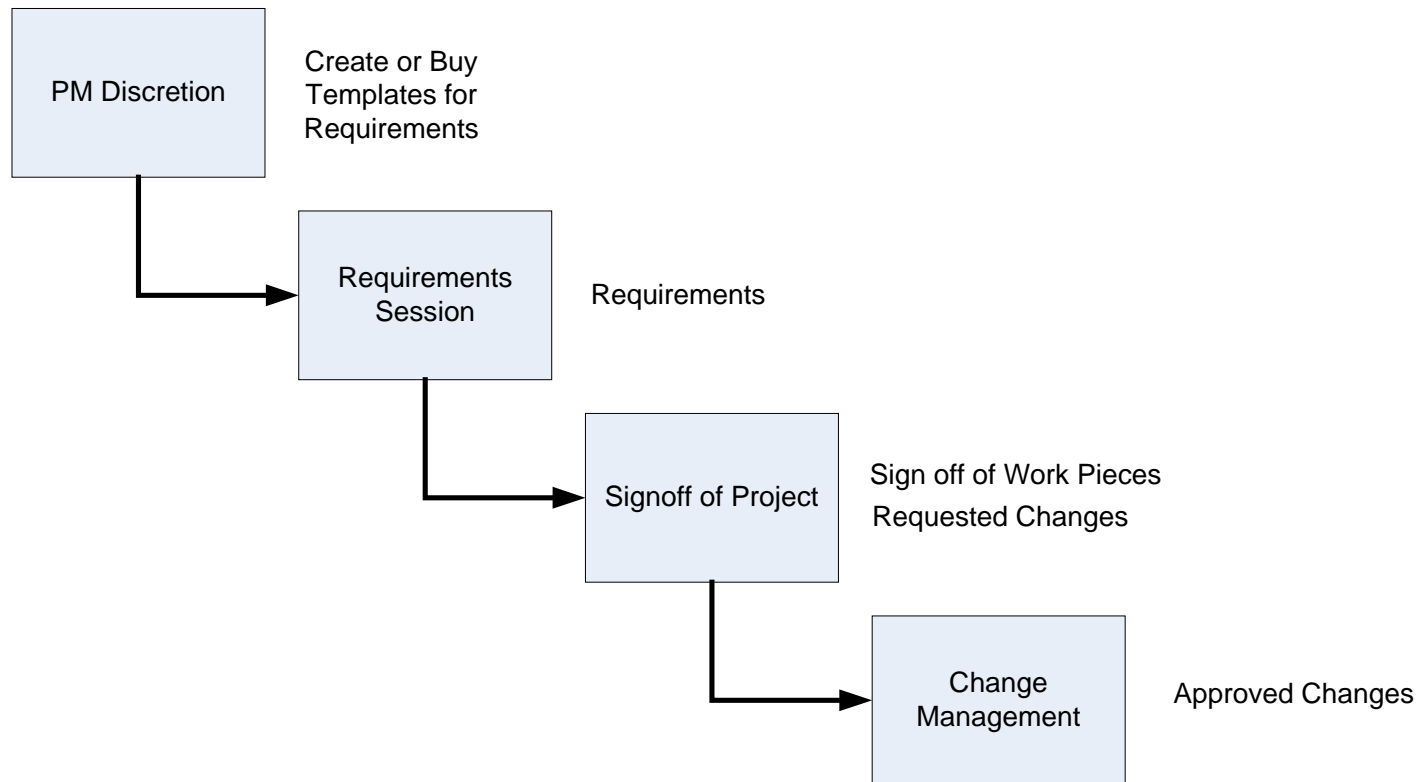


Current State without a WBS

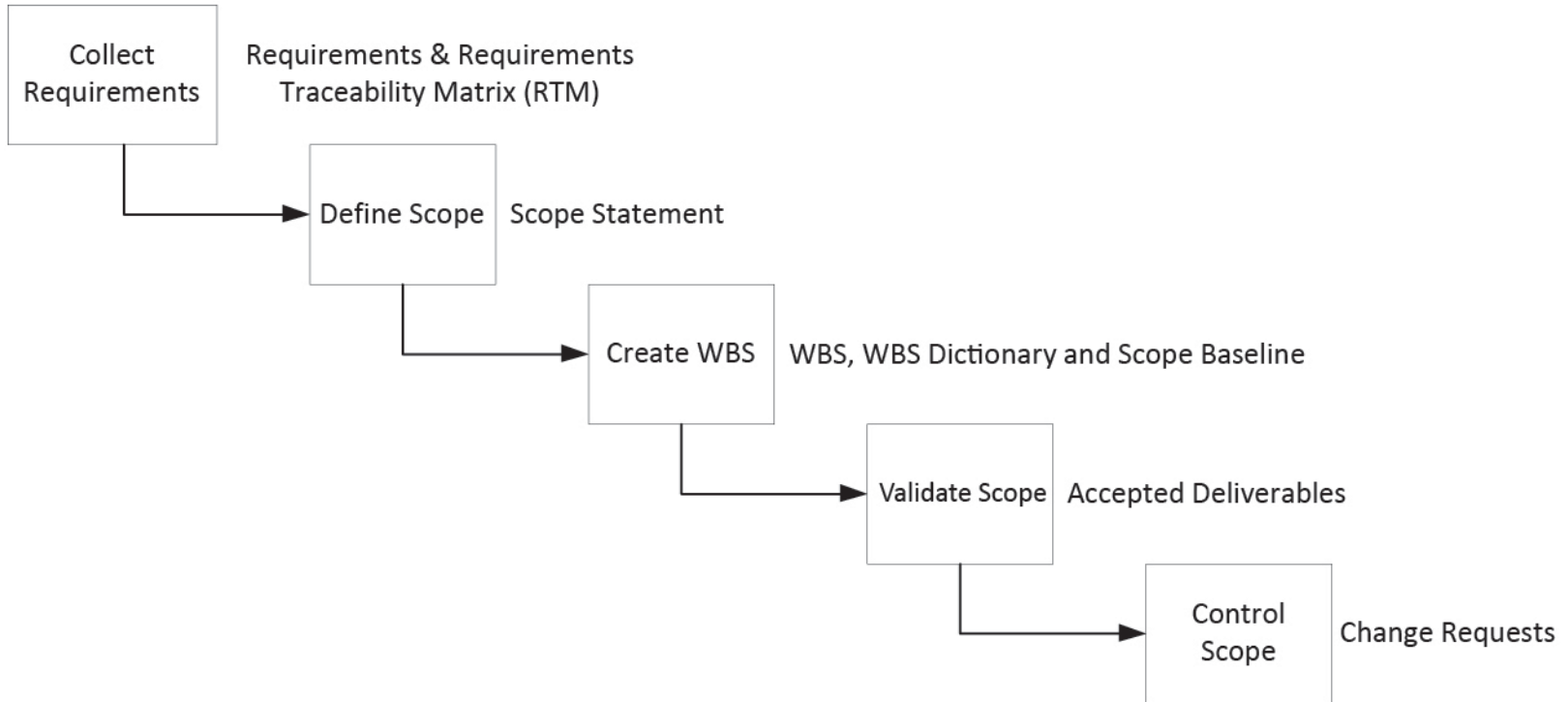
- Focus on what project results do, not what they are
- Focus on “Requirements”, not the pieces of the project
- Hard to measure
- Leaves areas of planning weak
- Change more likely because of lack of definition

In a Pre-WBS Environment

Common Scope Management Approach



Ideal State of WBS Usage



Scope Management Process Comparison

Fifth Edition PMBOK Guide

Plan Scope Management-Scope Management Plan

Collect Requirements-Stakeholder Requirements Document, Requirements Management Plan

Define Scope- Scope Statement

Create WBS-Work Breakdown Structure and WBS Dictionary

Validate Scope- Validated Deliverables

Control Scope-Change Requests

What? No WBS?

- Incomplete project definition
- Unclear assignments, goals, deliverables
- Scope creep
- Budget overrun
- Missed deadlines and timeline slippage
- Unusable product or failure to deliver

Introducing the WBS...

- It's a separation of the project scope and deliverables into a pattern of smaller work components that detail the tasks to be done.
- It defines the scope of work.
- It clarifies objectives and deliverables.
- It provides a framework for managing work to completion, including communications and integration with other processes
- Agile/Scrum
 - It could be considered a feature or function breakdown structure

Why use a Work Breakdown Structure?

- Provides a clear vision of the project work
- Helps team members buy into the project
- Provides the framework for all deliverables across the project life cycle
- Helps the project meet its objectives through focus on and support of the following:
 - Deliverables
 - Design
 - Management

Focus on Deliverables

- The deliverable is the core of a WBS.
- A deliverable-oriented WBS provides the following benefits:
 - Better communication to project sponsors, stakeholders, and team members
 - More accurate estimation of tasks, risks, timelines, and costs
 - Increased confidence that 100% of the work is identified and included
 - A foundation for the control processes within the project

The Value of Good Design

- Communicates at the level of detail and in the format appropriate for the audience (stakeholders, team members, etc.)
- Supports accountability and responsibility
- Organizes information for reporting progress, status, performance and for tracking risks
- 100% Rule: The WBS must include all work and deliverables (no less, no more) that fall within the project scope.

Supports an Organizational Perspective

- Provides the foundation for assigning work
- Provides support for delegating responsibility as work becomes more defined
- Helps keep assignments aligned within budgets and schedules
- Supports an Organizational Perspective

Relationship With Other Tools

- Project Charter
- Project Scope Statement
- Resource Breakdown Structure
- Organizational Breakdown Structure
- Project schedule Network Diagram
- Project Schedule

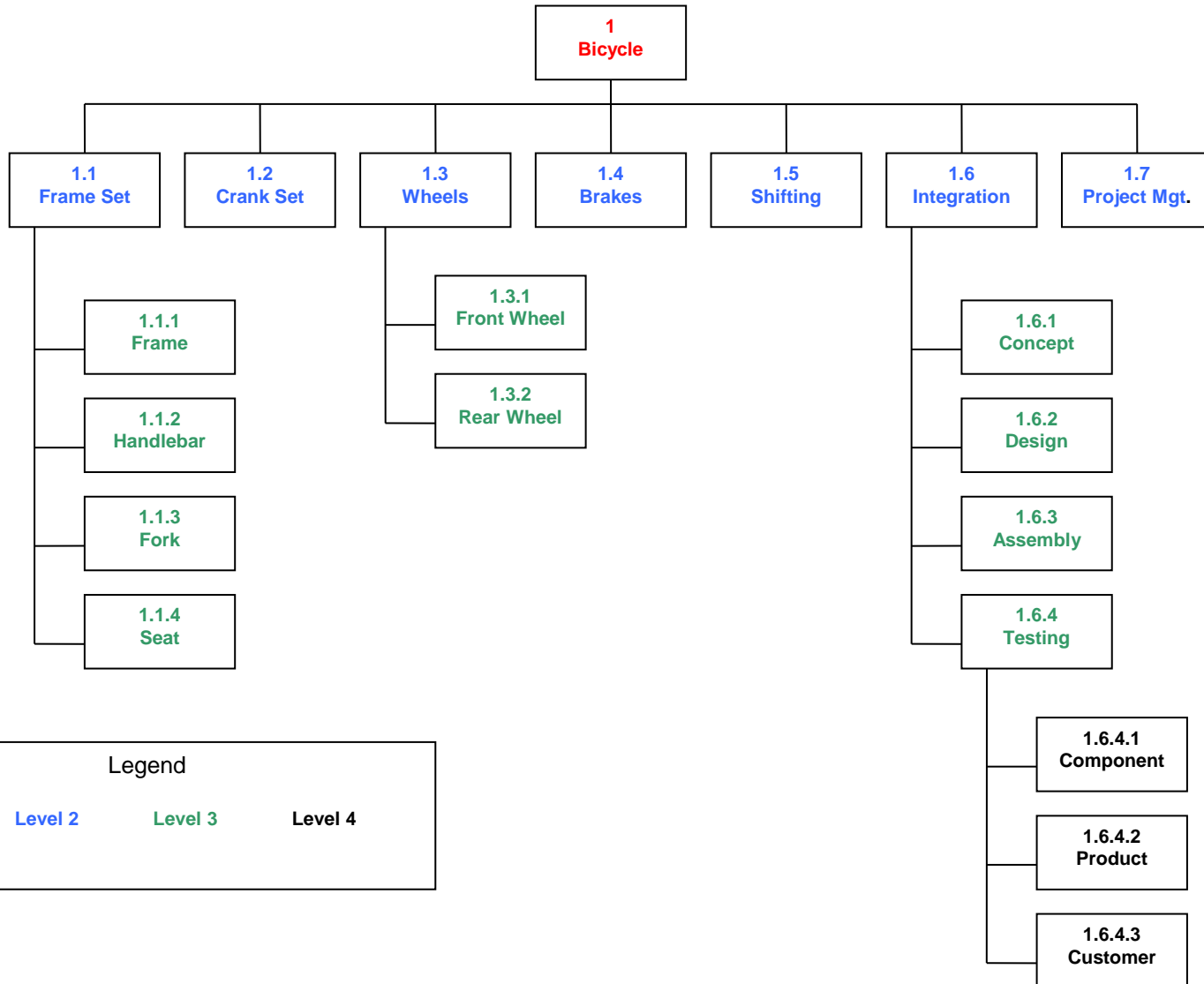
Questions to Ask when Preparing a WBS

- What needs to be done?
- What are the project's component parts?
- How do the pieces work together?
- have all deliverables been identified?
- Is the project scope defined and issued?
- Have the activities needed to support the deliverables been identified?

WBS Levels are necessary?

- The depth of a WBS depends on the size and complexity of a project
- Depth also depends on the level of detail needed to plan and manage the project
- Typically, a WBS has a multi-level of detail needed to plan and manage the project
- Typically, a WBS has a multi-level hierarchy, with the number of levels appropriate for managing the project, no more, no less.

Sample WBS (constructing a bicycle)



Preparation Methods

Top Down

Convenient for status reporting

Ensures projects are logically structured

Valuable when brainstorming

Accommodates additional deliverables as they are discovered

Bottom Up

Starts with deliverables and works backward into project

Confirms that all work packages are included

WBS Templates

Provides a starting point for WBS creation

Helps determine required level of detail

Enhances cross-project WBS consistency

WBS Standards

Formats are predefined

Enhances cross-project WBS consistency

When to Use Top Down

- PM and team have little experience developing WBS
- Nature of deliverables is not well understood
- Project life cycle is not well known
- No suitable WBS templates are available (developing WBS from scratch)

When to Use Bottom Up

- Nature of deliverables is well understood
- Project life cycle is well known
- Suitable WBS templates are available

Factors to Consider

- Each WBS element represents a single deliverable that is unique and distinct without duplication, including those corresponding to a subcontractor's WBS
- Deliverables are both interim and final, as required to create the final results
- All deliverables and reporting mechanisms must be in the WBS
- All WBS elements are compatible with organizational and accounting structures.

When to Use WBS Standards and Templates

- Use them if they are available
- Warning: Don't try to fit a WBS standard or WBS template to a project just because it looks similar. If one isn't a good, solid fit, develop the new WBS from scratch with a top-down approach.

Value of the WBS Dictionary

- Provides Supporting Detail for The Work of the Project Deliverables
- Provides Cost Accounts for Billing the Work
- Provides Sequencing for Deliverables
- Identifies Resources for Work Packages
- Think of the TASK INFORMATION window in MS Project

Knowledge Area Impact to Consider

- Integration
- Scope
- Time
- Cost
- Quality
- Human Resource
- Communications
- Risk
- Procurement

Integration

- Include work for the integration of components with the WBS element for component integration at the same level as those being integrated.
- Included work for any communications and meetings that are required for integration management

Scope

- Define all requirements and have them approved.
- Revisit the WBS often as development continues.
- Trace all WBS elements to documentation, such as statement of work and contract requirements.
- Maintain list of activities considered to be out of scope, review, and confirm with stakeholders.
- Consult historical data, risk registries, checklists and lessons learned to identify all work.

Time

- Decompose deliverables to estimate effort required to obtain or create them.
- Determine how to establish the status of the work in progress.

Cost

- Limit deliverables in size and definition.
- Determine how budgets will be established.
- Determine if level of detail is appropriate for planning and control.

Quality

- Determine if quality will be evaluated through efforts such as testing and inspection.
- Establish any quality requirements.
- Establish any compliance requirements, such as for auditing or industry standards.
- Determine if metrics will be defined to measure the deliverables.

Human Resource

- Ensure that each element has a single point of accountability.
- Establish a reporting structure for managing individual work assignments.
- Determine how work will be assigned and controlled.

Communications

- Account for all communications.
- Determine the type of communications required.
- Define any special needs to accommodate communications, e.g., translators, requirements that are specific for a given country, long distance.

Risk

- Determine any likelihood for change.
- Define a formal change process.
- Define metrics to determine how deliverables are measured.
- Define and monitor third-party dependencies.
- Include any contingency plans.

Procurement

- Determine the length of the subcontracting period.
- Define a WBS element for each procured deliverable.
- Determine if there are any intangible deliverables required for managing procurement.
- Determine what entity manages procurement.

Stakeholder

- Identify areas of stakeholder interest in the WBS
- Identify areas of stakeholder interaction in the WBS
- Identify areas of stakeholder involved in scope validation

Summary

- A WBS defines deliverables and their order, and supports the definition of work required to meet the objective.
- A WBS provides the framework for all deliverables and for performance objectives across the project life cycle.
- A WBS satisfies the needs of the project.
- It contains all elements necessary to represent the full scope of work.
- Many issues or problems can be traced back to flaws in WBS development.
- A high quality WBS increases the likelihood of successful completion.

Questions?

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Thank You

Closing thoughts...

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We hope you found this presentation
added value to your knowledge of
Project Management.

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- Hand in your completed survey to **Registration**, you will receive a free raffle ticket for one of the drawings to be held in the Vendor Expo (see Conference Program Guide for details).