

# projectmanagement



## Scope Definition and Management

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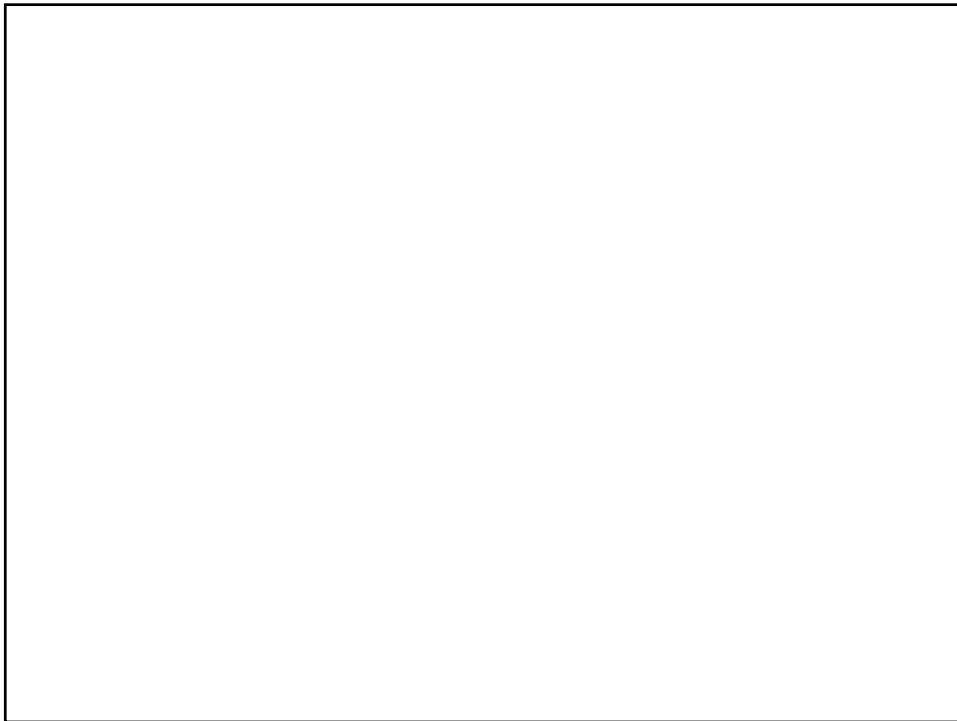
# CONTENTS

	<i>Page</i>
<b><i>Scope Definition and Management</i></b> .....	<b><i>1-1</i></b>
Scope Definition and Management .....	1-1
Workshop Agenda .....	1-3
Workshop Objectives .....	1-4
What Is Project Management? .....	1-5
What Is a Project? .....	1-6
The Project Life Cycle .....	1-7
PMI®'s Scope Management Processes .....	1-8
Defining Scope .....	1-9
The Triple Constraint .....	1-10
Triple Constraint Trade-offs .....	1-11
Preliminary Scope Definition .....	1-12
Project Customer .....	1-13
Project Customers: Partial List of Candidates for Customer Roles .....	1-14
Exercise 1: Office Move .....	1-15
Project Charter .....	1-16
Why Have a Project Charter? .....	1-17
Project Charter Components .....	1-18
Project Management Plan .....	1-19
Scope Management .....	1-20
Scope Management Plan .....	1-21
Scope Statement .....	1-22
Scope Definition—A Proven Agenda .....	1-23
Scope Verification and Customer Acceptance .....	1-24
Exercise 2: Scope Statement for the Office Move .....	1-25
Work Breakdown Structure (WBS) .....	1-26
The Basics of the WBS .....	1-27
Work Packages .....	1-28
WBS Models (Graphical) .....	1-29
WBS Models (Outline/Indented) .....	1-30
Sources of Project Activities .....	1-31
Building a WBS .....	1-32
The WBS Dictionary .....	1-33
WBS Examples .....	1-34
Exercise 3: WBS for the Office Move .....	1-36
The Baseline .....	1-37
The Project Baseline .....	1-38
The Basics of Baselines .....	1-39
Baselines .....	1-40
Assessing Project Performance .....	1-41
Monitoring Project Performance .....	1-42
Change Management .....	1-43
Where Does Change Come From? .....	1-44

	<i>Page</i>
Managing Change.....	1-45
Change Management Process.....	1-46
Document Change Requests .....	1-47
Effects of Change .....	1-48
Exercise 4: Change Request .....	1-49
Coping with Change .....	1-51
Communicating Change .....	1-52
Baseline Review .....	1-53
Workshop Review .....	1-54
Bibliography and Suggested Reading.....	1-55



## **Scope Definition and Management**





## Workshop Agenda

- Introduction: What Is Project Management?
- Preliminary Scope Definition
- Scope Management
- Work Breakdown Structure (WBS)
- The Baseline
- Change Management



## Workshop Objectives

***By the end of this course, you will be able to—***

- Describe the role of the “Triple Constraint” in project management and apply it in determining project scope
- Accurately define project scope
- Develop a scope management plan
- Create a work breakdown structure (WBS) for a project
- List the fundamental rules associated with establishing a baseline
- Develop a procedure for managing changes in a project after it is has begun

## Introduction

# What Is Project Management?




## What Is a Project?

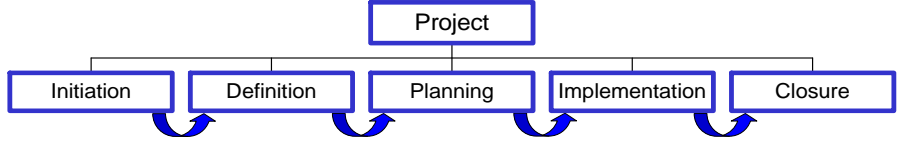
*A temporary endeavor undertaken to create a unique product, service or result*

—PMBOK® Guide, p. 368

<b>to create</b>	Has an intention to produce something (project “deliverables”)
<b>unique</b>	One-of-a-kind rather than a collection of identical items
<b>product</b>	Tangible object, but could include something like computer software, film, or a stage work
<b>service or result</b>	Might include the establishment of a day-care center, for instance, but <b>not</b> its daily operations




## The Project Life Cycle



Phase	Purpose
<b>Initiation</b>	Introduce project to obtain approval and create project charter
<b>Definition</b>	Document project scope, deliverables, and methods for containing scope
<b>Planning</b>	Create plan documenting the activities required to complete the project, the sequence of activities, the resources assigned to the activities, and the resulting schedule and budgets
<b>Implementation</b>	Execute and manage the plan, using artifacts created in the planning phase
<b>Closure</b>	Formally review the project, including lessons learned and turnover of project documentation

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## PMI®'s Scope Management Processes

- Scope planning
- Scope definition
- WBS creation
- Scope verification
- Scope control

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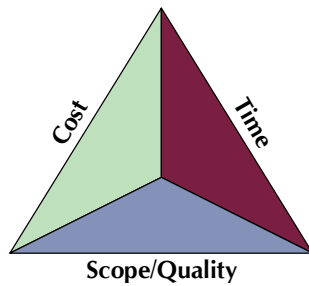
## Defining Scope

### ***Product Scope Versus Project Scope***

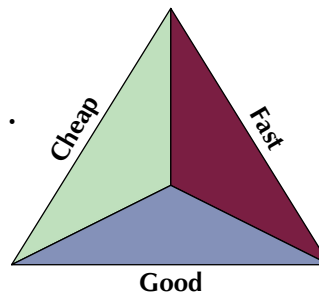
- Product scope: The sum of the features that make up the product or the service that is created by the project
- Project scope: The sum of activities and resources required to produce the target product or service



## The Triple Constraint

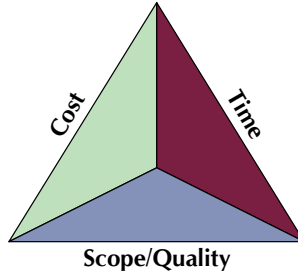


Or, in plain English . . .





## Triple Constraint Trade-offs



<i>Constraint Change</i>	<i>Required Adjustment Alternatives (One or Combination of Both)</i>	
<i>Shorter Time</i>	Higher Cost	Reduced Quality or Narrowed Scope
<i>Reduced Cost</i>	More Time	Reduced Quality or Narrowed Scope
<i>Higher Quality or Increased Scope</i>	More Time	Higher Cost

## Preliminary Scope Definition



## Project Customer

*The person or organization that will use the project's product or service or result.*

— PMBOK® Guide, p.358

- Types of customers
  - External
  - Internal
  - Intermediate
  - End user
  - Invisible (hidden)



## Project Customers: Partial List of Candidates for Customer Roles

- Project benefactor and upper management
  - Project sponsor; office/project advisory boards; executive management
- Project requestor
- Project manager and team
  - If a team member has a line manager, that person is a key stakeholder as well. (He or she holds the strings for your team member.)
- Internal consultants
  - Legal; IT infrastructure; quality assurance; HR department
- External entities affected by the project
  - Customers; vendors; governmental agencies; other regulatory bodies

## Exercise 1

# Office Move

Your company has outgrown its office space and is faced with several options. It can stay where it is and triple people up in offices, it can wait 18 months until additional floors of the office building become available, or it can move to a nearby location (or even to the next county). Everyone seems to have differing opinions of what would be the best action, and vigorous debates have ensued while people heat up their lunches or get coffee in the kitchen. Finally, the president makes a decision: your company will move to a new office space 10 blocks away.

- What is the project in this scenario?
- Who are the stakeholders?
- What are some of the main issues that you will need to address in this project in terms of scope?

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## Project Charter

### *The project charter—*

- Is the project's "license to do business"
- Should come from someone who is outside the project itself
  - This person should have access to funding and sufficient authority to assign resources and make decisions to support the project.
  - This person is usually referred to as the project sponsor.

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## Why Have a Project Charter?

### **Primary purpose**

- To get approval to proceed with the project and to obtain sufficient approval for resources to move to the next phase of the project

### **Other purposes**

- To communicate the mission and the project's objectives to stakeholders and other interested parties
- To communicate to the project team members what they are expected to accomplish



## Project Charter Components\*

- Project mission and scope
- Project objectives
- Project assumptions
- Project constraints
- Milestones
- Project risks
- Stakeholders
- Signature page granting authority to proceed

*\*In some organizations, the project charter is an evolving document. Many of the components listed will change as the project moves into the Project Definition Phase.*



## Project Management Plan

- A formal, **approved** document that defines how the project is—
  - Executed
  - Monitored
  - Controlled
- May be summary or detailed
- May be composed of one or more subsidiary management plans and other planning documents

Source: PMBOK® Guide, p. 369

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## Scope Management

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## Scope Management Plan

- Compares deliverables that are completed or in progress to project specifications
- Determines a strategy for limiting scope changes
- Manages activities to maintain the scope
- Tracks changes throughout the project
- Traces changes back to the requirements

Source: PMBOK® Guide, p. 370

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## Scope Statement

- A scope statement is written in a narrative format
- A scope statement provides—
  - A documented basis for making future project decisions
  - A basis for confirming or developing a common understanding of scope among stakeholders
- A scope statement includes—
  - Background/summary of project
  - Project objectives
  - Major deliverables
  - Project assumptions
  - Risks
  - Resource requirements
  - Project constraints
  - Statements of work
  - Acceptance criteria

Source: PMBOK® Guide, p. 370

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## Scope Definition—A Proven Agenda

### *The scope definition defines—*

- Project mission and purpose
- End deliverables (outcomes) and phase deliverables
- End conditions (for measuring completion and success)
- Project exclusions (what it is not) and nonnegotiable items
- Constraints, such as expandability, compatibility, flexibility, physical limits, timing, and money
- Assumptions
- Geographic locations (of project), with possible effects of travel, time zone, and language
- Effects of external and internal organizations involved in the project
- Relative priority of the project

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## Scope Verification and Customer Acceptance

*Scope verification is the process of formalizing acceptance of the completed project deliverables*

—PMBOK® Guide, p. 375

- This means asking—
  - Did you do what you said you were going to do?
  - Did you gain agreement on the scope activities and deliverables having been completed?
- Two steps:
  - Dialogue with your team and check the WBS
  - Dialogue with the customer

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## Exercise 2

# Scope Statement for the Office Move

Using the information provided earlier, write a brief scope statement for the office move project. Remember to include such elements as:

- Background/summary of project
- Project objectives
- Project deliverables
- Key milestones
- Assumptions
- Risks
- Resource requirements
- Constraints
- Acceptance criteria

# Work Breakdown Structure (WBS)



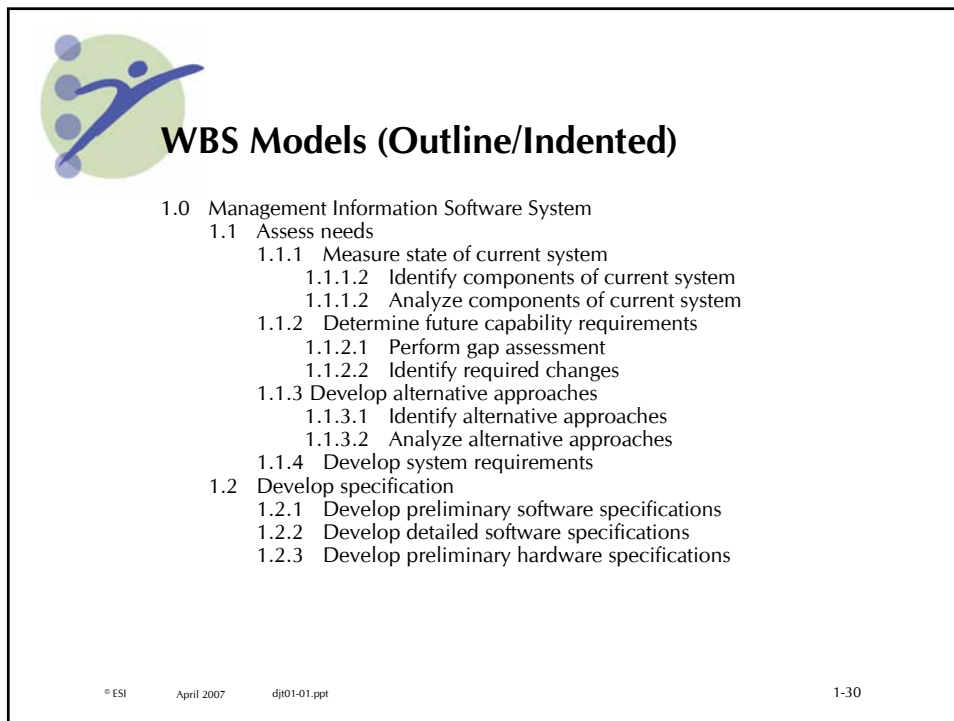
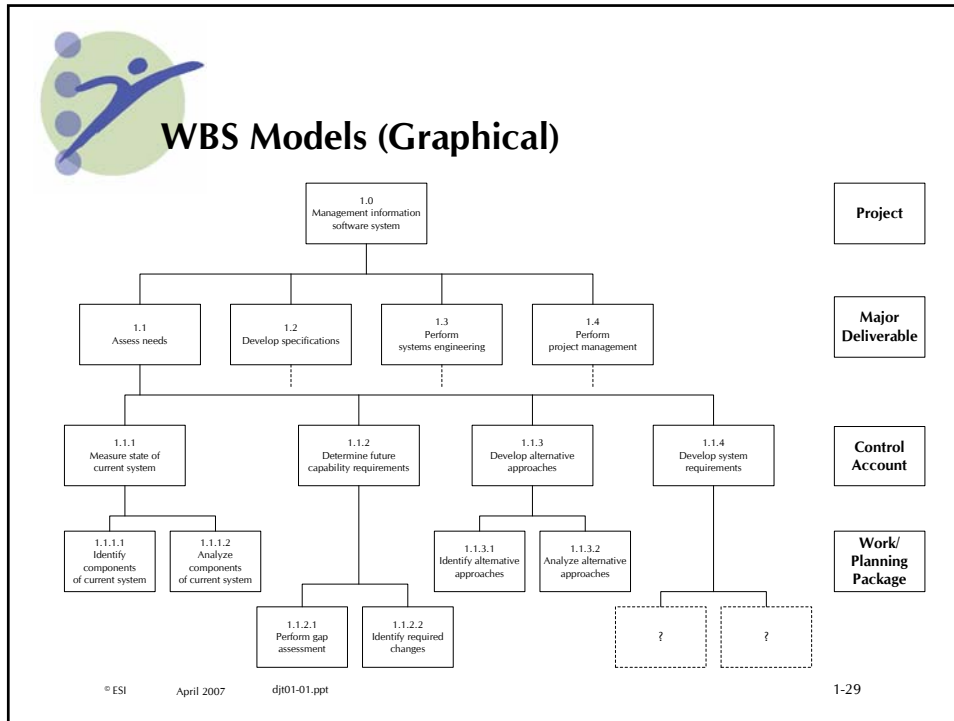
## The Basics of the WBS

- The WBS helps to organize the activities required to meet the objectives of the project
- The focus of the WBS is on deliverables
- Formats:
  - Graphical
  - Outline/indented



## Work Packages

- The lowest level of WBS is called a work package if further deconstruction into activities is possible
  - May be assigned as a subproject
  - May be subordinated into WBS structure for estimating purposes
- Activities at this level become the basis for time and duration estimates





## Sources of Project Activities



### **Brainstorming**

### **Templates**

- As you gain more project experience, work with other project teams to develop WBS templates to use as starting points for future projects.
- No two projects are ever exactly alike. (Remember the “unique” in the definition of a project.) A template is only a starting point, and it should be tailored to the specific needs of the current project.
- Even when considering the time spent on tailoring, using a template can be an enormous time-saver.



## Building a WBS

### **As a team—**

1. Understand the purpose of your project.
2. Establish the major breakout segments of the work.
3. Break each major segment down into the smaller components.
4. Break each component down into subcomponents.
5. Continue down to the level in which you will assign and monitor project work.
6. Hold a review session with the core project team, the client, and other key stakeholders to gain buy-in and to identify missing items.
7. Prepare the WBS dictionary.



## The WBS Dictionary

- Not a book of terms and definitions
- Provides detailed background on each work package
- Captures critical information about the activity, such as—
  - The name and number of each WBS task
  - Descriptions of each task, including deliverables to be produced and deliverables schedule
  - Resource requirements
  - Preceding/subsequent activities
- Contents will vary, depending on the need for information

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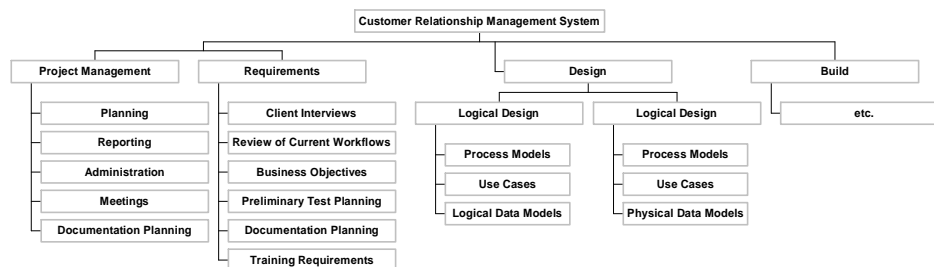
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## WBS Examples

### Partial WBS for Software Project Based on Phase



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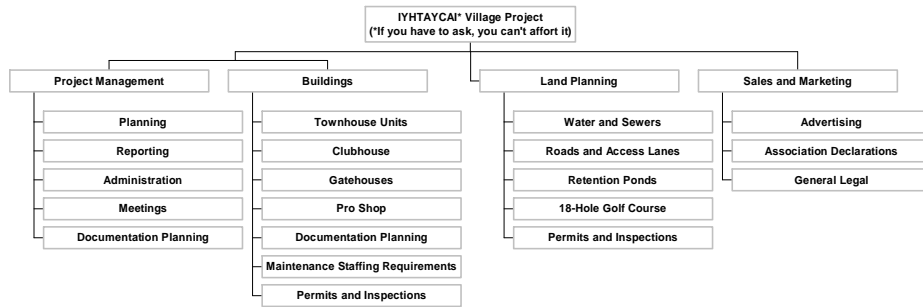
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## WBS Examples (continued)

### Partial WBS for Luxury Townhouse Complex by Component



### Exercise 3

## WBS for the Office Move

Use the following major categories to develop a WBS of those activities necessary to accomplish an office move: project management; pre-move activities; moving activities; post-move activities.

Arrange the following tasks as work packages under the four headings described above: select furniture; prepare office for move; hold kickoff meeting; set up utilities (wiring and so on); complete internal construction to final floor plan; plan move; move/relocate; install new furniture, communications equipment, and computers; install new signs; close out project.

## The Baseline



## The Project Baseline

*The approved time phased plan, plus or minus approved project scope, cost, schedule, and technical changes*

*—PMBOK Guide, p. 352*



## The Basics of Baselines

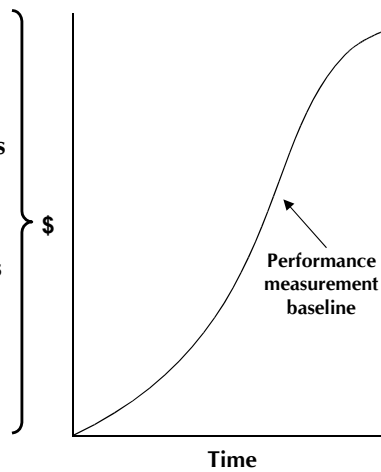
*The baseline establishes a reference against which project managers can measure actual project progress*

- Types of baselines
  - Scope
  - Schedule
  - Cost
- Stakeholders that need baselines:
  - Customer
  - Project manager
  - Management
  - Accounting
  - Project team



## Baselines

- Establish technical baselines
- Establish budget baselines
- Establish schedule baselines







## Assessing Project Performance

- Monitoring
  - Continuous, ongoing
  - Used by project team to adjust the project
- Evaluating
  - Periodic
  - Used by senior management and customers to adjust the project



## Monitoring Project Performance

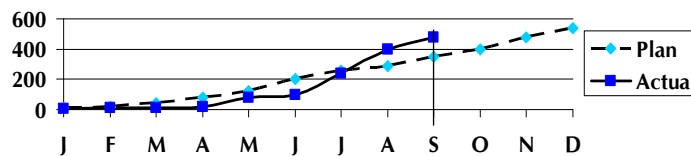
- Compare against baselines:
  - Cost
  - Time
  - Scope
- Identify variances
- React as necessary

# Change Management



## Where Does Change Come From?

- Customers
- Team members
- Project managers
- Management changes
- Environmental changes
- Government agencies
- Product obsolescence
- Funding changes
- Technological advances or problems



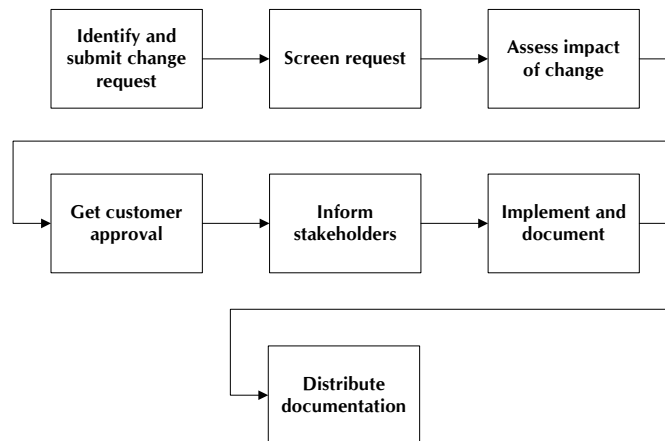


## Managing Change

- An organized, systematic approach is helpful in managing change:
  - Change request forms
  - Review and evaluation process
  - Decisions



## Change Management Process





## Document Change Requests

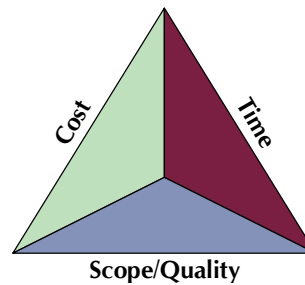
- Who
- What
- When
- Effect
- Authorization



## Effects of Change

***Evaluate effect on—***

- Triple constraint
- Functional areas
- Team
- Project
- Politics
- Organization



## Exercise 4

# Change Request

The president of your company has just issued a directive: Your company will be “going green.” She wants the company to operate in the most environmentally friendly way possible, and she hopes that by doing so, the company will ultimately save money and create some good PR buzz. Unfortunately for you, this means that you will have to replace all of the furniture that was originally ordered for the new office with furniture that is made at least 75% from recycled materials. Use the template on the next slide to formally document this change request.

## Exercise 4

# Change Request (continued)

Initiator Information (name):	
Change number:	
Nature of change:	
Does change represent a scope change?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Impact of change on project cost:	
Impact of change on project schedule:	
Impact of change on project quality/technical specifications:	
Change Authority: Internal and Customer Signatures	



## Coping with Change

- Update project plan
- Communicate changes
- Shield team
- Close project



## Communicating Change

***An organized, systematic approach is helpful in communicating change.***

- Change Responsibility Document
  - Project Manager role
  - Customer organization role
- Document Control
  - Control during project
  - History



## Baseline Review

- Ensure that all key stakeholders agree to the baseline
- Work to establish risk response strategies before setting the baseline
- Be clear about when and how to access the management reserve
- Know the objective measures that will identify when the baseline is out of control
- Know when and how to change the baseline
- Re-baseline (but only as a last resort)

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## Workshop Review

***By now, you should be able to—***

- Describe the role of the "Triple Constraint" in project management and apply it in determining project scope
- Accurately define project scope
- Develop a scope management plan
- Create a WBS for a project
- List the fundamental rules associated with establishing a baseline
- Develop a procedure for managing changes in a project after it is has begun

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## **Bibliography and Suggested Reading**

- Project Management Institute. *A Guide to the Project Management Body of Knowledge*. Newtown Square, Pa.: Project Management Institute, 2004.
- Ward, LeRoy, ed. *Project Management Terms: A Working Glossary*. Arlington, Va.: ESI International, 2000.



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