CSU Project Management Certificate Program

Project Scope Management

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Scope gone wild! – client wants what?

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Project Scope Management

Agenda

- Introduction / About the Class
- Where Scope Processes fit in?
- Project Scope Management
- Summary

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Scope Management Objectives

- Understand the building blocks of project scope management according to PMI
- Understand the function of the project manager in managing scope on your project
- Create an initial WBS (Work Breakdown Structure.

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Syllabus (section 2 – two weeks)

	Description	Homework
Week 1	• Course Introduction and objectives • What is Scope Management? (PMBOK – Chapter 5) • Where Scope Mgmt. processes fit in? (PMBOK p.70) • Overview of Scope Management Processes (PMBOK p.105-106) • Scope Planning (PMBOK 5.1, p.107-108) • Scope Definition (PMBOK 5.2, p109-111) • Team Exercise – details provided during class • Instructor hands out assessment to be returned via e-mail to eaglebusiness@hotmail.com no later than one week after last night of this 2 week section.	• Read PMBOK Chapter 5 (Scope) • Read Kim Heldman's PMP Study Guide – Chapter 3, p. 98-131 "Scoping out the Scope Statement" and read p.134-146, Creating WBS – Heldman • Contact your team to work on final touches to the WBS for your project.
Week 2	• Create Work Break Down Structure (WBS) (PMBOK p.116-118) • Team Exercise – Create a WBS for your team project • Scope Verification (PMBOK 5.4) • Scope Control (PMBOK 5.5) • Project Scope Management Summary	• Send in assessment within one week from last night of this section e-mail - eaglebusiness@hotmail.com (results will be provided within 2-3 weeks after received) • Read PMBOK Chapter 6 - Time Mgt. for next section. . .

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PMI Process Groups to Knowledge Areas Map (PMBOK page 70)

Knowledge Area	Initiating	**Planning (21)**	Execution	**Controlling**	Closing
Integration	4.1, 4.2	**4.3**	4.4	4.5, 4.6	4.7
**** Scope***		***5.1, 5.2, 5.3***		***5.4, 5.5***	
Time		**6.1, 6.2, 6.3, 6.4, 6.5**		6.6	
Cost		**7.1, 7.2**		7.3	
Quality		**8.1**	8.2	8.3	
HR		**9.1**	9.2, 9.3	9.4	
Communications		**10.1**	10.2	10.3, 10.4	
Risk		**11.1, 11.2, 11.3, 11.4, 11.5**		11.6	
Procurement		**12.1, 12.2**	12.3, 12.4	12.5	12.6

**** Notice Scope Management spans planning and controlling process groups***

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Process Groups – where do Scope Management Processes fit in?

Arrows represent flow of information

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Project Plan Development:

Define the Scope of Work

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What is Project Scope Management?

- Includes the processes required to ensure the project includes *all the work required, and only the work required, to complete the project successfully (PMBOK 5, p.103).*

  - ***NO GOLD PLATING!***

- **Real World Meaning:**
  - *Clearly defining and controlling* ***what is and is not*** included in the project (requires strong leadership and communications)
  - Knowing the health of the project – What is the status?
  - This is done by measuring project scope against the Project Plan, Scope Statement, and WBS (managing against "Scope Creep or Scope Leap").

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Project Scope Management
(PMBOK Section 5, p.103-122)

Scope Processes are as follows:

- 5.1 Scope Planning
- 5.2 Scope Definition
- 5.3 Create WBS (Document)
- 5.4 Scope Verification
- 5.5 Scope Control

Also, see process flow diagram figure 5-2 PMBOK p. 106

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Scope Planning (PMBOK 5.1, p.107)

- Project Scope Management is ***critical to success of the project***.
- Documents how project scope will be defined, verified, controlled, and how the WBS will be created.
- Requires careful balance of tools, data sources, methodologies and processes/procedures (ties to project's size & complexity)
- Scope plan begins with team analysis of the following:
  - Project Charter (authorization to begin the work)
  - Preliminary Scope Statement (defines the project)
  - Approved PM Plan and historical information.

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Scope Planning: Inputs (5.1.1)

* Pop Quiz – Which are the same inputs as in the Project Charter?

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Scope Planning: Tools and Techniques / Output (PMBOK 5.1.2, p.108)

- Tools and Techniques -
  - Expert Judgment
  - Templates, Forms, Standards
- ***Output*** – From Project Scope Planning is?

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Details of Scope Plan Output

(PMBOK 5.1.3, p.108) – *what is it and how it used?*

- **Scope Plan *provides guidance* on how scope will be defined, documented, verified managed and controlled.**

- **Components of the Scope Management Plan include (but, not limited to):** ***Note: remember these for team exercise!***
  - Process to prepare a ***detailed*** scope statement
  - Process that enables creation of the **WBS**
  - How formal verification/acceptance of scope will be obtained
  - How the change request/control process will be implemented and managed.

Note: Scope plan should be contained in Project Management Plan.

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Project Scope Lite Template

Note: Any work not explicitly included in the *Project Scope Statement* is implicitly excluded from the project. Please refer to the supplemental document – *Instructions for Project Scope Statement* – for detailed information about completing this form.

1. Executive Summary	
Provide below a brief overview of this project (e.g., project purpose and justification):	
Provide a brief project summary in the space below. This information may be available in the Project Charter. Also provide a link to the *Project Charter* for reference.	Link To Project Charter
Note: **In any instance where there is a discrepancy between the *Project Charter* and the *Project Scope Statement*, the latter is considered authoritative.**	

2. Business Objectives
2.1 Product Description (Solution):
2.2 Business Objectives:

3. Project Description
For each area below, provide sufficient detail to define this project adequately:
3.1 Project Scope
Includes (list Deliverables):
•
Does Not Include:
•
3.2 Project Completion Criteria:
3.3 External Dependencies:
3.4 Assumptions:
3.5 Constraints:

Source: http//:www.cio.sc.gov/PMDT/

Scope Definition (PMBOK 5.2, p.109)

- This is where the **work begins** to prepare a *detailed Project Scope Statement which is critical to project success.*
- Scope Definition process *builds on the work performed in the Scope Planning process*
- Defines major deliverables, assumptions, and constraints that will meet stakeholder needs, wants and expectations.
- Requires careful analysis of stakeholder expectations by the project team to convert them in to clearly defined requirements.

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Scope Definition: Inputs (5.2.1)

* Pop Quiz – Which are the same inputs as in Scope Planning?

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Scope Definition: Tools and Techniques (PMBOK 5.2.2, p.110)

- Product Analysis
- Alternative Identification (options)
- Expert Judgment
- Stakeholder Analysis (influence & interests)

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Scope Definition: Outputs
(PMBOK 5.2.3, p.110-111)

Updated Project Scope Mgmt. Plan

Project Scope Definition

Requested Changes
(through Integrated Change process)

Project Scope Definition - Detailed Scope Statement (PMBOK p.110-112)

Describes in ***detail*** the project's deliverables and includes (but, not limited to):

- Project **objectives** (problem or business need to be addressed)
- ***Product*** Scope description (describes product, service, or result)
- Project **requirements** (conditions or capabilities that must be met)
- Project **boundaries** (what is included in the project, i.e., in-scope)
- **Deliverables** (details of key results of the project such as reports, documents, prototypes, or milestones)
- **Acceptance criteria** (process and criteria to be met for key stakeholder acceptance) and who is authorized to sign off?
- **Constraints** (limitations, i.e., cost, time, resource/people?)
- **Assumptions** (specific to the project scope).

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Team Exercise – Subdivide project Work

1. Break into your teams (take 20 min.)
2. Select your next Project Manager (PM)
3. From your Scope Statement and Project Charter from previous team exercises focus on (most focus on last bullet below):
   - Quick Review (refine – only if needed) your scope definition, i.e., deliverables, assumptions, and constraints that may affect stakeholder needs and expectations **change only if needed**.
   - ***As a team "lock in" (agree) on your estimated project completion target date.***
   - ***Subdivide and document your project work into phases or categories of more manageable "chunks"/groups of work.***
4. PM presents on last 2 bullets above (target date and structure) - keep presentation to <5 minutes.

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Create WBS (PMBOK 5.3, p. 112-118)

WBS is very important – Hint, Hint!!!

- WBS organizes and defines the total scope of the project.
- Subdivides the project into smaller, more manageable pieces of work with each descending level (Work Package is the lowest level of decomposition)
- PMI defines "WBS as a "deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish project objectives and create the required deliverables." (PMBOK p. 112, examples of WBS on p.116)
- Represents work specified in approved scope statement
  - The foundation upon which the project is built
  - VERY Important and can be reused on other projects
  - Forces you to think through all aspects of the project

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Benefits of the WBS

- Helps prevent work from slipping through the cracks
  - Provides the project team with an understanding of where their pieces fit into the overall project plan
  - Gives the team members indication of the impact of their work on the project as a whole (shows dependences)

Note: A WBS is deliverable oriented – not just customer deliverables, but, ALL deliverables of the project need to be included.

Also note, PMI tends to ***not*** use the work "task" rather they use words like "work package" or "activities".

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Create WBS: Inputs (5.3.1)

* Pop Quiz – What changed on Project Scope Statement input?

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Create WBS: Tools and Techniques (PMBOK 5.3.2, p. 113)

- Work Breakdown Structure (WBS) templates
  - From previous projects
  - With similar life cycle
- Decomposition
  - Subdivision of project deliverables
  - Adds structure and organization
  - Should use WBS Dictionary

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Create WBS: Outputs (PMBOK 5.3.3, p.117-118) – Notice the number of outputs!

WBS vs. Other Breakdown Structures (PMBOK section 5.3.3, p.117)

WBS should not be confused with other important breakdown structures, i.e.,

- Organizational Breakdown Structure (OBS) – the "Who"
- Product Breakdown Structure (PBS) – the "What"
- **Work Breakdown Structure (WBS) – the "How"**
- Bill of materials (BOM) – presents hierarchical view of physical assemblies and components in manufacturing
- Risk Breakdown Structure (RBS) – depicts identified risks
- Resource Breakdown Structure (RBS) – resources / people by type (skills) to be used on the project also known as a RAM (Resource Assignment Matrix)

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WBS Example (three levels)

Complete Yard Project
1.0

Prepare equipment
1.1

- 1.1.1 Sharpen hedge trimmer
- 1.1.2 Check spark plug
- 1.1.3 Put gas in mower

Trim /Mow lawn
1.2

- 1.2.1 Determine pattern
- 1.2.2 Mow front yard
- 1.2.3 Mow back yard
- 1.2.4 Trim hedges
- 1.2.5 Edge sidewalks

Clean up
1.3

- 1.3.1 Bag grass
- 1.3.2 Pick up clippings
- 1.3.3 Haul to trash can
- 1.3.4 Sweep drive and sidewalks

Tip - Use action words (verbs)

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WBS Gone Wild!

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Team Exercise – Build a WBS

1. Break into your groups (40 minutes)
2. Select the next Project Manager (PM)
3. Review PMBOK section 5.3.2, p. 112-118 and Heldman p. 134-146 constructing the WBS for your team project:
   - Take two sheets of flip chart paper and Post-it notes
   - Create a WBS for your project (only go down 3 layers)
   - List high level (key) activities under each phase
   - PM presents WBS overview to the class - keep to <5 minutes please.

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Scope Verification (PMBOK 5.4, p118)

- Process of obtaining stakeholders' formal acceptance of the completed project scope and deliverables.
  - Inputs
    - Project Scope Statement
    - WBS Dictionary
    - Project Scope Management Plan
    - Deliverables
  - Tools and Techniques
    - Inspection
  - Outputs
    - Accepted Deliverables
    - Requested Changes
    - Recommended Corrective Actions

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Scope Verification

- Means checking the work against the project management plan and meeting with the customer *to gain formal acceptance of deliverables.*

- *Now lets discuss how your team plans to obtain formal acceptance on your project?*

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Scope Control (PMBOK 5.5, p.119-122)

Scope control is concerned with influencing factors that create scope changes and controlling the impact of the changes.

- **Inputs**
  - Scope Statement, WBS, WBS Dictionary,
  - Scope Management Plan, Performance Reports
  - Approved Change Requests & Work Performance Information
- **Tools and Techniques**
  - Change Control System, Variance Analysis
  - Re-planning and Configuration Management System
- **Outputs - Updates to:**
  - Project Scope Statement, WBS, WBS Dictionary, Baseline, Requested Changes, Recommended Corrective Action, Organizational Assets, Project Mgmt. Plan.

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Team Exercise (20 minutes) – How you plan to control Scope Creep?

1. Break into your teams
2. Select your next Project Manager (PM)
3. Reference Scope Control - PMBOK p.119-122
   - Document how your team will control scope on your project (i.e., planned review/approval process, tool)
   - Document any updates to WBS, Scope Statement, Scope baseline, etc. as result of this exercise.
4. PM presents how you plan to control “scope creep” on your project to the class - keep pitch to <5 minutes

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Key to Successful Scope Management

- A project manager needs to understand the environment he/she is working in to be effective.
  - Project lifecycle, stakeholders, organization structure and culture, and the PMs role in the project (may vary depending on size and type of project)
  - Understand the Process groups for Scope Management
- Understand the role of the PM in managing scope
  - Project Scope planning: incorporate in to the project plan
  - Scope Definition: direct the project based on the deliverables and measure progress against the plan
  - Scope change management: update the plan, take corrective action, create lessons learned
- Follow scope management processes
  - Document the project scope (Scope Plan and WBS)
  - Manage scope change.

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Sample test questions

1. **A WBS numbering system allows project staff to:**
   a. Systematically estimate costs of WBS elements.
   b. Provide project justification.
   c. Identify the level at which individual elements are found.
   d. Use it in project management software.

2. The WBS can BEST be thought of as an effective aid for _____communications:
   a. team
   b. Project manager
   c. customer
   d. stakeholder

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From Rita Mulcahy PMP Exam Prep book

Answers: C, D

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Sample test questions, cont;

3. **Which of the following is KEY attribute of scope verification?**
   a. More complete project scope management plan.
   b. Customer acceptance of project deliverables.
   c. Improved schedule estimates.
   d. Improved project management information system (PMIS).

4. During what part of the PM process is the project scope statement created?
   a. Initiating
   b. Planning
   c. Executing
   d. Monitoring and controlling

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Answers: B, B

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Project Scope Management Summary

- **Know the five processes of Scope Mgmt.**
- **Know the definition of Scope Mgmt (the work & only the work needed)**
- **Know importance of WBS (p.112), Scope Statement and Change Control**
- **Know the purpose of WBS Dictionary**
- **Managing scope on the project is essential to success of the project.**

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Class Assessment

- Send your final assessment *ANSWERS ONLY via e-mail* within one week from the last night of class for this section to: **eaglebusiness@hotmail.com**

- **Read chapter 6 of the PMBOK to prepare for Time Management**

- **Congratulations, you have completed another section. . .**

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