**Software Project Management** Lecture 8

**Words of Wisdom**

• Stop blaming and complaining. Raise to the position when you have no one else to blame, but yourself.

• *Namely that no bearer of burdens can bear the burden of another. Al-Quran (53:38).*

**Major Project Documents**

• PMI PMBOK describes three major documents • Project Charter

– Formally authorizes the project.

• Project Scope Statement

– States what work is to be accomplished and what deliverables need to be produced.

• Project Management Plan

– States how the work will be performed.

**The Project Plan**

• The project plan is the road map

• A map tells you what route to follow

• Without a map you only know to

– “head roughly east; turn right at the Rocky Mountains” • Without a map you do not know if you are making progress toward your destination

• If you get lost, a map can help you find the correct way – But remember, if the map and the terrain are in disagreement, believe the terrain

**Project Plan**

• The *project plan* defines the work that will be done on the project and who will do it. It consists of: – A project summary describing scope, objectives, assumptions, constraint and all work products that will be produced

– A list of people who will perform that work (project organization, roles and responsibilities)

– A resource list that contains a list of all resources that will be needed for the product and their availability

– A work breakdown structure and a set of estimates – A project schedule

– A risk plan that identifies any risks that might be encountered and indicates how those risks would be handled should they occur

**Why Is A Project Plan Important?**

• To assess project feasibility

• To demonstrate breadth and depth of planning • To provide a vehicle for trade studies & negotiations

• To assess consistency of cost, schedule & estimates

• Provides a mechanism for assessing progress • Provide a basis for controlling the project

**Why Is Planning Not Adequately Done?**

• (Apparent) lack of time

• Lack of skills and tools

• Lack of information:

– Insufficient understanding of the project

• Inadequate requirements analysis

• Novelty of the project

– Insufficient historical data for planning

• Frequently heard excuses:

– “Why plan, when everything will change anyway?”

– “Excessive planning indicates a lack of confidence”

– “I’m a doer, not a planner”

**The Project Planning Space**

• The project planning space is characterized by: – Schedule: time available to do the work

– Assets: resources available to do the work – Budget: money available to acquire the resources – Requirements: the work to be done

– Risk exposure: probability of failure x cost of failure

**The Project Planning Space**

**assets**

**resources**

****

**time**

**requirements**

**objectives**

**schedule**

**The initial plan must achieve a balance among these factors, at an acceptable level of risk; any subsequent changes in one must be balanced by adjustments in one or both of the others**

**The “Rolling Wave” Approach to Project Planning**

• During initial planning it is neither possible nor desirable to plan the work activities at the level of task assignments for individuals for the entire duration of the project

– Because of uncertainty and lack of knowledge

– Because requirements and resources will likely change

• Therefore, the work packages are elaborated in a “rolling wave” manner

– Detailed tasks are planned on a monthly basis

– Activities are elaborated in as much detail as possible for the coming three months

– Planning risks and uncertainties are identified

• Elaboration of the work packages results in elaboration of the WBS, activity network, and staffing profiles

**Planning is Iterative**

• During project planning, an initial version of the project plan is prepared.

• The initial version is the Master Plan that specifies the framework, assumptions, and constraints for conducting the project.

• During project execution significant issues affecting the resources, schedules and requirements will arise. • To address them, a series of successive detailed plans are elaborated within the framework, assumptions, and constraints of the Master Plan.

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• **1. Overview**

– Project Summary

• Purpose, scope and objectives

• Assumptions and constraints

• Project deliverables

• Schedule and budget summary

– Evolution of the Plan

• **2. References**

• **3. Definitions**

• **4. Project Organization**

– External interfaces

– Internal Structure

– Roles and Responsibilities

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• 5. Managerial Process Plan

– Startup Plan

• Estimation Plan

• Staffing Plan

• Resource acquisition Plan

• Project staff training Plan

– Work Plan

• Work activities

• Schedule allocation

• Resource allocation

• Budget allocation

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• 5. Managerial Process Plan (cont…) – Control Plan

• Requirements control plan

• Schedule control plan

• Budget control plan

• Quality control plan

• Reporting plan

• Metrics collection plan

– Risk management Plan

– Closeout Plan

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• 6. Technical Process Plan

– Process Model

– Methods, tools, and techniques

– Infrastructure plan

– Product acceptance plan

• 7. Supporting process Plan

– Configuration management plan

– Verification and validation plan

– Documentation plan

– Quality assurance plan

– Reviews and audits

– Problem resolution plan

– Subcontractor management plan

– Process Improvement plan

• 8. Additional plans

• Annexure

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**Tailoring A Project Plan**

• The 1058 template should be tailored for each project • All relevant parts of the plan should be covered • Tailoring activities include:

– deleting unneeded parts (e.g. subcontractor management) – modifying parts

– including additional parts (e.g. other plans)

– scaling plans (up / down)

• For larger projects ( > 25 people), different groups may be responsible for defining & tailoring their process plans

• For small and medium projects, it is not a matter of what to omit, but how to scale all necessary processes to cost-effective proportions (all essential project roles and processes must be addressed, even on small projects, perhaps in a less formal way)

**An outline of Step Wise planning activities (Huges & Cotterell)**

• 1. Identify project scope and objectives

– Identify objectives and measures of effectiveness in meeting them

– Establish a project authority

– Identify stakeholders

– Modify objectives in the light of stakeholder analysis – Establish methods of communications with all parties • 2. Identify project infrastructure

– Establish relationship between project and strategic planning

– Identify installation standards and procedures

– Identify project team organization

• 3. Analyze project characteristics

– Distinguish the project as either objective or product driven – Analyze other project characteristics

– Identify high-level project risks

– Take into account user requirements concerning implementation – Select general life cycle approach

– Review overall resource estimates

• 4. Identify project products and activities

– Identify and describe project products (including quality criteria) – Document generic product flows

– Recognize product instances

– Produce ideal activity network

– Modify ideal to take into account need for stages and checkpoints

• 5. Estimate effort for each activity

– Carry out bottom-up estimates

– Revise plan to create controllable activities

• 6. Identify activity risks

– Identify and quantify activity-based risks

– Plan risk reduction and contingency measures where appropriate – Adjust plans and estimates to take account of risks

• 7. Allocate resources

– Identify and allocate resources

– Revise plans and estimates to account for resource constraints • 8. Review/publicize plan

– Review quality aspects of project plan

– Document plans and obtain agreement

**Q&A**