



“Getting the Right Information” Managing Scope & Schedule Best Practices

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Introduction & Session Objectives

➤ Objective

- Provide managers with best practice tools for managing project scope and schedule throughout the application lifecycle

➤ Audience

- Project Managers
- Stakeholders
- Subject Matter Experts

Scope and Schedule

- **Managing Scope and Schedule is what the program manager does to:**
 - **Focus the work required to what was intended**
 - **Limit the changes in the work to what can be done within the budgeted time and money**
- **Key tools for Managing Scope and Schedule:**
 - **Requirements Management**
 - **Risk Management**
 - **Managing Expectations (for when the Scope and Schedule do have to change)**

This session is application development and deployment centric

Ready-Aim-Shoot Not Ready-Shoot-Aim

➤ In applications development

- Requirements management is the single most important factor in the success of the effort
- It is generally accepted that 80% of failures are attributable to inadequate requirements management

Types of Requirements

➤ Stated Requirements

- Functions and features that characterize what the system must do
- Often sourced from the customer and work statement

➤ Derived Requirements

- Unambiguous requirements which support the **stated requirements**
- Derived by the development team in cooperation with the customer
- Often **stated requirements** will generate multiple derived requirements
- Testable as Pass/Fail

Developing Requirements



	Gather Stated Requirements	Develop Derived Requirements	Review Derived Requirements	Finalize Requirements
Input	<ul style="list-style-type: none"> Customer domain knowledge Work Statement 	<ul style="list-style-type: none"> Agreed to list of Stated Requirements Customer Domain Knowledge 	<ul style="list-style-type: none"> Proposed list of Derived Requirements 	<ul style="list-style-type: none"> Proposed list of Derived Requirements Revisions to Derived Requirements
Responsibility	<ul style="list-style-type: none"> Development Team 	<ul style="list-style-type: none"> Development Team 	<ul style="list-style-type: none"> EPA Program Management 	<ul style="list-style-type: none"> Development Team
Key Players	<ul style="list-style-type: none"> EPA Program Management EPA Headquarters Users 	<ul style="list-style-type: none"> EPA Program Management EPA Headquarters Users 	<ul style="list-style-type: none"> EPA Program Management EPA Headquarters Users 	<ul style="list-style-type: none"> EPA Program Management EPA Headquarters Users
Output	<ul style="list-style-type: none"> Agreed to list of Stated Requirements 	<ul style="list-style-type: none"> Proposed list of Derived Requirements 	<ul style="list-style-type: none"> Revisions to Derived Requirements 	<ul style="list-style-type: none"> Program Derived Requirements

Controlling a Project through Requirements

- **The Derived Requirements**
 - **Drive all phases of development**
 - **Are the main input to the System Design**
 - **Guide the Development**
 - **Are the basis for the Use Cases and Test Scripts**

Controlling Requirements

It is not enough to have good requirements – in order to Manage Scope and Schedule you must also Control the requirements throughout the Life Cycle through:

- **An understanding of the stability of the requirements**
 - **A Change Control Board should be the Gatekeeper**
 - **Requirements Metrics should be used to monitor requirements Stability**
- **An understanding of the evolution of the Requirements**
 - **Date of verification of new or altered requirements**
 - **Priority of a new or altered requirements**

Risk Management - What Is It?

At its most fundamental level
Risk Management is:

What we do to keep Risks
*(things that have the potential
to go wrong)* from becoming
Issues *(things that have
gone wrong)*



Risks and Opportunities should be managed together but for today we will only discuss Risks

Risks and Issues

➤ What Risks are:

- Events which, if they occur will have a negative impact
- Events that have not happened

➤ What Risks are not:

- Inevitable (*these are constraints*)
- Things that have happened (*these are Issues*)

➤ What Issues are:

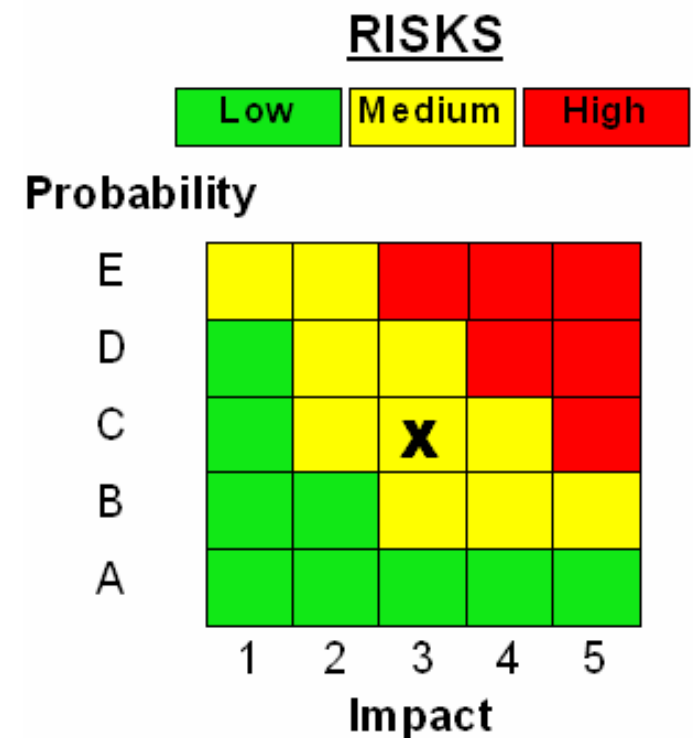
- Risks that have been realized
- Things that are in dispute or in question

➤ What Issues are not:

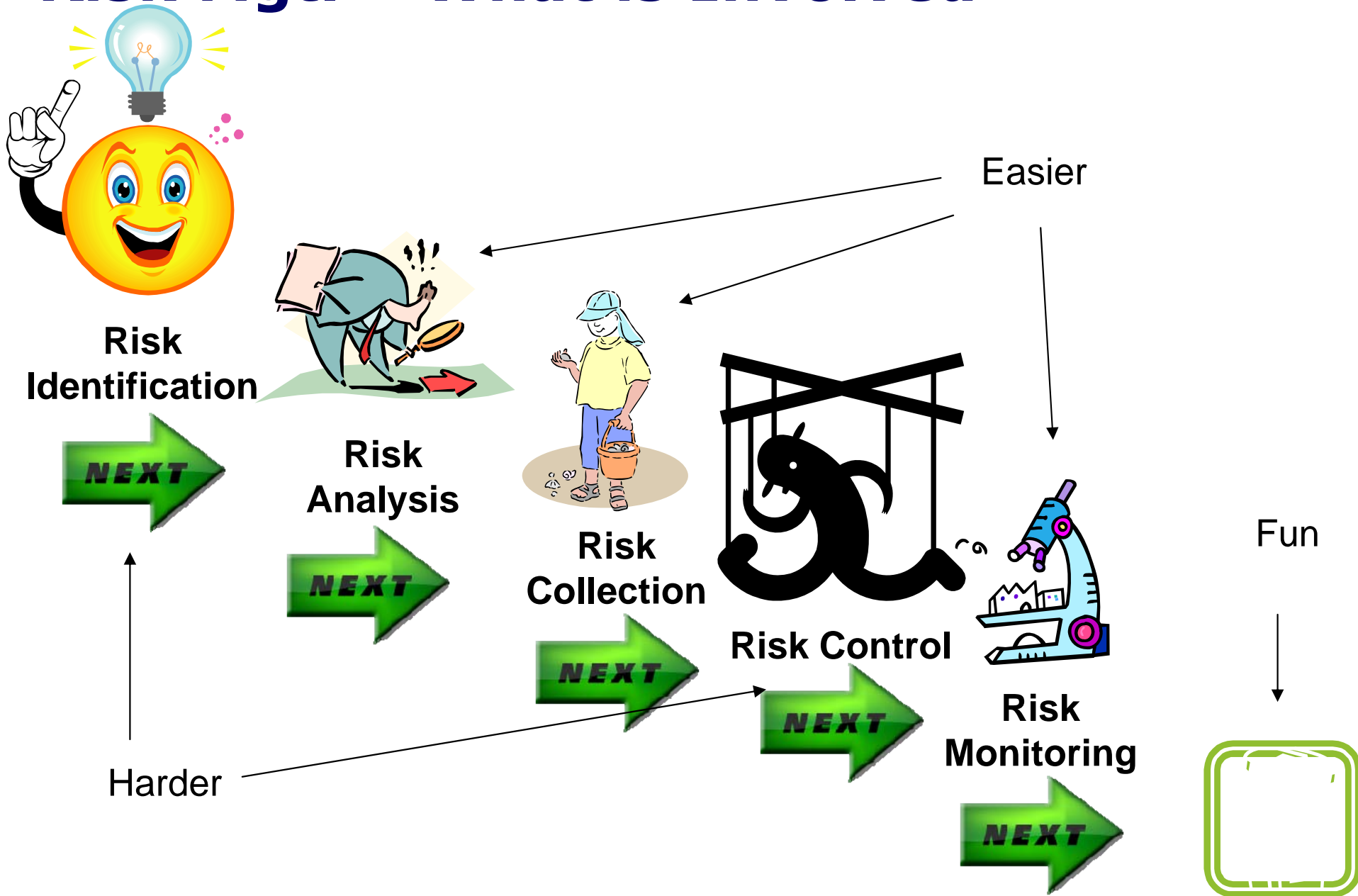
- Inevitable (these are constraints)
- Known problems for which all sides understand and accept the results

Some Other Terms

- **Probability** – what is the likelihood of a risk becoming an issue
- **Impact** – how bad will it be if it becomes an issue
- **Risk Exposure** – numeric rating combining Probability and Impact - used to prioritize Risks



Risk Mgt. – What is Involved



Major Sources of Risk

- **Technical**
 - Unproven Technology
 - Mismatched Roadmaps
- **Schedule**
 - Arbitrary Dates
- **Cost**

- Imprecise Requirements
- Requirements Creep



Control Techniques - General

➤ Acceptance

- Decide not to change the PMP to deal with a risk or unable to devise a suitable strategy

➤ Avoidance

- Change the PMP to either eliminate the risk or to protect the project objectives from its impact

➤ Mitigation

- A plan that reduces the probability of the occurrence or impact of a risk to an acceptable threshold

➤ Transference

- Shift the impact to a third party, together with ownership of the response

Control Techniques - Specific

Sources of Risk	Mitigations
Technical	<ul style="list-style-type: none"> ➤ Robust requirements process ➤ Include data center in Design Review ➤ Include sufficient detail in Design Review
Schedule	<ul style="list-style-type: none"> ➤ Robust requirements process ➤ Do not commit to a delivery date until the team has a schedule (this includes changes) ➤ Freeze requirements
Cost	<ul style="list-style-type: none"> ➤ Robust requirements process ➤ Freeze requirements

Managing Expectations

➤ Setting Expectations

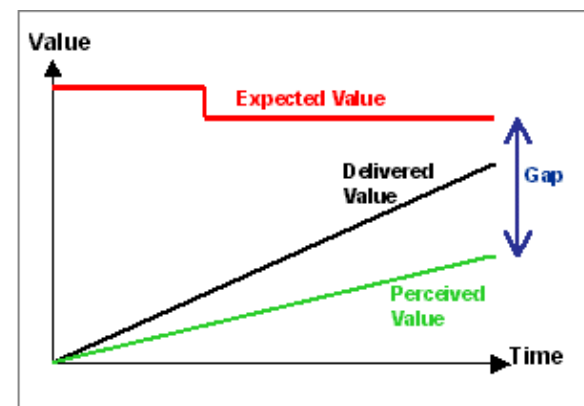
- What was agreed was . . .
 - Not what was heard
 - Not what was meant
 - Said then, but this is now

➤ Capturing and Monitoring Expectations

- Active Listening
- Documented Expectations
- Models, Pictures, Use Cases/Scenarios
- Satisfaction Survey

➤ Influencing Expectations

- Find and address “real” root cause of dissatisfaction
- What does your customer’s customer want?



Expectations are deeper and broader than "requirements"

Tools To Manage Expectations

- **Document Expectations**
- **Requirements document driven down to Pass/Fail**
 - **Track requirements stability**
 - **Resource loaded schedule (not necessarily EVM)**
- **Control Change**
 - **“I will get you a commitment by _____”**
 - **“Do you want the answer right or right now?”**
 - **Every change has an impact...be clear about the impact to cost, schedule, and capability**

Managing Expectations

➤ No Surprises

- Let your customer know as early as possible if there will be a change in scope, schedule or cost



➤ Bring facts

- Resource loaded and base lined schedules are a terrific tools to help your customer understand limitations
- Good requirements development and tracking can help you pinpoint what has changed



Schedule Terms

➤ Base Lined Schedule

- This has lots of implications within the program scheduling trade and/or EVM but it doesn't have to be complicated
- Keep your original schedule and your schedule prior to a scope change as separate files as historical records

➤ Resource Loaded Schedule

- You can have schedules which include tasks, the relationship between tasks and task durations

But

- If you (or better, if you require your vendor to) resource load your schedule, not only will you have a better understanding of your project but you can use it as a tool to manage expectations by showing your customer where hours become excessive or what the impact of moving resources to new tasks are

Resource Loaded Schedule

Tasks, Relationships and Durations

ID	Task Name	Duration	Start	Nov 11, '07							Nov 18, '07							Nov 25, '07							Dec 2, '07						
				W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T
1	Your Project	12 days	Thu 11/8/07	[Gantt bar for 12 days]																											
2	Task 1	5 days	Thu 11/8/07	[Gantt bar for 5 days]																											
3	Task 2	3 days	Thu 11/15/07	[Gantt bar for 3 days]																											
4	Task 3	4 days	Tue 11/20/07	[Gantt bar for 4 days]																											

Load the Resources

ID	Task Name	Duration	Start	Nov 11, '07							Nov 18, '07							Nov 25, '07							Dec 2, '07						
				W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T
1	Your Project	12 days	Thu 11/8/07	[Gantt bar for 12 days]																											
2	Task 1	5 days	Thu 11/8/07	[Gantt bar for 5 days] Lisa,John																											
3	Task 2	3 days	Thu 11/15/07	[Gantt bar for 3 days] Sara																											
4	Task 3	4 days	Tue 11/20/07	[Gantt bar for 4 days] Vijay																											

New Task

ID	Task Name	Duration	Start	Nov 11, '07							Nov 18, '07							Nov 25, '07							Dec 2, '07						
				W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T
1	Your Project	17 days	Thu 11/8/07	[Gantt bar for 17 days]																											
2	Task 1	10 days	Thu 11/8/07	[Gantt bar for 10 days] John																											
3	Task 2	3 days	Thu 11/22/07	[Gantt bar for 3 days] Sara																											
4	Task 3	4 days	Tue 11/27/07	[Gantt bar for 4 days] Vijay																											
5	Task 4	5 days	Thu 11/8/07	[Gantt bar for 5 days] Lisa																											

Exercise

- **Divide the class into 4 groups**
- **Each group select a schedule or scope problem that a member of the group currently faces**
- **Each group select a spokesperson**
- **Each group explain how to apply the techniques we have discussed to the problem selected**

Remember Your Tools

➤ Requirements Management

- Documented
- Customer approved
- Pass/Fail level of detail
- Change control (CCB, metrics)

➤ Risk Management

- Mitigation plans
- Regular monitoring of the plans

➤ Manage Expectations

- Document expectations
- Bring facts (documented requirements; requirements additions and changes; base lined and/or resource loaded schedules)



Questions

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