

MAKING RISK MANAGEMENT WORK ON YOUR PROJECT

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Presentation Scope

- Presentation includes methods to increase project risk management effectiveness, with a focus on:
 - Process characteristics
 - Organizational and behavioral implementation
- Presentation is not focused on finance, hazards, insurance, and safety risk management

Why Good Risk Management is Desirable

- When done properly, risk management can help:
 - Decrease cost, increase profit, decrease schedule, and increase performance
 - Increase project visibility for key issues
 - Play a role in winning and keeping business

Risk Management Effectiveness

- Effectiveness is related to two components:
 - Process used
 - What steps are present?
 - What is the order of the process steps?
 - How comprehensive and sophisticated are the process steps?
 - Implementation
 - How well is the process implemented?
 - How well is the process used (if used at all)?

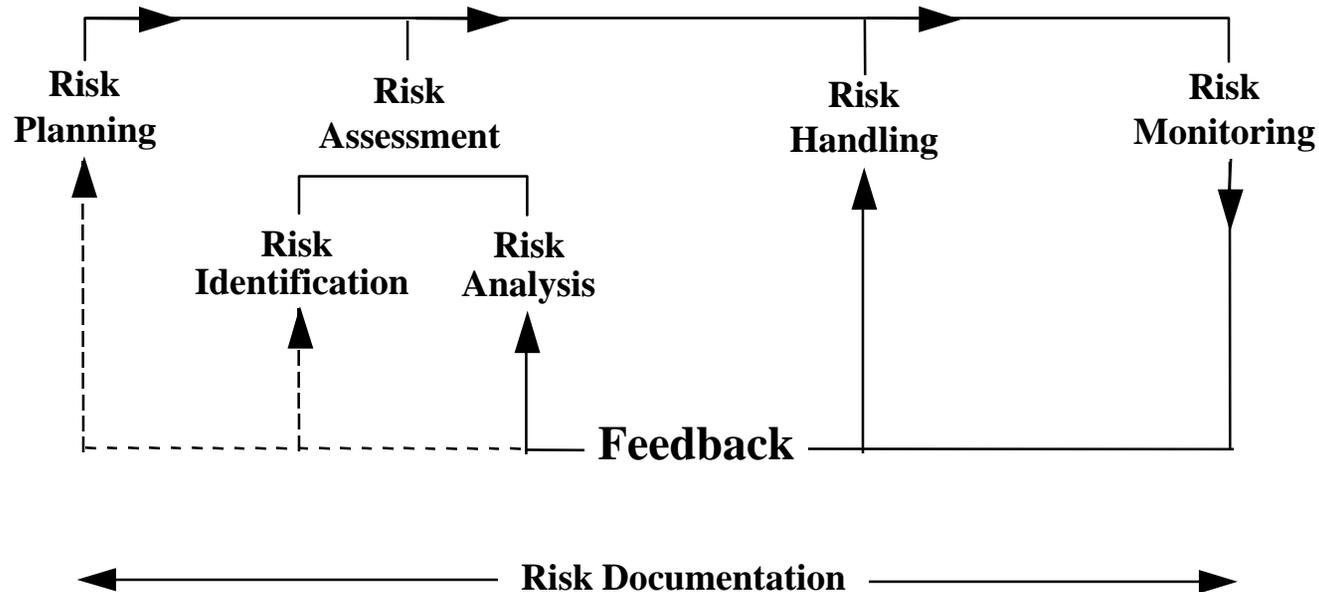
Necessary Risk Management Process Steps

- The risk management process should always include:
 - Planning
 - Identification
 - Analysis
 - Handling
 - Monitoring
- The name of the process steps is unimportant--the functions they encompass are very important

Some Keys to Process Effectiveness (1)

- The risk management process:
 - Includes all steps
 - Steps are in the correct order
 - Well structured
 - Is iterative
 - Is continuous
 - Is started early in the project phase
 - Is updated for each project phase or after any major re-baselining

DoD Risk Management Process



"Risk Management Guide for DoD Acquisition" (DSMC, 2000),
http://www.dsmc.dsm.mil/pubs/gdbks/risk_management.htm

Risk Planning (1)

- Often “not enough time” to perform risk planning
 - *There is always enough time to perform risk planning*
- Perform risk planning early, not after the fact
- Often not formally done
- Describe:
 - Ground rules and assumptions
 - Risk categories
 - Methodologies, etc.

Risk Planning (2)

- Are these items consistent, complete, adequate?
- Include organizational roles and responsibilities
- Include key project references and documents

Risk Identification

- Should be comprehensive and structured, not weak and ad-hoc
- Should include WBS, listing of processes, etc.
- Should include a top-down and bottom-up look
 - Some risks are only easily addressed in “one-direction”
 - Should be able to map top-down to bottom-up
- May have a different structure for cost, performance, and schedule modeling
- Clearly describe the risk issue, its cause and impacts

Risk Analysis (1)

- Structured, repeatable process, not guess-work
- Unknown uncertainty almost always exists
 - Don't believe results to several decimal places!
- Confusion of probability and consequence terms
 - Probability (likelihood) is related to maturity, complexity, etc.
 - Consequence is the impact, ***not the cause***
- Prior use of a methodology is not adequate validation
 - Some organizations have used flawed methodologies for years and think they're wonderful

Risk Analysis (2)

- Estimative probability values (e.g., medium = 0.5) or numerical scores assigned to ordinal scale levels are almost always guesses without substantiation
 - Unknown accuracy and uncertainty almost always exists
- Mathematical operations should never be performed on estimative probability and ordinal scale results
 - Huge errors can result
 - Use a risk mapping matrix instead

Risk Analysis (3)

Examples of Ordinal "Probability" Maturity and Cost Consequence Scales

Scale Level	Technology Maturity	Cost Consequence of Occurrence
5	Basic principles observed	$\geq 20\%$
4	Concept design analyzed for performance	$\geq 15\%$ to $< 20\%$
3	Brassboard validation in relevant environment	$\geq 10\%$ to $< 15\%$
2	Prototype passes performance tests	$\geq 5\%$ to $< 10\%$
1	Item deployed and operational	$\geq 0\%$ to $< 5\%$

Risk Analysis (4)

- Monte Carlo simulations may require considerable investment to implement, debug, and maintain
 - Not realistic or suitable in some cases
- Performance is a missing simulation dimension
 - Not recognized by many in project management, yet the dimension most commonly simulated in the “real world”
- Some commercial software packages are “toys”
 - “Man must be the slave of his machine”

Risk Handling (1)

- Develop and implement one or more risk handling strategies
- Risk handling strategy is composed of an option and an implementation approach
 - Do not confuse the option with the implementation approach
- Options include assumption, avoidance, control, and transfer
 - All must be carefully weighed--don't default to a single option!

Risk Handling (2)

- Choose the best implementation approach for the selected option
- Determine whether or not a backup strategy(ies) is needed
- Make sure you have adequate resources to implement the strategy(ies)

Risk Monitoring

- Risk monitoring should be:
 - Structured
 - Quantitative where possible
 - Performed at the same time and WBS (or activity) level
- Risk monitoring should also:
 - Cover cost, performance, schedule, and risk dimensions
 - Provide information that can be used by decision makers
 - Provide feedback to other risk management process steps

Implementation (1)

- Relevant risk management organizational and behavioral considerations
 - Almost always downplayed or missing
 - Some “lessons learned” will apply to almost any organizational framework
- A “perfect” risk management process that is poorly implemented will be ineffective or fail
- This is often the “hard stuff” vs process improvements
 - Don’t despair, success is possible!

Implementation (2)

- The project manager--perhaps "the" key to risk management success
 - Should provide a positive environment to perform risk management
 - Should use risk management principles in decision making
 - Can make or break process effectiveness
- While the recommended risk management process can be tailored to most projects, recognize that every project manager is different

Implementation (3)

- Risk management must be performed top-down
 - Risk management implementation can be a struggle if the project manager is not suitably engaged
 - Risk management responsibility can't be delegated to much lower project management levels
 - The "buck stops where?"
 - Deputy project manager generally OK, but not risk manager or lower
 - Responsibility different than performance

Implementation (4)

- Inconsistent upper management behavior towards risk management is recognized by others
 - Walk the walk, don't just talk the talk
 - Are risk management principles used in decision making?
- The project manager can be coached and assisted on risk management
 - Project managers shouldn't gamble their project on a "grand experiment" recommended by people lacking substantial "hands-on" state-of-the-art experience

Implementation (5)

- Risk management must be performed bottom-up
 - Risk management success greatly depends upon working-level personnel
 - Management isn't omnipotent and omnipresent
 - Working-level personnel should perform much of the risk management on a project
 - Often have detailed knowledge of particular issues and how to solve them
 - Management can't "do it all"

Implementation (6)

- Some roles and responsibilities:
 - Project manager
 - Leadership by example
 - Fosters a positive environment
 - Chairs Risk Management Board (meetings, or equivalent) which allocates resources/provides guidance from a top-level
 - Risk manager
 - Risk management process “lead”
 - Provides detailed risk management guidance
 - Competently, credibly interacts with others on the project

Implementation (7)

- Some roles and responsibilities (cont.):
 - Group/team leaders
 - Leadership by example to their group/team
 - Fosters a positive environment to their group/team
 - Works with risk focal points
 - Provides resources for implementation
 - Risk focal point
 - Has the authority, resources, and responsibility to implement risk management

Implementation (8)

- Some closing thoughts
 - Credibility & substance are key, not fluff & academics
 - Risk management should have an “edge” to it
 - Risk management success tends to create more success
 - Who should perform risk management? **Everyone!**
 - Only the role and responsibility is different
 - When should risk management be performed? **Daily!**
 - Should be part of the daily thought process