Managing Risk on the "Bleeding Edge"

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Project Management Curriculum
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Types of High-Novelty Projects

- **Invention Projects**

- **Investigation Projects**
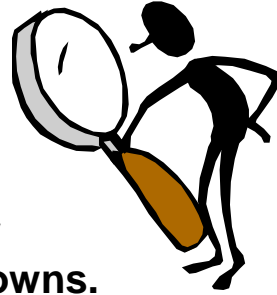
- **Projects requiring multiple significant decisions**

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Dealing with High-Novelty Projects

- **Define What You Know.**

- **Define What You <u>Don't Know</u>.**

- **Plan The Work, Including How You Intend to Deal With Unknowns.**

- **Set a Credible Baseline with Check/Review Points.**

- **Track Work and Actively Manage Risks.**

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Define What You Know

- **Document Process Steps and Tasks Performed on Similar Past Projects.**

- **Define All Required Standards.**

- **List "Boilerplate" Activities Needed:**
  - **Periodic Reporting**
  - **Management Reviews**
  - **Required Tests**
  - **Mandatory Documentation**

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Define What You Don't Know

- **Document All That Is Open:**
  - **Questions**
  - **Issues**
  - **Options To Be Explored**
  - **Other Significant Matters**

- **List Problems from Past Similar Projects.**
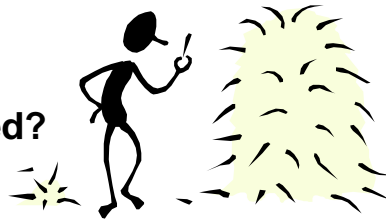
- **Brainstorm and Capture Risks.**

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Developing Questions

- **"Question Storming"**

- **What If:**
  - **Constraints Are Removed?**
  - **Constraints Are Added?**

- **"Embarrassing" Questions:**
  - **What Problem(s) Are We Trying To Solve?**
  - **What Do We Need to Quantify?**
  - **What Might We Have Overlooked?**
  - **What Options May Be Viable?**
  - **What's Missing from The Business Case?**
  - **How Will Project Success Be Evaluated?**

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Plan the Work

Lay Out a Credible Roadmap for Your Project:

- **Develop a "WBS."**
- **Select a Project Approach.**
- **Schedule the Knowns and the Work Required to Deal with Unknowns.**
- **Create a Risk Register.**
- **Justify Contingency for Time, Budget.**

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Develop a "WBS"

- **Document All "Known" Work Using Standard Project Management Templates, Hierarchies, And Methods.**

- **List All Questions, Issues, Options, and Other "Unknowns" Identified. Develop a Credible Approach for Each, Defining an Activity (or a Set of Activities).**

- **Roughly Size The "Knowns" and "Unknowns" Using "Effort-months" or a Similar Metric.**

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Select a Project Approach

Pick an Appropriate Project Type:
- **If the Majority of the Work Is "Known," Plan Using a Phased Life Cycle.**
- **If There Are Significant "Unknowns," But You Believe They Could Be Resolved In an Investigation Phase (or Project), Plan the Feasibility Investigation and Defer an Overall Project Decision Until Later.**
- **If most work is "Unknown," consider a multi-phase (agile) approach (or Abandon the Project).**
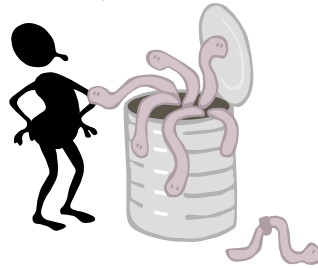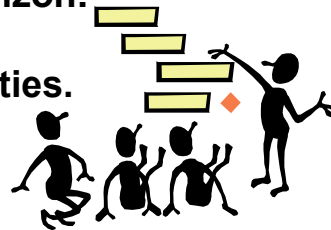
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Schedule the Work Required

For the Required Planning Horizon:
- **Prioritize all Listed Work.**
- **Schedule the "Known" Activities.**
- **Specifically Articulate How and When You Plan to Deal with "Unknowns."**
- **Identify all Resource and Skill Gaps.**
- **Schedule Riskiest Activities Early.**
- **Explore Using "Tried and True" Alternatives for Achieving Risky Goals.**
- **Consider Parallel Development/Exploration for Riskiest Work.**
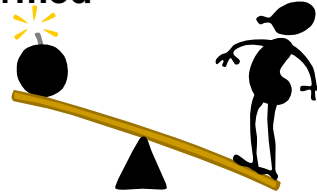
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Plan for Risk—Including Contingency

Develop a Robust Risk Register
- **Include All Previously Brainstormed and Newly Identified Risks.**
- **Ensure That Each Significant "Unknown" Has a Listed Risk.**
- **Develop Worst-Case Time and Cost Estimates and List the Causes as Risks.**
- **Develop Responses for All Significant Project Risks.**

**Justify Schedule and Budget Contingency Reserves Using Risk Analysis and Responses.**

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Set a Credible Baseline

Lay Out an Overall Timeline:
- **Realistic Dates and Estimates for "Knowns"**
- **Specific Timing Expectations (% resolved) for "Unknowns" (Issues, Options, Questions)**
- **Review Checkpoints (About Monthly)**
- **Budgetary and Deadline Reserves in Line with Risk and Overall Project**
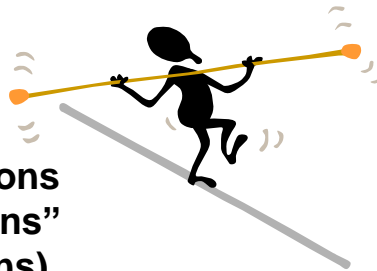
Establish Stakeholder Expectations in Line with Expected Costs/Timing and Forecast Value (ROI)

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Actively Manage Risks

- **Monitor Progress, Especially for Speculative, Specialized Work.**
- **Staff Riskiest/Most Uncertain Work with Your Best People.**
- **Use Reviews to:**
  - **Refresh Risk Register (Worst Cases, New Risks)**
  - **Reprioritize and Schedule Risky Work**
  - **Reassess Project and Determine whether to Continue, Change, or Abort**
- **Communicate, Communicate, Communicate.**
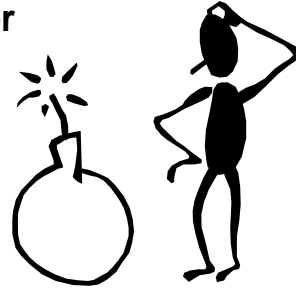
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Summary

- **Know What You Know, and Use PM Processes to Plan for It.**
- **Assess What You Don't Know by Enumerating All Open Issues, Questions, and Options.**
- **Determine Whether (or if) to Proceed Based on Realistic Estimates of the Expected Work and Credible Assessment of Project Value.**
- **Set a Baseline Containing Contingency Reserves In Which You (and Your Stakeholders) Have Reasonable Confidence.**
- **Manage Risk; Adjust or Abort the Project if Necessary.**
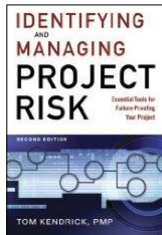
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Questions?

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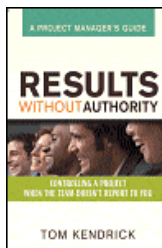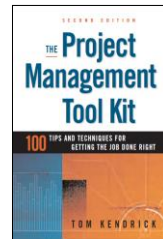**2010 President, PMI Silicon Valley, CA Chapter**
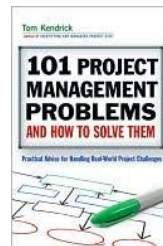

AMACOM Books

Identifying and Managing Project Risk: Essential Tools for Failure-Proofing Your Project, **Second Edition** by Tom Kendrick AMACOM, Feb 2009. ISBN 0814413404

The Project Management Tool Kit , **Second Edition** by Tom Kendrick AMACOM, February 2010. ISBN 0814414761

Results Without Authority by Tom Kendrick. AMACOM, July 2006. ISBN 0814473431

101 Project Management Problems by Tom Kendrick. AMACOM, December 2010. ISBN 0814415571