Types of High-Novelty Projects

• Invention Projects
• Investigation Projects
• Projects requiring multiple significant decisions
Dealing with High-Novelty Projects

- Define What You Know.
- Define What You Don’t Know.
- 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.

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
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.

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?
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.

Develop a “WBS”


- List All Questions, Issues, Options, and Other “Ununknowns” 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.
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.
- 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.

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)
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.

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.
Questions?

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AMACOM Books

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.
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