AGILE QUANTITATIVE RISK ANALYSIS

Susan Parente
PMP, PMI-RMP, PMI-ACP, CSM, CSPO, PSM I, CISSP, CRISC, RESILIA, ITIL, MS Eng. Mgmt.
Associate Professor, Post University, CT, MBA Program: PM Concentration
Adjunct Professor, Montclair State University, NJ, MBA Program: Risk Management
Agile Quantitative Risk Analysis

Presented by: Susan Parente
PMP, PMI-RMP, PMI-ACP, CSM, CSPO, PSM I, CISSP, CRISC, RESILIA, ITIL, MS Eng. Mgmt.
Associate Professor, Post University, CT, MBA Program: PM Concentration
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S3 Technologies, LLC
Parente@s3-tec.com
www.s3-tec.com
@TechRiskManager

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Objectives

- What is Agile?
- What is Project Risk Management?
- What is Agile Risk Management?
- Risk Analysis for Agile
- Recommendations for Implementing
- Risk as an Opportunity!!!
What is Agile?

► Principles that guide teams
► Principles that guide development
► A culture shift
► A great solution for some types of projects
► Open Communication: between teams, stakeholders and customers
► Different from traditional project management
Agile Project Management

The Agile Manifesto

“We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

- **Individuals & interactions** over **processes and tools**
- **Working software** over **comprehensive documentation**
- **Customer collaboration** over **contract negotiation**
- **Responding to change** over **following a plan**

That is, while there is value in the items on the right, we value the items on the left more.”*

*Reference: [www.agilemanifesto.org](http://www.agilemanifesto.org)
Agile Project

► Rolling Wave Planning
► Iterative or Incremental Delivery
► Rapid and Flexible Response to Change
► Open Communication

Agile Methodologies or Frameworks:
- Scrum, XP (eXtreme Programming), Lean and Test-driven Development (TDD), Kanban, & ...
What is Agile?

Dilbert
by Scott Adams

Our budget won't cover all of the product development.

We can only do two-thirds of the features for that amount.

Reduce the scope of the project by one-third.

Okay.

But... theoretically...

No... dear lord, no.

If I later give you a change request to add one feature, could you do it for the same budget?

One? Sure.

Data goes in: management comes out.

One? Sure.

Changes are free.

Where do I put the change requests?
Why Agile?

Agile Principles and Practices, Used to:

- Manage Change
- Improve Communication
- Reduce Cost
- Increase Efficiency
- Provide Value to Customers and Stakeholders
- Decrease Project Risk
When use Agile?

Consider using an agile approach when 1 or more of these conditions are present:

- **Uncertainty**
  - particularly in requirements and changing conditions

- **Complexity**
  - content, integration, stakeholder mgmt., solution

- **Innovation**
  - new technology, content or system

- **Urgent**
  - high priority, short timeline
Comparing Traditional to Agile

The Triple Constraint: time, cost, scope

**Traditional Project Process:**

*Plan Driven*
- Cost and Schedule are estimated
- Requirements are fixed

**Agile/Adaptive Project Process:**

*Value Driven*
- Features are estimated
- Cost and Schedule are fixed
Agile Scrum

What is Scrum?

Project Risk Management

- Project Risk Management is an organized, systematic decision-making process that efficiently plans, assesses, handles, monitors, and documents risk to increase the likelihood of achieving project goals and decrease the likelihood that a risk would become a future problem.
Project Risk Management Process

- **Identification**
  - Discovery of a potential risk

- **Assessment**
  - Review, analysis, and prioritization

- **Response Planning**
  - To mitigate, avoid, transfer or assume assessed risks

- **Execution**
  - Of response strategies, as determined in response planning

**Planning, Monitoring, Documentation and Communication**
- Foundations of the RMP, essential to all phases
- Part of continuous process improvement for the RMP
Agile Risk Management

► Agile RM is inherent in ‘Inspection and Adaptation’
► Focus on **maximizing value** (opportunity), in addition to **minimizing threats**
► Regular and iterative inspection (retrospective)
► Regular capturing of lessons learned

Agile Quantitative Risk Mgmt.

- Agility is our ability to respond to change.
- The focus of Agile is Value.
- Software Development Performance Agility
  - Response Efficiency
    - Time, Cost, resources to respond to changes
  - Response Extensiveness
    - 80% of changes are incorporated

(Important to measure this effectiveness)

Agile Risk Management

► Risk Management is built into Agile Practices

► RM is integrated in Agile, but not transparent

► Risk is constantly reviewed

► Risk relates to Value (evaluate these together)

► View and adjust the Backlog based on Risk

► Risk Burn Down Chart
  - As the project progress risk decreases
Agile Risk Management

Tracking Project Risk

Agile Risk Management

RELAX, LOOK AHEAD
Agile Risk Management

Team Assessment...

Of the Team and by the Team
Agile RM Implementation

- Risk Identification by *everyone* on the team!
- Being *conscious* of risk
- Being *intentional* about risk planning
- Risk Assessment (*separate from identification*)

**Planning:**
- Use Iteration Planning Meetings to manage iteration risks
- Team communicates with Customer - escalating high risks
- Work with the Customer to identify concerns and reduce risk
Agile RM Implementation

- **Iteration Planning**
  - Evaluate Risks for each iteration
  - For the next 2-3 iterations
  - Risk Adjusted Backlog

- **Daily Standup Meetings**
  - Risk Response Planning from barriers denoted in daily stand-up

- **Spike**
  - Quick Experiment/ Investigation
  - For risk response planning

- **Iteration Review/ Retrospective**
  - How were risk **successful** handled?
  - What risk were **not Identified**?
  - What risk responses, or process could be **used in the future**?
Agile Risk Management

- Agile Principles and Practices, used to:
  - Manage Change
  - Improve Communication
  - Reduce Cost
  - Increase Efficiency
  - Provide Value to Customers and Stakeholders
  - Decrease Project Risk
Agile Risk Management

✔ Project Risk Management is an organized, systematic decision-making process that efficiently plans, assesses, handles, monitors, and documents risk to increase the likelihood of achieving project goals and decrease the likelihood that a risk would become a future problem.

✔ Agile Risk Management is about incorporating risk management into the Agile framework as part of the iterative process to increase the likelihood of achieving product goals and decrease the likelihood that a risk would become a future problem.

✔ Risk Management is everyone’s job!

That means you!
Risk Management

Everyone wants to be doing it. Everyone thinks everyone else is doing it. Not many people are actually doing it, and no one is doing it particularly well...
Agile Risk Management

References:

Agile Risk Management

QUESTIONS?

S³ Technologies, LLC
Susan Parente
Parente@s3-tec.com
www.s3-tec.com
@TechRiskManager
O: 203-307-5246

www.techriskmanager.com
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Agile Risk Management

For discussion and resources on Risk Management...

Please join us on LinkedIn in the

Risk Management Implementation Group
http://www.linkedin.com/groups?mostPopular=&gid=3442533

Agile Risk Management Group
http://www.linkedin.com/groups?gid=4020498&trk=myg_uarp_ovr

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Susan Parente
Parente@s3-tec.com
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Additional Information
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PMI-RMP® Certification
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PMI Risk Management Professional (PMI-RMP)®

“PMI’s Risk Management Professional (PMI-RMP)® credential is a response to project management’s increasing growth, complexity and diversity. Globally recognized and demanded, the PMI-RMP® fills the need for a specialist role in project risk management.”

“It recognizes your unique expertise and competency in assessing and identifying project risks, mitigating threats and capitalizing on opportunities, while still possessing a baseline knowledge and practical application in all areas of project management.”

PMI-RMP® Certification

Who should apply:
► Risk management specialists and Project Risk Managers
► To increase your skills in project management
► To highlight your specialized expertise to employers

PMI-RMP Requirements:
► A 4 year degree (bachelor’s or the global equivalent), with at least 3,000 hours of project RM experience and 30 hours of project RM education.

OR

► A secondary diploma (high school or the global equivalent) with at least 4,500 hours of project RM experience and 40 hours of project RM education.

PMI-RMP® Certification

How to Apply:
► Online at www.pmi.org
► More Info:
  ▪ PMI-RMP Handbook
  ▪ PMI-RMP Exam Preparation

Maintain Your PMI-RMP:
► Earn 30 PDUs/ 3 year cycle in project risk management
► Learn more at: https://www.pmi.org/certifications/types/risk-management-rmp

Additional Information

PMI-ACP® Certification
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PMI Agile Certified Practitioner (PMI-ACP)®

► “PMI’s Agile Certified Practitioner (PMI-ACP)® credential is a response to project management’s increasing professional needs.”
► “The PMI-ACP recognizes knowledge of agile principles, practices and tools and techniques across agile methodologies.” (PMI, 2014)

By earning the PMI-ACP®, practitioners can:

► Demonstrate to employers their level of professionalism in agile principles, practices, tools and techniques.
► Increase their professional versatility in project management tools and techniques.
► Hold a certification that is more credible than existing offerings based only on exams or training.

PMI-ACP® Certification

Who should apply:
► If you already use agile practices or your organization is adopting agile methods, earning the PMI Agile Certified Practitioner (PMI-ACP)® certification will demonstrate your knowledge of and commitment to this rapidly growing approach to project management.

PMI-ACP Requirements:
General Project Experience
► 2,000 hours working on project teams (within the last 5 years), or an active PMP®

Agile Project Experience
► 1500 hours working on agile project teams or with agile methodologies (within the last 3 years)

Education
► 21 contact hours in agile practices

PMI-ACP® Certification

How to Apply:
► Online at www.pmi.org
► More Info:
  ▪ PMI-ACP® Handbook
  ▪ PMI-ACP® Exam Content Outline
► Learn more at:
  https://www.pmi.org/certifications/types/agile-acp