

Managing Risk to Maximize Enterprise Product Development Portfolio Value

Enterprise Product Development

Researcher
 Robb Wirthlin, Major, USAF
 PhD Candidate
robbw@mit.edu

Advisor
 Warren Seering
seering@mit.edu

Committee
 Donald Lessard
 Sheila Widnall
 Warren Seering

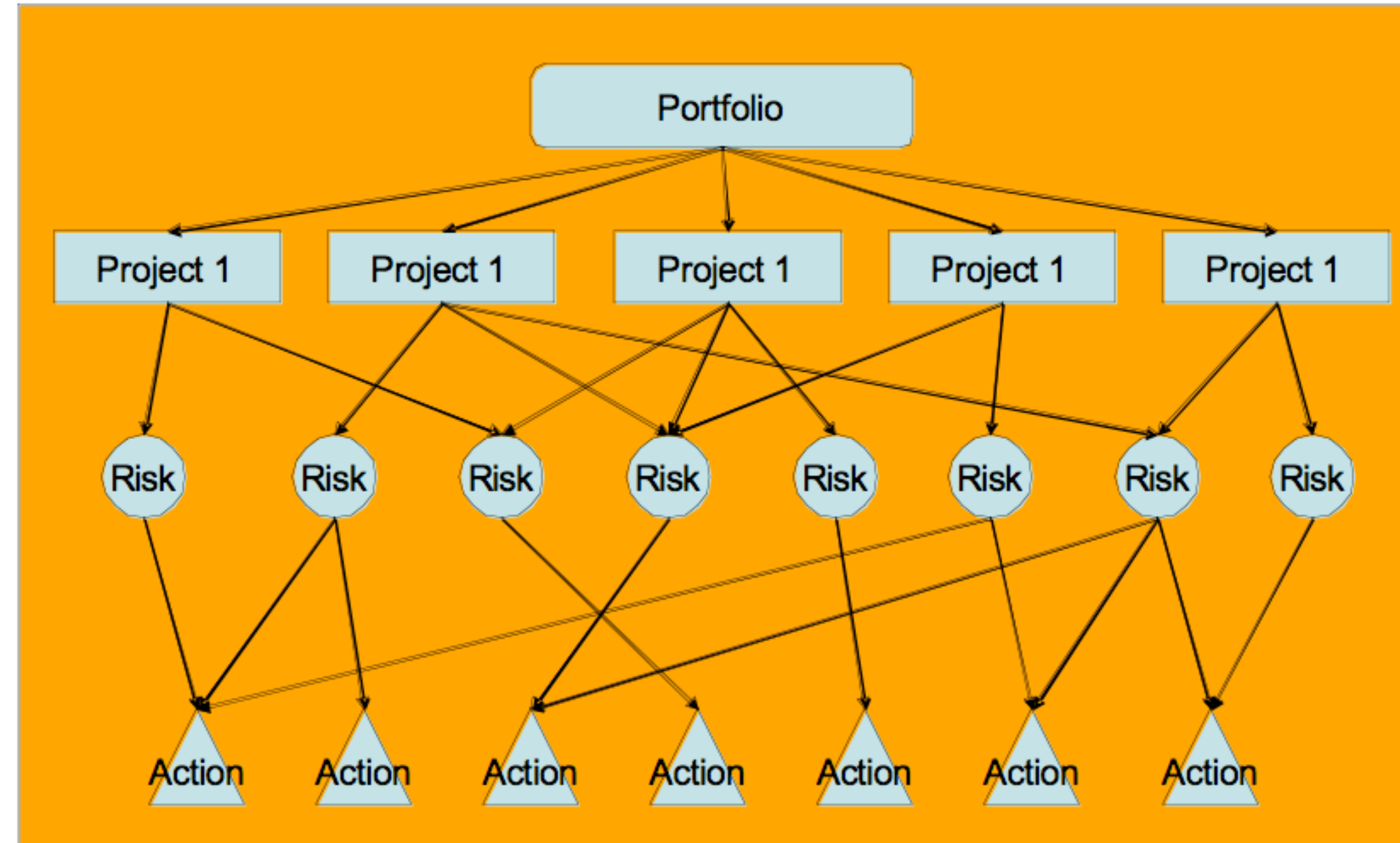
Research Contribution
 Methods and best practices for managing risk at the product development portfolio level

- Outcomes**
1. Measures of risk and procedures useful at the enterprise product portfolio level
 2. Heuristics and practices for managing risks at the enterprise level in product development
 3. Demonstration of applicability of metrics and practices to an existing product development portfolio
 4. Conference and Journal Papers
 5. Doctoral dissertation June 2008

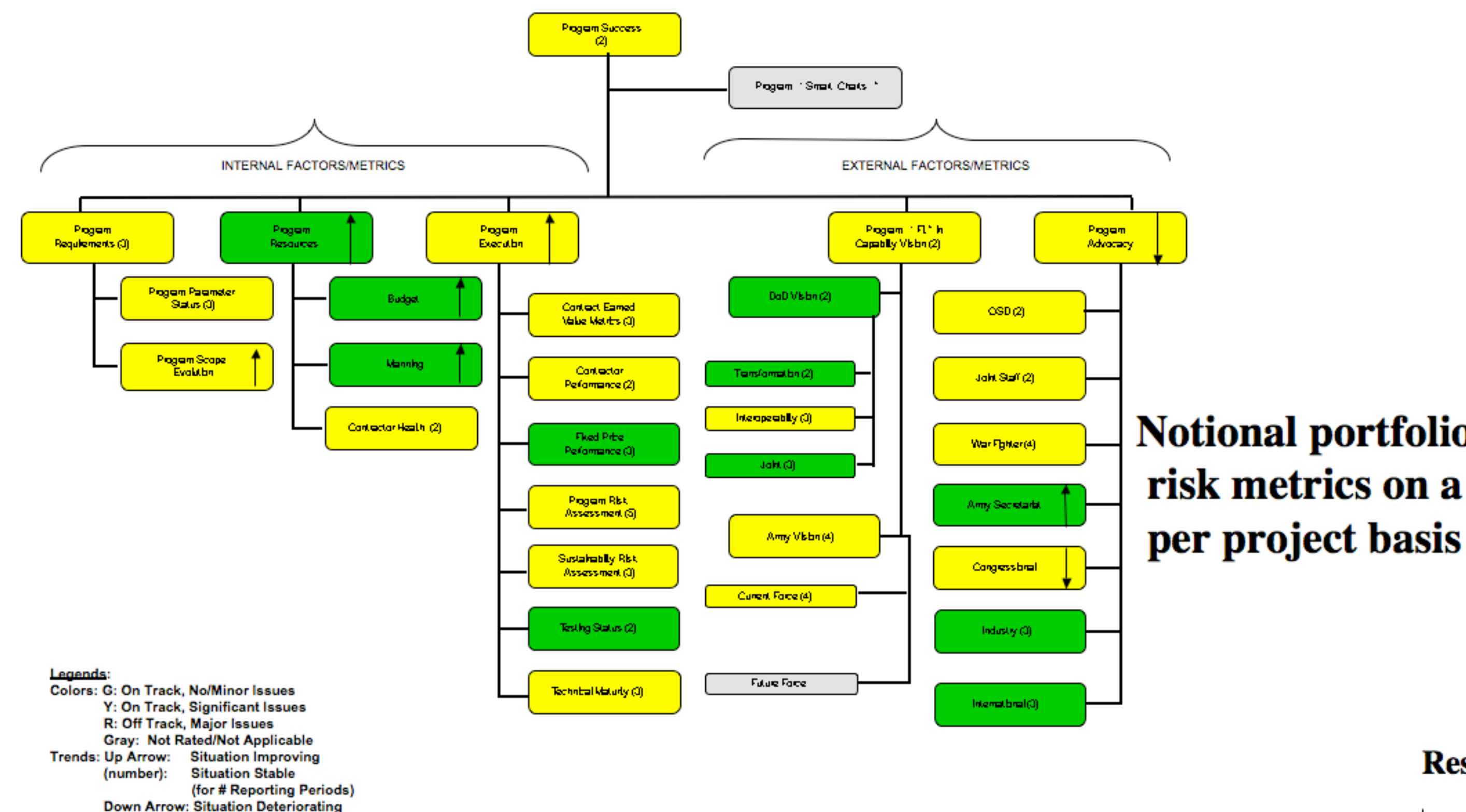
- Methodology**
 Using a combination of:
- Interviews with portfolio managers
 - Case studies of enterprise risk management
 - Simulation modeling of PD portfolios
 - Field research

- Provide:**
- Metrics and methods for assessing risk at the portfolio level
 - Best practices for managing risk at the portfolio level
 - Validation using an existing PD portfolio

Few product development (PD) enterprises consistently create new products on time and on schedule. This research explores how risk management at the portfolio level may help enterprises to manage their entire PD value stream more effectively.



Notional product development portfolio representation containing information and links between projects, portfolio-level risks and mitigation actions



Some US Military Services are using the above to aid portfolio management

Can Risk be used to create an advantage across a product development portfolio?

Key Questions:

- How should risk be aggregated to the portfolio level?
- How does a portfolio manager make use of aggregate risk information?

Initial Observations:

1. Using risk information at the portfolio level is not well understood
2. Portfolio management and risk are tied together
3. Risk aggregation methods that bridge the gap between individual programs and a portfolio are lacking

Research Timeline

Complete Literature Review, Model Identification	Interviews, initial simulation & modeling	Case studies, refine model, data analysis	Complete cases, data analysis, portfolio application	Finish analysis, finish thesis, publish results, graduate!
Present	Summer 2007	Fall 2007	Winter 2007	Spring 2008

Assertion: A product development portfolio objective is to maximize value in the presence of uncertainty, not to necessarily minimize risk