

Design for Uncertainty: Lean Risk Management

Pelle Willumsen, PhD project

Challenge

The project addresses the theme of uncertainty in the context of project/program management and development, and how to design the tools necessary to design a value adding, integrated RM activities.

The majority (around 70%) of what is generally considered “risk management best practice” has no confirmable effect on overall engineering project performance. While the immediate value of risk management can be unclear, the outcome of not implementing RM properly is very clear: Examples include cost overrun, ‘surprises’, schedule drift, quality loss etc. We want to re-conceptualizing risk management as an integrated value adding activity, to realize the full potential of good RM in projects, programs and development activities.

The PhD project will address significant literature gaps, as well as key industry needs, regarding effective productivity improvement of engineering risk management processes.

Hypothesis

- Hypothesis 1: The value proposition of current engineering risk management practice is misaligned with the expected value of key stakeholders
- Hypothesis 2: Lean Product Development practices implicitly and explicitly contribute to risk management by improving the management of uncertainties in the engineering process
- Hypothesis 3: We can significantly increase adoption and performance of risk management practices if we re-conceptualize them through a lean thinking lens

Theory

The project draws on multiple disciplines including risk management, design of engineering systems, project management and lean thinking.

Method

Design Research Methodology (DRM) is applied to the theoretical and empirical analyses and other relevant methods are drawn from Lean thinking and system design. The project follows a design process consisting of analysis, conceptualization and prototyping drawing on various design techniques and research.

Expected results

A handbook, that will serve as a practical guide for re-conceptualizing a companies risk management activities. A series of papers will address specific literature gaps, and workshops and events will gather empirical studies and provide a context for developing a selection of tools for improving RM in an industry context of project management, which currently does not exist.



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