Quantifying Risk of Acquisition Portfolios

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A risk management methodology for acquisition portfolios of programs based on cost data using a conceptual process similar to the one used in analyzing mutual funds' performance is presented. Different portfolio management methodologies are surveyed and a measure to characterize risk at the portfolio level is proposed. To illustrate the application of this methodology a case study is presented that highlights the possible benefits as well as its shortcomings. The results strongly point towards the benefits associated with portfolio level planning and indicate that risks associated with acquisition can be managed by the proposed method. We also discuss the implications of portfolio risk assessment in the context of acquisition initiatives in the Department of Defense.

More specifically, following hypotheses are proposed:

- The risk index is a valid way to quantify portfolio level risk of large acquisition programs.
- The risk index can be used for relative comparison of risks between programs.
- It is possible to develop a measurement system or framework that will assess risk in portfolios with the goal to redirect resources to the more viable programs and to make critical decisions on the continuation or discontinuation of other programs.

In this paper we also review the different methods that exist to characterize risk at the portfolio level both within the Department of Defense framework and outside, compare them and then propose a new method for portfolio risk management scheme which fills a gap that exists in the current portfolio management techniques for efficiently measuring and prioritizing risks at the portfolio level.

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