

## **Portfolio Analysis in the Cost-Efficiency Evaluation of Weapon Systems**

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*Abstract:* Cost-efficiency evaluation of weapon systems is challenging due to multiple mission objectives, interactions among weapon systems and variety of operating situations where these systems may be used. We develop a portfolio modeling framework to identify cost-efficient combinations of weapon systems at different budget levels in view of multiple mission objectives. The modeling framework – which builds on results from combat simulations – admits incomplete information about the importance of mission objectives and accounts for interactions that exist among dissimilar weapon systems.

*Keywords:* Decision Support Systems, Military Operations Research, Multi-Objective Decision Making.