

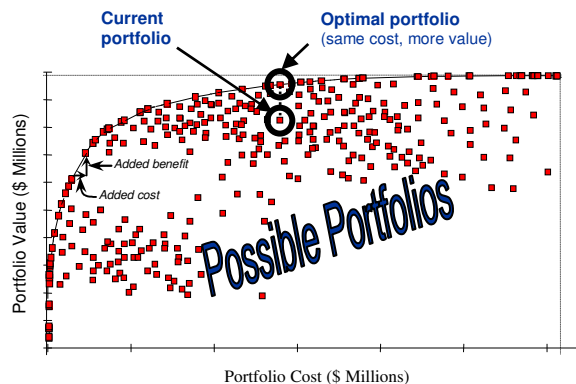
# Priority Systems

*Priority systems based on real options analysis allow organizations to increase value while reducing capital spending.*

Managers know that projects must be prioritized. Resources are insufficient to allow all projects to be conducted at once. Whether you refer to this as prioritization, portfolio management, resource allocation, or budgeting, the fundamental issue is the same. Deciding which projects to fund now and which to postpone is difficult and often controversial.

Our approach is to work closely with a client team to tailor-build a system (software plus processes for collecting the necessary inputs) that the client then uses on an ongoing basis to evaluate projects and optimally allocate resources. The approach is based on formal theory known as real options, which:

- identifies, for any resource constraint, the optimal set of projects,
- determines the dollar value of each project, accounting for “soft” as well as hard, dollar benefits,
- accounts for interdependencies among projects,
- quantifies risk, taking into account the performance risks of individual projects as well as market risks,
- ensures that resource allocations are aligned with the organization’s strategic objectives,
- facilitates a more effective decision-making process that reduces “gaming” and “levels the playing field” for the competition for resources.



Results include:

- the resource allocation that produces the greatest total value for any specified total budget or cost,
- projects that should be funded, accelerated, scaled back, postponed, and eliminated
- the expected dollar value of each investment option,
- measures of evolving portfolio value and risk,
- an efficient process for updating of the budget solution.

Experience demonstrates that the formal priority systems provided enable client organizations to increase the value or decrease the costs of their investment portfolios by between 20-40% per application. They also help managers explain and defend their priorities.

**Lee Merkhofer**, Ph.D., specializes in helping organizations design and implement formal systems for prioritizing projects. Under grants from the National Science Foundation, he conducted research into prioritization theory while serving as an Associate Director at the Stanford Research Institute. More recently, as a partner of PricewaterhouseCoopers, he founded and led the Priority Systems Business Practice. Dr. Merkhofer is the author of two books on the theory underlying prioritization and has received professional awards for his work in the area. He has led over two-dozen successful priority system efforts for clients in the public and private sectors.

**Jahan Alamzad** specializes in the application of advanced analytical techniques to complex business problems. He has been engaged in a variety of assignments that range from strategic planning, decision analysis, business-process reengineering, and organizational restructuring to tactical operations analysis and resource planning. He has led the design and development of decision-support and information-processing systems. His areas of expertise include quantitative modeling of business processes, integrated planning, and resource management.

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