

SEMINAR SERIES
Department of Quantitative Analysis and Operations Management
College of Business Administration
University of Cincinnati

Stochastic Analysis of Subcontracting Strategies for Projects

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The problem of designing a contract mechanism to allocate the component subprojects of a large project to a pool of contractors has important implications for project success. Using a stochastic model, we discuss the issues involved in diversifying risk for the project owner by partitioning the project and assigning the subprojects to multiple contractors whose performance characteristics are imperfectly known. In the case of a homogeneous project consisting of serial subprojects, we show that disaggregating the project and assigning the subprojects to the contractors on a piecemeal basis reduces variance of project duration while leaving the mean unchanged. On the other hand, in the case of a homogeneous project consisting of parallel subprojects, aggregating the subprojects and assigning the aggregated project to one of the contractors reduces mean project duration.

Anand Paul completed his B.Tech in Electrical Engineering from IIT Kharagpur and his MBA from IIM Calcutta (both in India). He then worked for three years in industry in a variety of guises: advertising executive, market researcher and industrial economist. In 1994 he took a right angled turn and joined the PhD program in Operations Management at the University of Texas at Austin; he is currently visiting at UC where he teaches two undergraduate OM courses. Paul's research interests lie in the area of contract design.