

Managing Supplier Risk with Epistemic Uncertainty: League Tables & Value of Information

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Abstract

Our research is motivated by an operational challenge facing the supply management function of a large engineering organisation which develops systems for the aerospace, maritime and defence sectors using parts sourced globally through its supply chains. The organisation operates an enterprise resource planning (ERP) system which contains large amounts of data about, for example, suppliers and their transaction histories. Our study focuses on supporting certain operational decisions taken by the supply management function.

This talk will focus on two aspects of our work, which draw on the same underpinning model. Firstly, we will discuss a ranking mechanism of suppliers. Constructing a meaningful mechanism is challenged by heterogeneity of experience across the pool of suppliers ranging from very new suppliers to ones with many years of history supplying to the organisation. Ranking performance under such conditions is difficult as the organisations epistemic uncertainty concerning the inherent ability of each supplier is different. Secondly, we will consider optimal investment in supplier development subject to epistemic uncertainty and assess the value of due diligence in buying down uncertainty before making the investment decision.