

Department of Information and Systems Management
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Seminar Announcement

***Capacity Investment in Imperfect Capital Markets:
The Interaction of Operational and Financial Decisions***

by

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11:00 am – 12:30 pm

Room 4379, ISMT Conference Room (L17/18)

~~~~~ All interested are welcome ~~~~~

**Abstract**

This paper analyzes the effect of capital market imperfections on a firm's operational and financial decisions in a capacity investment setting. We model a monopolist who produces and sells two products in a single selling season. Product demands are price-dependent, random and correlated. The firm chooses between flexible and dedicated technologies, and determines the capacity level and the production quantities with the chosen technology. The firm's limited budget, which depends partly on a tradable asset, can be altered with financial risk management and can be increased by borrowing from a creditor. The borrowing terms are determined in a Stackelberg equilibrium by the creditor who is the leader. The creditor incurs a fixed cost of bankruptcy if the firm defaults on the loan, and imposes an underwriting fee. The capital market imperfections, bankruptcy costs and underwriter fees, impose financing frictions on the firm. We derive the optimal technology, capacity, production, external borrowing and financial risk management decisions of the firm; and the creditor's optimal contracting decision in equilibrium. Our analysis contributes to the capacity investment literature by analyzing the effect of capital market imperfections on capacity investment and characterizing previously undocumented trade-offs that arise in imperfect capital markets; demonstrating that these trade-offs may change traditional insights concerning capacity investment derived under the perfect market assumption; and underlining the importance of the integration of operational and financial decisions.

**Biography**

Onur Boyabatlı has a PhD degree from the Technology and Operations Management Department at INSEAD and is currently working as a postdoctoral research fellow at the same institution. His research interests are in the area of supply chain management, with a special emphasis on supply chain risk management. In the interface between Operations Management and Finance, he investigates i) the integrated risk management practices of firms through a combination of different modes of operational flexibility and financial instruments and ii) joint financing and operating (technology, capacity, production) decisions of firms in the capacity investment context. From a physical supply risk management perspective, he analyzes the short-term and long-term contracting and hedging in B2B markets with a special focus on proportional product markets where a single input is processed to produce multiple outputs in proportions (e.g. fed-cattle supply chains).