

**University of Chicago Booth School of Business**

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**Title: Operations Management for Entrepreneurial Firms**

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**Abstract:**

We consider the setting of growth-oriented entrepreneurial firms where the entrepreneur's time is the chief bottleneck. We present insights into two classical problems in OM: process improvement and hiring. We examine the first via the current time-future time trade-off and the second via the time-money trade-off. For the first, we observe that for many growth-oriented entrepreneurial firms, the entrepreneur's time is one of the more salient resource constraints. Classifying the entrepreneurs' activities into four categories based on their revenue-related or process-related impact and short-term or long-term effects, we present a dynamic time allocation model for process improvement in growth-oriented entrepreneurial firms, and characterize the optimal time allocation policy and its impact on firm growth. For the second, we note that entrepreneurs need to invest money and time to grow their firms. Both money and time are often scarce, but the nature of these two resources is fundamentally different. We formulate a simple model of a small, fast-growing entrepreneurial firm, where time and money are the two productive inputs. We show that the firm's key bottleneck resource shifts from money to time as the firm's revenues grow. We examine hiring as an operational mechanism for trading money for time to accelerate growth. We characterize when entrepreneurs should hire their first employee in terms of when their available cash is sufficiently large, in order to alleviate the entrepreneur's time constraint. While simple and stylized, our model captures the fundamental dynamics of the trade-off between time and money in small, growth-oriented entrepreneurial firms.