THE POWER OF PROMOTION: AN AGENT-BASED MODEL OF HUMAN CAPITAL AND SELF-REGULATION EFFECTS ON NEW VENTURE PERFORMANCE IN DYNAMIC ENVIRONMENTS (INTERACTIVE PAPER)

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Recommended Citation
Crawford, G. Christopher University of Louisville and Kemelgor, Bruce (2011) "THE POWER OF PROMOTION: AN AGENT-BASED MODEL OF HUMAN CAPITAL AND SELF-REGULATION EFFECTS ON NEW VENTURE PERFORMANCE IN DYNAMIC ENVIRONMENTS (INTERACTIVE PAPER)," Frontiers of Entrepreneurship Research: Vol. 31: Iss. 5, Article 6. Available at: http://digitalknowledge.babson.edu/fer/vol31/iss5/6
THE POWER OF PROMOTION:
AN AGENT-BASED MODEL OF HUMAN CAPITAL AND
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PERFORMANCE IN DYNAMIC ENVIRONMENTS

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Principal Topic
Entrepreneurship requires human agency (Shane, 2003), but agency’s relative influence on new venture performance is highly contested (Aldrich & Ruef, 2006). Three separate and distinct theories posit different main effects on new venture outcomes based on environmental characteristics, human capital endowments, and psychological attributes. We use a complexity science perspective – combining concepts from population ecology (Carroll & Hannan, 2000), resource-based view (Alvarez & Busenitz, 2001), and regulatory focus theory (Brockner & Higgins, 2000) – to understand how entrepreneurs self-regulate their interactions with the environment according to initial intentions to grow the venture.

Modeling high-growth intention as a promotion focus (striving for maximal goals) and low-growth intention as prevention focus (safely achieving minimal goals), we hypothesize that human capital endowments are most important for new venture survival when population density is high. In more munificent environments, psychological and behavioral aspects inherent within prevention and promotion focus play a more important role in both survival and potential growth. More specifically, while prevention focus – socially motivated by vigilant adherence to avoiding mistakes – facilitates venture continuance, growth is stifled. Alternatively, while promotion focus – internally motivated by a need for achievement – facilitates growth, survival is compromised.

Method
We construct an agent-based model in NetLogo to test our hypotheses. Our environment consists of heterogeneous firms, opportunities, and entrepreneurs. We introduce variation in the size of firms and value of opportunities according to a power-law distribution, and PSED I & II data to initialize the percentages of four entrepreneur archetypes. Each has a range of initial resources, either a promotion or prevention focus, and pursues opportunities according to regulatory focus theory. Resource endowments decrease as the agent moves around the environment, and increase when additional opportunities are captured; if resources diminish to threshold levels, it is selected out of the environment. The model, which we validate with five years of data from the Kauffman Firm Survey, supports our hypotheses.

Implications
Our results – empirically validated by three nationally representative samples and over 7,000 cases – suggest that building human capital through education, experience, or team formation increases survival. For entrepreneurship research, our simulation answers the decade-old call for agent-based models to build domain-specific theory (Aldrich, 2001).

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