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## INPUT-OUTPUT KNOWLEDGE THEORY: POTENTIAL AND APPLICATION AS A THEORY OF ENTREPRENEURIAL COGNITION (SUMMARY)

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≈ SUMMARY ≈

**INPUT-OUTPUT KNOWLEDGE THEORY: POTENTIAL AND  
APPLICATION AS A THEORY OF ENTREPRENEURIAL COGNITION**

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**Principal Topic**

David Birch, author of the seminal research implying the enormity of the contribution of the small business sector to the overall economy, once said, “If you want to teach people to be entrepreneurs, you can’t.” (Aronsson, 2004). Nonetheless, millions of dollars are spent every year on programs, courses, centers, workshops, etc., based on the assumption that entrepreneurship educators can teach the cognitive mindsets and skillsets that in turn generate entrepreneurship, new companies, and new jobs.

This controlled study is grounded in psychosocial theories of entrepreneurial cognition. Tacit knowledge, “expert” scripts, (Mitchell et al., 2002), cognitive “alertness” (Kirzner, 1985), and satisficing on inputs under conditions of uncertainty (Sarasvathy, 2001, Baker, 2005) are all input-specific cognitive strategies. The study applied and tested an overarching theory, Input-Output (IO) Knowledge Theory, to help make sense of these disparate views. IO Theory has recently been applied by electronics and systems theory researchers where controlling dynamic systems under conditions of uncertainty are of paramount importance. IO Systems research has found that when uncertainty is high and factual/structural knowledge is low or unavailable, IO cognitive strategies (manipulating the number of inputs if that’s the only strategy available, for example) to control dynamic systems outcomes can be as effective performance-wise as when structural information about a system is known or knowable.

**Method**

The research setting was a major state university with a prominent engineering program in the Southeastern U.S. Data collection involved surveys (both email and mail) of 4,000 business and engineering alumni. The study employed a longitudinal pre-test post-test quasi-experimental design methodology using matched comparison groups and Structural Equation Modeling (SEM) in an attempt to disentangle the effects of entrepreneurial learning/cognition from the effects of other known and hypothesized antecedents on a variety of E-outcomes.

**Results and Implications**

The study found a direct, predictive relationship between one of the study’s IO E-cognition variables on E-outcomes (startups, new products, etc.). This variable was separate and distinct from the model’s other cognition variables (business and social knowledge and skillsets). This predictor, along with significant regression results for other IO variables, (including a variable operationalizing the effectuation construct), supports the suitability of the IO framework for explaining entrepreneurial cognition.

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