

# Effectual versus predictive logics in entrepreneurial decision-making: Differences between experts and novices

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## Abstract

In support of theory, this study demonstrates that entrepreneurial experts frame decisions using an “effectual” logic (identify more potential markets, focus more on building the venture as a whole, pay less attention to predictive information, worry more about making do with resources on hand to invest only what they could afford to lose, and emphasize stitching together networks of partnerships); while novices use a “predictive frame” and tend to “go by the textbook.” We asked 27 expert entrepreneurs and 37 MBA students to think aloud continuously as they solved typical decision-making problems in creating a new venture. Transcriptions were analyzed using methods from cognitive science. Results showed that expert entrepreneurs framed problems in a dramatically different way than MBA students. Published by Elsevier Inc.

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## 1. Executive summary

More MBA programs offer courses in entrepreneurship than ever before. And most of them extrapolate their course content from research in core functional areas such as marketing and finance. Business planning takes center stage and large portions of course times are devoted to understanding market research techniques, competitive analyses based on received wisdom in strategic management and financial valuation methods based on calculations of risk-adjusted expected returns. Entrepreneurship research has contributed only indirectly to course development even as valuable insights begin to cumulate in directions different from current pedagogical frameworks.

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To redress this deficiency, and to improve the rationale for teaching entrepreneurship to MBAs, we set out to understand whether and how expert entrepreneurs — founders of multiple companies with over 15 years of experience and proven superior performance — think about typical decisions in starting a new venture. Cognitive scientists have studied expertise for over three decades. Recently, their work has come to the attention of researchers in entrepreneurship. Building upon this work, we used a well-reputed method called “protocol analysis” to compare 27 expert entrepreneurs with 37 MBA students, to see what expert entrepreneurs know that MBAs don’t, and might be taught. We developed a research instrument which consisted of a detailed description of an imaginary product called *Venturing* and asked the subjects to think through several decisions in building a new venture around it. First, they were asked to think through the information required to do this and how they would gather that information; thereafter, they were provided with market research information and asked to make specific decisions in transforming this product into a profitable venture.

Both experts and students worked on exactly the same problems and information. They were asked to think aloud continuously as they solved these problems and made these decisions. Their think-aloud protocols were gathered on tapes, the tapes transcribed, and the transcriptions analyzed using both qualitative and quantitative techniques. Results showed dramatic differences in the way the two groups framed the decision problems contrasted by the underlying logic used: predictive versus effectual. Put simply, the MBA students picked target segments based on predictive information given to them and followed textbook procedures in arriving at decisions on how to capture the target segments. Expert entrepreneurs, however, under-weighted, ignored and even explicitly argued against taking predictions seriously, working instead with things within their control even if that meant effectuating, e.g., changing their initial goals and visions for the venture.

We call the expert frame “effectual” because it proceeded outward from means and causes to new effects and unanticipated ends. The MBA students, per their training proceeded in the opposite direction from pre-determined effects to striving for means and causal paths that would direct them toward the pre-selected goals. That the two groups were different is perhaps not so surprising to most researchers and practitioners in the entrepreneurial community. But that they were almost diametrically opposed and so *strongly and starkly* opposed was both surprising and important. It turns out, therefore, that not only had expert entrepreneurs gained a pronounced decision-making frame or logic presumable through years and years of entrepreneuring, but the MBA students exhibited an equally well-defined logical frame opposite to that of the experts.

Clearly, the study argues for rethinking what we teach MBA students about entrepreneurship and urges researchers to better understand how and why entrepreneurs develop an effectual frame through their experience. In addition, it tempts us to speculate whether we need to rethink the MBA curriculum in terms of the logical frame it generates to *hinder* entrepreneurial learning. Perhaps the interesting and creative way to go would be to develop a two toolboxes approach to grapple with contrasting logics of business decision-making.

## 2. Introduction

A growing literature on entrepreneurial cognition suggests that theories developed in expert–novice studies in cognitive psychology can potentially illuminate important aspects of the entrepreneurial process including how experienced entrepreneurs acquire useful cognitive frameworks and scripts that enable them to become experts over time (Mitchell et al., 2000; Baron and Ensley, 2006). In this paper we attempt to build on these pioneering studies and hope to make a contribution to the significant and expanding field of research on cognitive factors in entrepreneurship (Mitchell et al., 2004a,b, 2007).

This rising interest in expertise and cognition as useful lenses to study entrepreneurship is mirrored in developments within other disciplines. Note for example the recent award of the Nobel Prize in economics to Daniel Kahneman that signaled the potential profitability of this type of cross-disciplinary collaboration. In a recent paper forecasting the future of such collaborations, Thaler (2000) sets forth an exciting agenda including the following:

There are an enormous number of exciting ways in which a better understanding of human cognition could help us do better economics. I’ll suggest two here. First, there is a problem with prospect theory that cognitive psychology might help us fix, the theory is incomplete. Prospect theory tells us that choices depend on the framing of a problem, but does not tell us how people will spontaneously create their own frames.

At least one way people create/acquire frames is through the acquisition of expertise (Bettman and Sujan, 1987). Frames refer to “the decision-maker’s conception of the acts, outcomes, and contingencies associated with a particular

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