

## **Prediction- and Control-Based Strategies in Entrepreneurship: The Role of Information**

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### *Extended Abstract*

Frank Knight (1921) discussed two basic methods for dealing with uncertainty in entrepreneurial environments, namely, prediction and control. Based on this distinction, empirical research on venture creation identified entrepreneurial strategies corresponding to these categories (Sarasvathy, 2001). According to this literature, prediction-based strategies focus on estimating unknowns via sampling methods whereas control-based strategies focus on shaping unknowns via pro-active behavior.

Both prediction- and control-based approaches aim to reduce uncertainty by providing information. Yet they presuppose different cognitive models of the situation at hand and different degrees of involvement by the decision maker. With regard to cognition, predictive strategies may be interpreted as producing reliable information about current market trends, whereas control-based strategies may be seen as first hand evidence of the chance of transforming customers' preferences. As far as involvement is concerned, predictive strategies are passive in nature and their outcomes are relatively independent of the behavior of the decision maker. Control-based strategies in contrast, presuppose an active involvement of the decision maker and yield results that heavily depend on her efforts. By producing different kinds of evidence and eliciting distinctive feelings of confidence, the information provided by these strategies may affect the willingness to engage in entrepreneurial action to different extents.

Experimental evidence on betting behavior provides support for this hypothesis. Based on Ellsberg's experimental design as a model of uncertainty, Kuechle, Boulou-Reshef & Carr (2016) model prediction as random sampling from an urn and control as inserting marbles into it. Using a between-subjects design in which individuals are randomly assigned to the treatments, they found that control-based methods of uncertainty reduction lead to a higher proportion of betting behavior after a favorable outcome compared to predictive methods, results that revert in the presence of unfavorable outcomes.

Since this experiment is based on binary betting decisions, it provides no measure of the preference for betting. Furthermore, since the subjects only experience one treatment and one information condition, their preference over methods to reduce uncertainty and the impact of the information received are not revealed. Finally, it is possible that previous results pooled decisions of individuals who trust the methods they were assigned to differently, underestimating the propensity to accept risk in settings in which people self-select.

Using a within-subjects design, we extend this experiment by asking subjects to decide how much of their endowment they are willing to pay (WTP) to place a bet on an urn of unknown composition in the presence of no information (baseline) and after acquiring partial information via random sampling (prediction treatment) and insertion of marbles (control treatments repeatedly). Our preliminary results show the existence of several types. Whereas some subjects are indifferent between the treatments, other subjects have higher WTP in one treatment compared to the other (holding in both cases the information constant). Within the last group, there are subjects who have

a higher WTP in one treatment regardless of the nature of the information received and subjects who reverse their WTP depending on whether the information is favorable or not. Our experiment sheds light on the preferences towards methods for acquiring information and their impact on behavior under uncertainty.

(joint with Beatrice Boulu-Reshef)