

Effectuation and/or Causation: What Cognitive Logic One Should Foster in Different Institutional Settings?¹

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Effectuation theory

- ✓ Based on investigation of cognitive processes of successful entrepreneurs and non-entrepreneurs, **Sarasvathy (2001; 2008)** indicated that expert entrepreneurs are much less inclined to rely on planning patterns during decision-making processes.
- ✓ **Sarasvathy (2001)** identified two venture cognitive logics that may be implemented during venture creation:
- ✓ *Effectuation* processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means;
- ✓ *Causation* processes take a particular effect as given and focus on selecting between means to create that effect.

Research Motivation

- ✓ In entrepreneurship context the role of uncertainty is very important, because of the novelty of entrepreneurial actions (McMullen and Shepherd, 2006).
- ✓ Since its introduction, the effectuation theory stresses the substantial role of uncertain context in entrepreneurial decision-making (Sarasvathy, 2001).
- ✓ Planning-based logic (causation) has some limitations in uncertain contexts as it works predominantly with past predictions (Reymen et al., 2015). Effectuation (flexible decision-making logic) does not request any prediction; it tries to shape the future by controlling those elements that can be monitored (Engel et al., 2014).
- ✓ Both effectual and causal logics have been investigated in their relation to new venture performance (Read et al., 2009; Smolka et al., 2015).
- ✓ It is still unclear if these relationships are stable across different contexts. We are trying to show that the association between venture cognitive logic and firm performance may vary across different environments. 3

Research Questions

- *How does venture cognitive logic relate to venture performance?*
- *Is the association between venture cognitive logic and venture performance contingent upon the characteristics of the institutional environment?*

Theory and Hypotheses (1)

Venture cognitive logic and venture performance

- Business planning activities and procedures have been investigated by management and entrepreneurship scholars for decades. Alternative approaches in both fields nowadays attract much more attention.
- There is evidence that firm performance is positively affected by the use of different planning-based tools (all associated with causal reasoning) (Brinckmann et al. 2010; Capon et al. 1994; Nadkarni and Narayanan 2007).
- Effectual principles (experimentation, affordable loss, flexibility and pre-commitments) as well as effectuation itself were revealed are positively related to new venture performance (Cai et al., 2014; Read et al., 2009; Smolka et al., 2015). Following prior findings, we assume causation and effectuation are both positively influence firm performance.

H1a. Causation is positively associated with the performance of the venture.

H1b. Effectuation is positively associated with the performance of the venture.

Theory and Hypotheses (2)

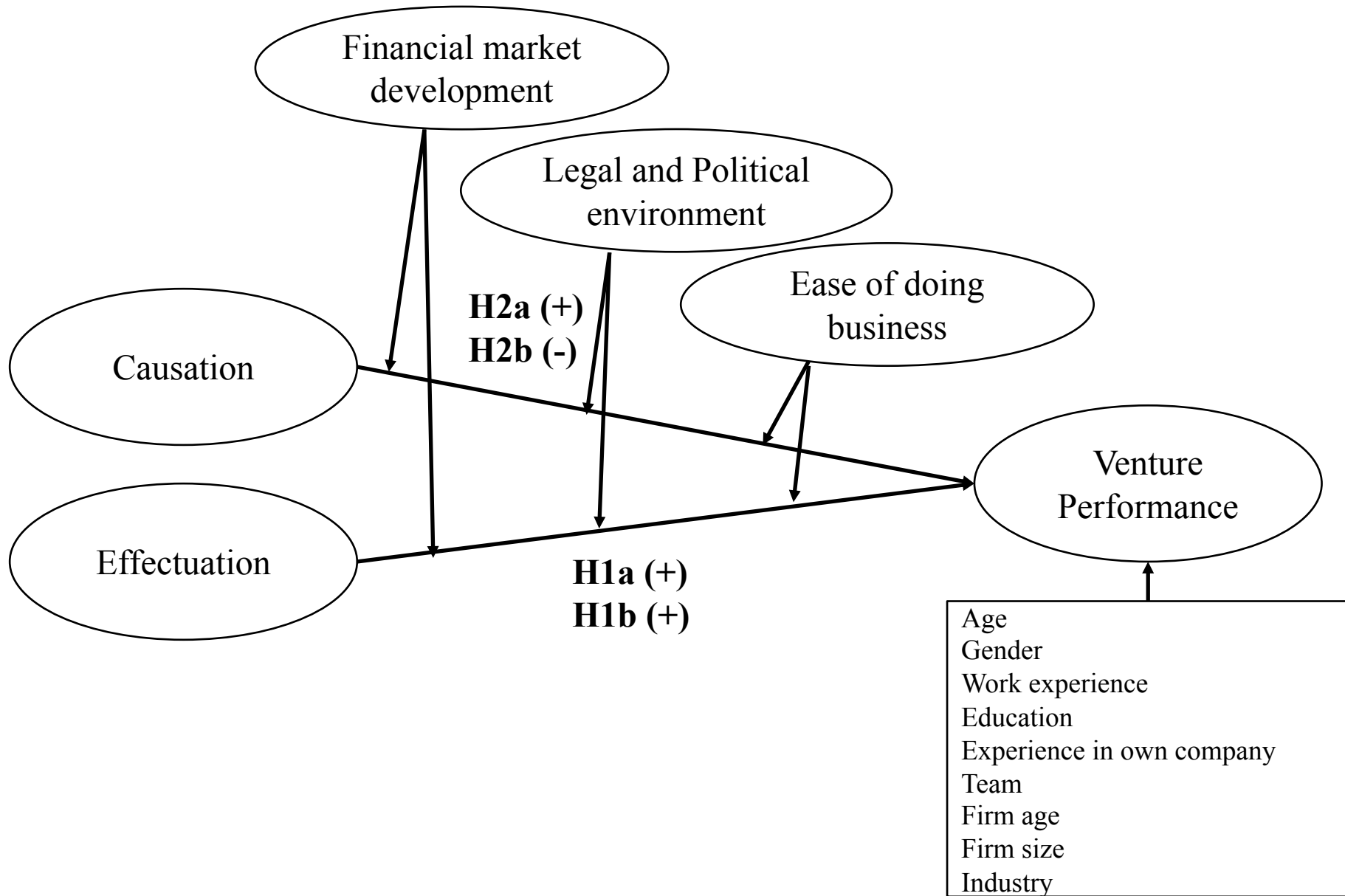
Institutions and venture cognitive logic

- Institutional context plays a significant role in those environments characterized higher level of turbulence and uncertainty (Welter and Smallbone, 2011). Institutions are considered as entities that may promote entrepreneurship and entrepreneurial behavior (North, 1990).
- Some scholars stated entrepreneurial decision-making is context dependent; and the level of uncertainty in external environment is very important (Arend et al., 2015; Gabrielsson and Politis, 2011; Politis et al., 2012).
- We conceptualize uncertainty at the macro-level where each country characterized by a particular level of institutions development, which “reduce uncertainty by providing a structure to everyday life” (North, 1990: 3).

H2a. The positive association between causation and venture performance is positively moderated by the level of development of the institutional environment, so that the association is stronger in more developed environments, and weaker in less developed ones.

H2b. The positive association between effectuation and venture performance is negatively moderated by the level of development of the institutional environment, so that the association is weaker in more developed environments, and stronger in less developed ones.

Theoretical Model



Method

Sample

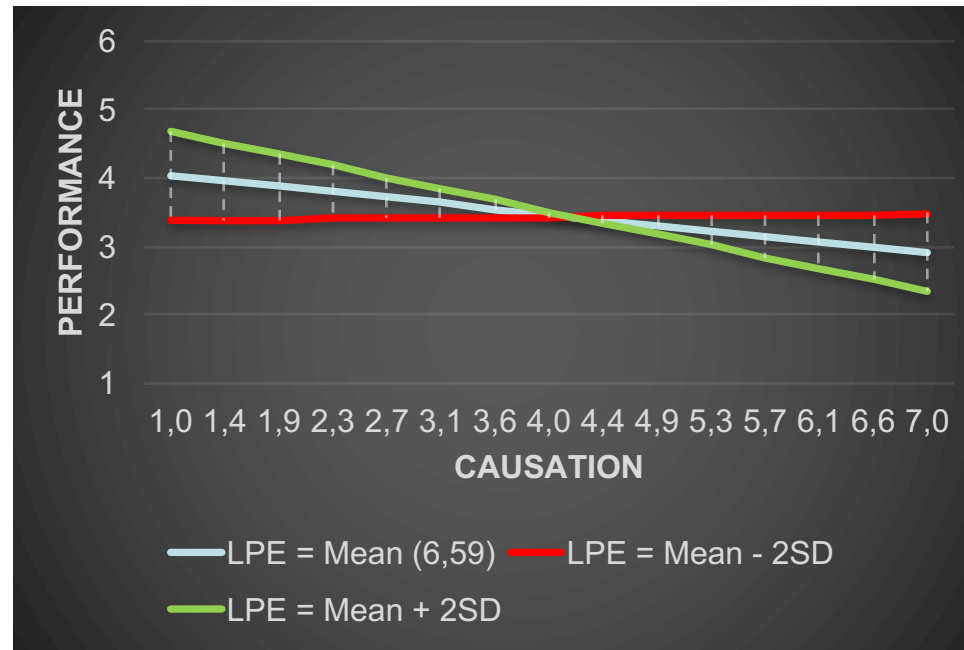
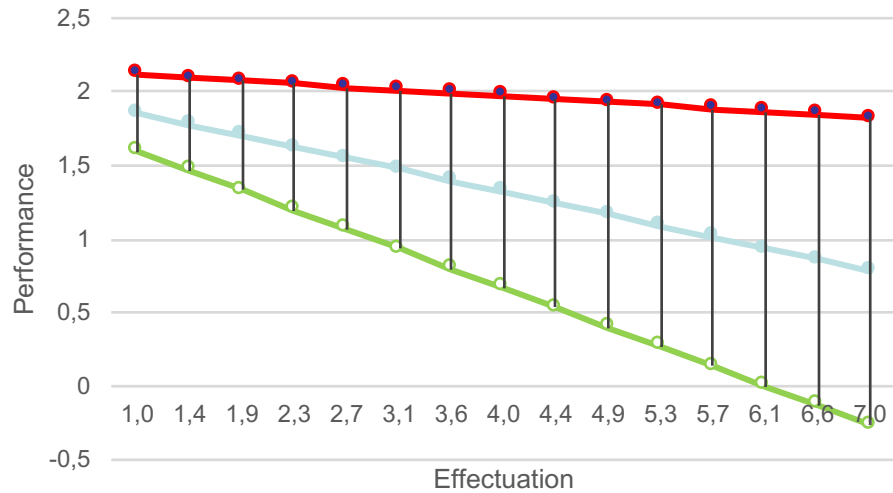
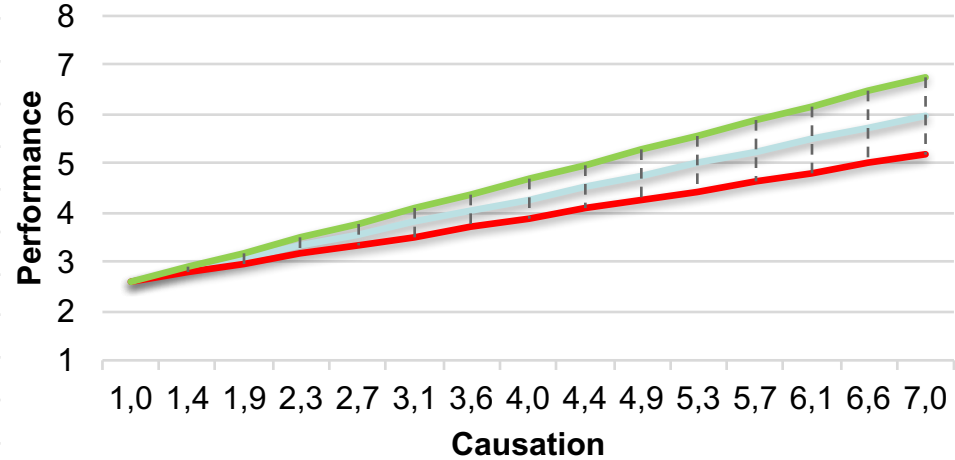
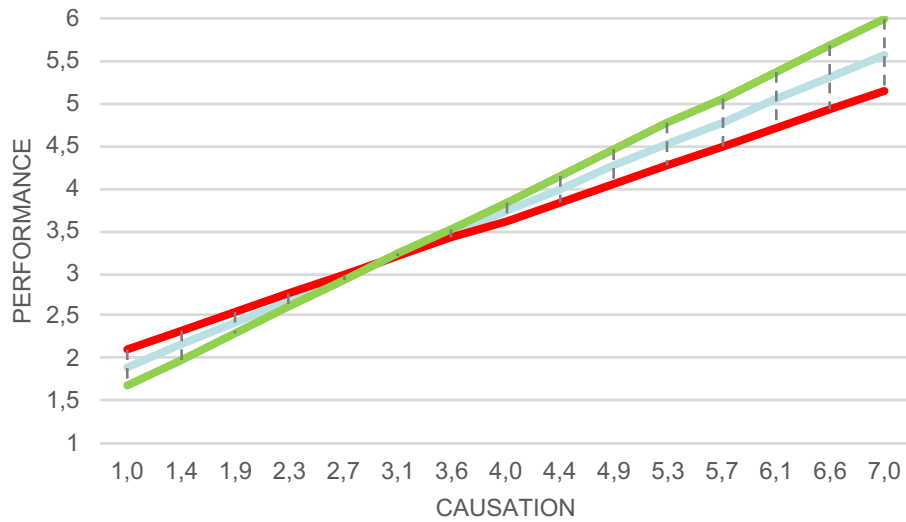
- **Global University Entrepreneurial Spirit Students' Survey (GUESSS) 2013/2014: group of active founders.**
- The final sample: 4413 ventures from 27 countries.

Variable	Source	Cronbach Alpha
Dependent variable - <i>Performance</i>	7-point Likert scale; Dess and Robinson(1984)	0.92
Independent variables - <i>Effectuation</i> <i>Causation</i>	7-point Likert scale; Chandler et al. (2011)	0.77 0.89
Moderators - <i>Financial market development</i> <i>Legal and political environment</i> <i>Ease of doing business</i>	Global Competitiveness Report 13-14 The International Property Rights Index, 2013 World Bank, 2015	—
Control variables	age, gender, work experience, education, experience in own company, team, firm age, firm size, sector	8

Regression Results

Variables	Model 1	Model 2	Model 3
Control variables			
Gender	0.024	0.021	0.025
Age	-0.035***	-0.032***	-0.032***
Work experience	0.266***	0.218***	0.221***
Education	0.064	0.008	0.002
Experience in own company	0.015***	0.011***	0.011***
Co-founders	0.024	-0.002	0.001
Firm age	-0.009	0.014*	0.013
Firm size (log(employees))	0.598***	0.590***	0.596***
Industry Dummies	Yes	Yes	Yes
Main effects			
Causation		0.244***	0.261***
Effectuation		0.142***	0.122***
Financial market development (FMD)		0.016	-0.234
Legal and political environment (LPE)		-0.095**	0.286**
Ease of doing business (EDB)		-0.000	-0.002
Interaction effects			
Causation_x_FMD			0.078**
Causation_x_LPE			-0.068***
Causation_x_EDB			0.002***
Effectuation_x_FMD			-0.029
Effectuation_x_LPE			-0.006
Effectuation_x_EDB			-0.002**
Constant	4.106***	2.318***	2.336***

Interaction analysis



Post-hoc analysis

Ratio - relative share of causation in student entrepreneurs' cognitive logic:

- *Ratio = causation/effectuation (b = 0.432, p<0.001)*
- *Ratio = causation – effectuation (b = 0.129, p<0.001)*
- *Ratio = (causation – effectuation)/(causation + effectuation) (b = 1.138, p<0.001)*

- *Squared ratio (inverted U-shape relationship)*

- *Interactions hold in all models*

Findings

- Causation and effectuation are both positively associated with firm performance, and causation has stronger association ($b=0.244, p<0.001$; $b=0.142, p<0.05$), ceteris paribus.
- Our findings from the empirical analysis have partly confirmed our hypotheses showing positive moderation of institutions on the association between causation and venture performance and negative moderation on effectuation-performance link.
- Specifically, we found that the level of financial market development positively moderates causation-performance link ($b=0.078, p<0.05$) along with ease of doing business index ($b=0.002, p<0.001$). At the same time ease of doing business negatively moderates the effectuation-performance link ($b= - 0.002, p<0.05$).
- *Unexpected finding*: the negative moderation effect of legal and political environment on causation-performance link ($b= - 0.068, p<0.001$).

Contribution

- We contribute to entrepreneurship literature by showing that planning-based decision-making to venture creation is still having its advantages in stable and developed environments.
- We corroborate empirically the effectuation theory by showing that benefits from using causal or effectual decision-making are contingent upon the level of institutional development.
- By combining two effectuation and institutional theories we open new promising direction for future research calling to pay attention not only to internal world of entrepreneurial decisions but also to external factors shaping the surroundings around.

Thank you for your attention!