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Effectuation, causation and new venture performance: The moderating role of national culture[1]

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Research Motivation (1)

- ✓ Investigation of the essence of entrepreneurs' reasoning and decision-making logic is of high interest to entrepreneurship scholars (Corbett, 2005; Krueger et al., 2000; Mitchell et al., 2002). Of particular interest has been the cognitive logic employed by an entrepreneur when navigating the stages of the entrepreneurial process (Dutta and Thornhill, 2012).
- ✓ Sarasvathy (2001) introduced two venture cognitive logics, which represent different approaches to the creation of ventures:
  - ✓ *effectuation*, that assumes the use of available means and commitments with stakeholders for controlling unpredictable future and leverage contingencies, and
  - ✓ *causation*, that based on rational reasoning with pre-existing goals and opportunities, planning processes and resource identification.

Research Motivation (2)

- ✓ Effectuation theory was developed in relation to cognitive processes of experienced entrepreneurs (Sarasvathy, 2001). Therefore, its implications for inexperienced entrepreneurs are less clear.
- ✓ Consequently, the cognitive processes of inexperienced entrepreneurs represent a promising path for research on effectuation.
- ✓ In this study we consider student entrepreneurs as inexperienced decision-makers and suppose they may use both effectual and causal logic during new venture creation.
- ✓ While previous research found venture cognitive logic positively influence firm performance (Read et al., 2009; Smolka et al., 2015), we assume the positive link between decision-making process of founders and their new ventures performance is context specific, depending of characteristics of national culture.

Research Questions

- *How does venture cognitive logic relate to performance of new ventures created by student entrepreneurs?*
- *To what extent do the characteristics of national culture determine this relationship?*

Theory and Hypotheses

Venture cognitive logic and new venture performance (1)

- When considering university students, a strong potential influence on their cognitive logic is the university environment. Two viewpoints have been identified in the entrepreneurship literature concerning university milieu's the influence the way student entrepreneurs create new ventures (Polities et al., 2012).

- One perspective argues universities promulgate a specific planning approach during new venture creation – an approach that reinforces a preference for predetermined goals, strategic analysis and formal plans (e.g., Blenker et al. 2011; Honig 2004). Planning and goal setting, in turn, favor causal thinking and behavior in process of starting a business.

- A second perspective suggests that universities encourage students to build networks, acquire knowledge from experienced entrepreneurs, and think creatively, thereby stimulating the kind of flexibility and experimentation in venture creation processes that are consistent with effectuation (e.g., Baron, 2006).

- We suppose that student entrepreneurs may use two approaches during venture creation – effectuation and causation – and get benefits for their ventures from both these venture cognitive logics (in line with Polities et al., 2012).

Theory and Hypotheses

Venture cognitive logic and new venture performance (2)

- There is evidence that firm performance can be positively affected by the use of such common tools as strategic planning, marketing research and rigorous analyses, and well-formulated goals (all associated with causal reasoning) (Brinckmann et al. 2010; Capon et al. 1994; Nadkarni and Narayanan 2007).

- In entrepreneurship literature studies on planning-performance relationship provide inconsistent results indicating negative, null and positive relationships between business planning and performance (Bracker et al., 1988; Gartner and Liao, 2005; Lange et al., 2007; Miller and Cardinal, 1994; Robinson and Pearce, 1984; Sexton and Auken, 1985).

- Pro-planning researchers argue that business planning promotes firm development by ensuring resources are used more efficiently and decision speed is increased, while also contributing to enhanced legitimacy of the venture (Delmar and Shane 2003, 2004). Planning strategy contributes to venture success by setting pre-determined goals and plans, specific objectives and expected returns, and employing rigorous analyses (Smolka et al. 2015).

H1a: Causation is positively associated with performance of new ventures created by student entrepreneurs.

Theory and Hypotheses

Venture cognitive logic and new venture performance (3)

- Effectual principles as well as effectuation itself were reveled are positively related to new venture performance (Read et al., 2009; Cai et al., 2014; Smolka et al., 2015).
- The ability to experiment is one of the characteristics of entrepreneurs applying effectual logic. Effectuators are prone to experimentation with products, services and business models as a way to test their ideas before finding a business concept that works (Sarasvathy, 2001). Experimentation therefore leads to the best business model selection and improve performance of a company.
- Focusing of *affordable loss* principle allows effectuators manage risk of loss of invested resources, not only financial but social and intellectual resources as well. Combination of resources from all groups of stakeholder also downsizes risk of losses and contributes to venture success.
- Effectuators perceive every new unexpected contingency and change as resources rather than unwilling events that should be prevented (Read et al., 2011). This ability brings firm more benefits than less flexible competitors and results in better performance.

H1b: Effectuation is positively associated with performance of new ventures created by student entrepreneurs.

Theory and Hypotheses

Uncertainty avoidance and cognitive logic - new venture performance

- Various aspects of the external context may determine how entrepreneurs choose the most appropriate and relevant decision-making logic.
- Uncertainty avoidance refers to the extent to which the members of society "seek orderliness, consistency, structure, formalized procedures, and laws to cover situations in their daily lives" (House et al. 2004, p. 603). In high uncertainty avoidance cultures individuals are intolerant towards risks that create a need for planning and predictability.
- Causal logic is in consistence with such values as it relies on formal planning procedures. However, this logic may create cognitive fixations and limited strategic flexibility (Brinckmann et al., 2010), preventing rapid adaptation to changes.
- Effectual logic means that entrepreneurs embrace possible contingences making partnerships and pre-commitments. Expert entrepreneurs use co-creation as a tool for controlling uncertainties of new venture creation (Read and Sarasvathy, 2012). Effectuation also facilitates rapid adaptation to environmental changes. Flexibility and adaptability have been found to have high importance for firm performance (Baker et al., 2010). In this way, effectual logic helps to control uncertainty.

H2a: In higher uncertainty avoidance cultures the relationship between causation and students' new venture performance will be weaker than in lower ones.

H2b: In higher uncertainty avoidance cultures the relationship between effectuation and students' new venture performance will be stronger than in lower ones.

Theory and Hypotheses

Assertiveness and cognitive logic - new venture performance

- Assertiveness is defined as ”the degree to which individuals in organizations or societies are assertive, tough, dominant, and aggressive in social relationships” (House et al. 2004, p. 12). The concept of assertive behavior represents individualism, rationality and pragmatism (Rakos 1991).
- Societies with higher levels of assertiveness tend to promote success, competition and performance, emphasizing results over relationships and opportunistic behavior, while less assertive cultures appreciate cooperative behavior with an emphasis on traditions, integrity and trust (House et al. 2004).
- Rational behavior, competitiveness and achievement of goals are characteristics of causal behavior. As causation is based on rationality and analytic thinking, it will be more congruent with values of assertive cultures. Effectuation is based on unassertive values, trying to build relationships with customers and partners, relying more upon building networks and creating community (Sarasvathy, 2001).

H3a: In high assertive cultures the relationship between causation and new students’ venture performance will be stronger than in low assertive cultures.
H3b: In high assertive cultures the relationship between effectuation and students’ new venture performance will be weaker than in low assertive cultures.

Theory and Hypotheses

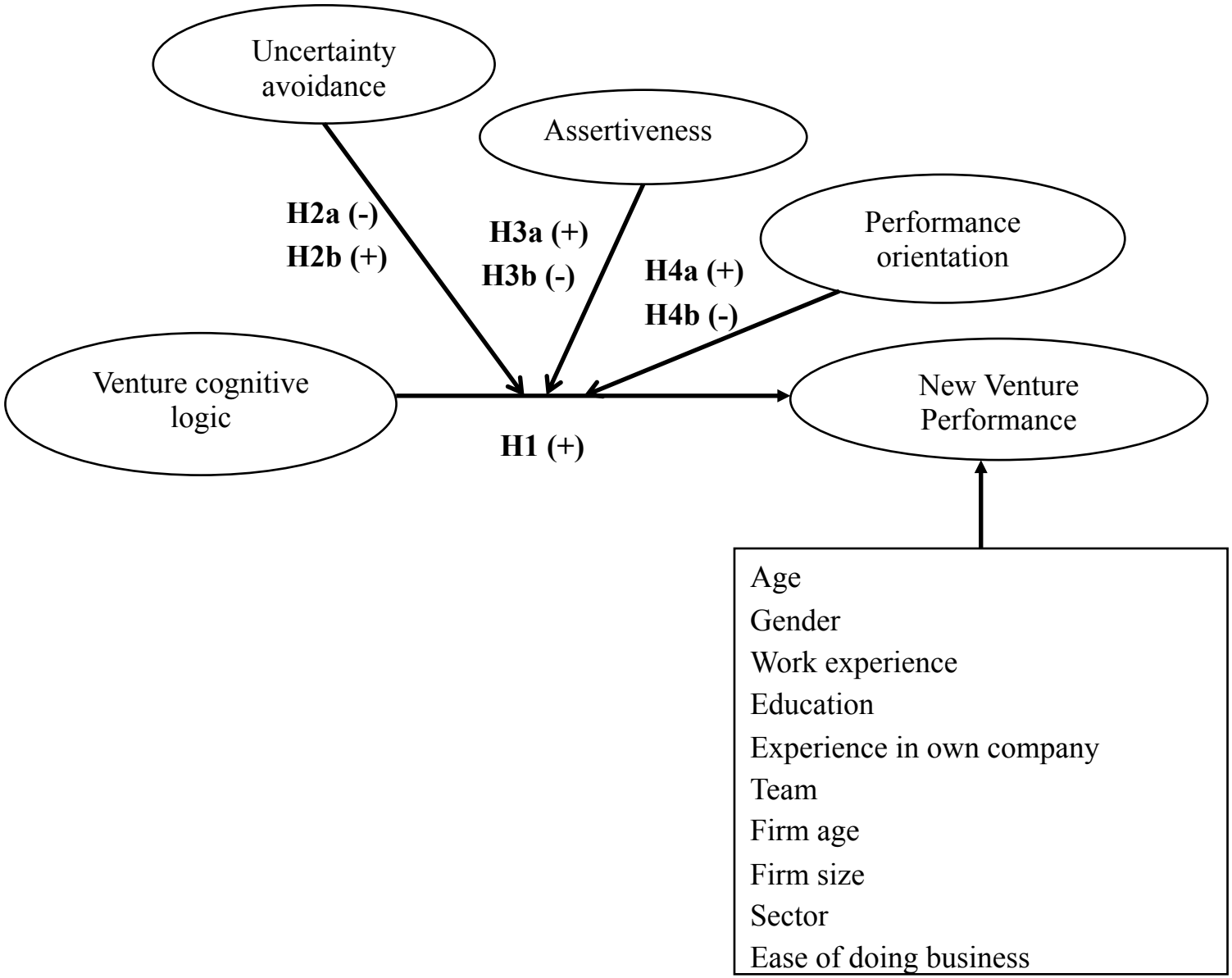
Performance orientation and cognitive logic - new venture performance

- Performance orientation refers to the 'extent to which a community encourages and reward innovation, high standards, and performance improvement' (House et al. 2004, p. 239).
- Performance oriented societies view their relationships with the external environment through the values of dominance, control and competitiveness (House et al. 2004). The GLOBE measure of performance orientation is concerned with how the custom to reward performance improvement and goal achievement are encouraged.
- High performance orientation societies prioritize such values as competitiveness, materialism, assertiveness, targeting, performance appraisal system and direct and formal relationships – which all coincide with causal thinking and behavior. Effectual logic is consistent with low performance orientation societies, where the emphasis is on seniority and experience, cooperative spirit, harmony, family and indirect relationships, and who one is means more than what one does.

H4a: In high performance orientation societies the relationship between causation and students' new venture performance will be stronger than in low performance orientation societies.

H4b: In high performance orientation societies the relationship between effectuation and students' new venture performance will be weaker than in low performance orientation societies.

Theoretical Model



Methods

Sample

- **Global University Entrepreneurial Spirit Students' Survey (GUESSS) 2013/2014:**
    - 34 countries, 759 universities , 103 010 students.
    - Students divided into 3 categories: no intention to found business, intentional founders and active founders.
- Following our study aims, we focus on the group of **active founders** from **24 countries.**
- **New ventures –** from **0** to **6** years old**.**
- The final sample counted for **3 411** new ventures.

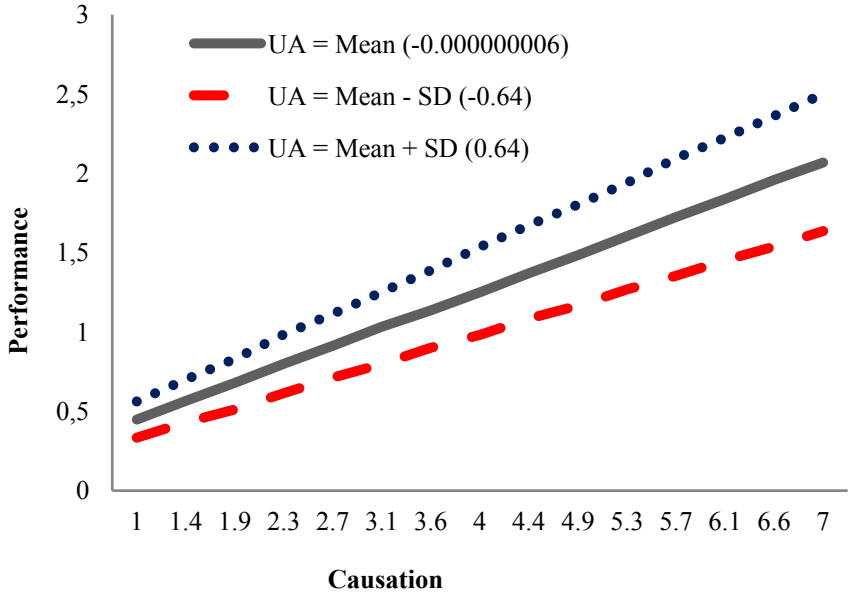
Measures

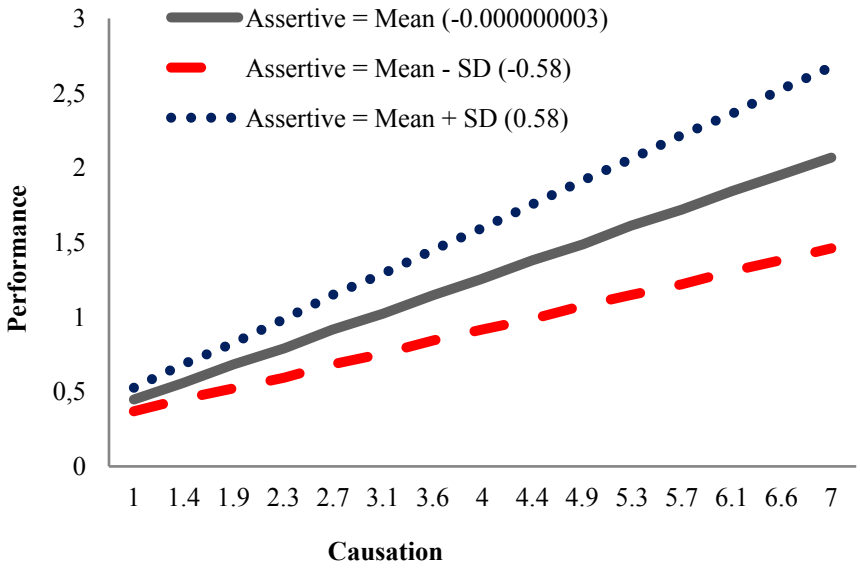
Variable	Source	Cronbach Alpha
Dependent variable - *Performance*	7-point Likert scale; Dess and Robinson(1984)	0.92
Independent variables - *Effectuation* *Causation*	7-point Likert scale; Chandler et al. (2011)	0.77 0.89
Moderators - *Uncertainty avoidance* *Assertiveness* *Performance orientation*	Country's cultural dimensions; GLOBE study (House et al., 2004)	_
Control variables	age, gender, work experience, education, experience in own company, team, firm age, firm size, sector, ease of doing business	

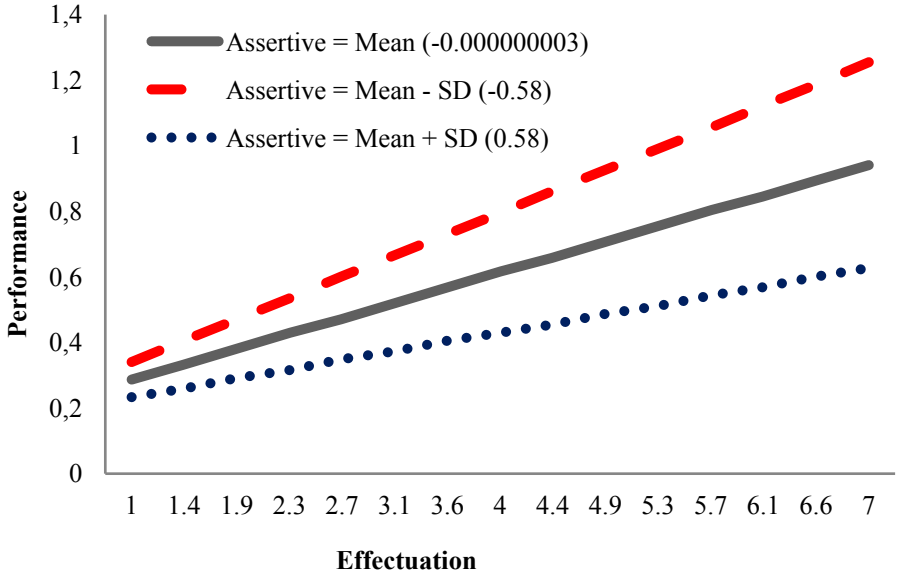
Hierarchical Linear Modeling Regression Results

Variables	Model 1	Model 2	Model 3
Control variables			
Age	- 0.02***	- 0.019***	- 0.018***
Gender	- 0.04	- 0.043	- 0.045
Work experience	0.189***	0.162***	0.161***
Education	0.04	- 0.006	- 0.007
Experience in own company	0.01***	0.007***	0.007***
Team	0.004	- 0.012	- 0.006
Firm age	- 0.004	0.016	0.015
Log(employees)	0.168***	0.16***	0.162***
Sectors	Yes	Yes	Yes
Ease of doing business	-0.002*	-0.001	-0.001
Main effects			
Causation		0.24***	0.27***
Effectuation		0.134***	0.109***
Uncertainty avoidance		0.089	0.096*
Assertiveness		- 0.002	- 0.016
Performance orientation		- 0.137	- 0.13
Interaction effects			
Causation x Uncertainty avoidance			0.083**
Effectuation x Uncertainty avoidance			0.043
Causation x Assertiveness			0.152***
Effectuation x Assertiveness			- 0.068**
Causation x Performance orientation			0.079
Effectuation x Performance orientation			0.006
Constant	0.319	0.238	0.178
Deviance	9124.329	8740.919	8696.103
Wald chi2	355.01(19)***	821.85(24)***	897.25(30)***

Interaction graphs







Findings

- The results of the present study verify prior research on student entrepreneurs' venture cognitive logic (e.g. Polities et al., 2012; Shirokova et al., 2014). Even though student entrepreneurs may have no prior entrepreneurial or working experience (that one of the key drivers of effectual reasoning) they may apply effectual logic principles during new venture creation.

- Based on empirical evidence from our research we may claim that, *ceteris paribus*, the association between causation and students' new venture performance is stronger (**b=0.240, p<0.001**) than between effectuation and students' new venture performance (**b=0.134, p<0.001**).

- Our findings indicate that venture cognitive logic-performance relationship is dependent upon different contextual factors.

- First of all, assertiveness is found to moderate the link between venture cognitive logic and students' new venture performance. Results of the present study show the level of assertiveness reinforce the positive association between causation and performance reducing the impact of effectuation on it.

- Second, our findings show high level of uncertainty avoidance strengthens the relationship between causation and students' new venture performance. Although this finding contradicts our hypothesis and previous studies it can be explained by the specificity of the respondents, namely student entrepreneurs. Unlike managers who relying on guiding plan lose adaptation ability to environmental changes (Brinckmann et al. 2010), student entrepreneurs are expected to create new firms focusing more on formal planning strategies.

Contribution

- We contribute into effectuation literature by empirically investigating the relationship between effectuation and causation constructs and already well developed constructs, namely new venture performance and cultural dimensions.
- We highlight the important role of entrepreneurial cognition in venture success by showing the positive link between effectuation, causation and new venture performance.
- We provide empirical evidence that the relationship between entrepreneurs' decision-making logic and performance of their ventures depends not only on their personal characteristics, finance affordability and social connections, but also on such informal institutional factors as cultural characteristics and values of their country.
- We show student entrepreneurs may use both decision-making logics – effectuation and causation – when they are starting new ventures.

Thank you for your attention!