

CONJOINT ANALYSIS TO EVALUATE INVESTMENT PREFERENCES OF BUSINESS ANGELS

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Introduction

Background

- ➔ High relevance and interest in how Business Angels (BAs) make their investment decisions (Drover et al., 2017)
- ➔ Methods used to study BA decisions: Surveys about investment preferences, interviews
 - ➔ Limitations: Often do not capture the “moment of decision-making” and can suffer from self-reporting bias
 - ➔ Conjoint-Analysis offers solutions for this (Murnieks et al., 2016; Warnick et al., 2018)

What do we know about BA decision-making and what don't we know

- ➔ Ample knowledge of BAs decision-making factors (Mitteness et al., 2012; Maxwell et al., 2011)
 - ➔ Focus on economic factors or general proxies for “being green”
- ➔ The importance of new venture sustainability for BAs' investment decisions is not investigated (outside of sustainable entrepreneurship)

Aim of this study

- ➔ Investigate how new ventures should inform about their sustainability to convince BAs

Pre-Study - What do Business Angel think about sustainability

Ten qualitative interviews with BAs to investigate the importance of sustainability and develop a basic understanding

“I would be willing to forgo profits for the sake of greater sustainability.”

“The conscious decision every day is: I only have 1€, where to invest it?”

“But I think that if a start-up wants to be sustainable, it needs at least a clear commitment, a clear face and a clear language, so that sustainability is not just greenwashing to bring some investors closer.”

Insights from interviews

- ➔ Sustainability is important, but opinions differ:
 - ➔ New ventures should make credible investments into sustainability at an early stage
 - ➔ New ventures should show awareness for sustainability, but not make early investments
 - ➔ New ventures should avoid conflicting sustainability measures that create perception of greenwashing
- ➔ Importance of sustainability seems to depend on BAs own personal investment experience and preferences

Conjoint Analysis

→ Manipulation of three sustainability dimensions

→ Dimensions developed based on interviews and prior research

Attribute	Levels	Description
Sustainability certifications	Not available (reference)	The new venture has not acquired any sustainability certifications.
	Available	The new venture has recently obtained a fee-based and industry-recognized certification for high environmental performance.
Sustainability engagement	Not announced (reference)	The new venture has not announced any future environmental sustainability measures.
	Announced	The new venture claims it will implement environmental sustainability measures in the future.
Sustainability of key supplier	Average (reference)	The new venture's key supplier meets industry environmental standards in its production processes and offers average price conditions.
	Below average	Because of cost considerations, the new venture accepted that the key supplier exhibits negative environmental performance with above-average CO ₂ emissions in its production processes.

→ Variables

→ Dependent variable: Two items for willingness to invest on a 7-point likert scale (Drover et al., 2017; Warnick et al., 2018)

→ Moderator:

- *BAs' sustainable investment experience via post-hoc survey*

→ Controls: age, gender, years of experience as a BA, number of investments in startups, educational background

Reference Setting and Exemplary Profile

All start-ups have the same background and the following characteristics:

- The business model is based on innovation and is scalable
- The founding team is competent and has industry experience
- The company is applying for financing for the first time to further scale the business
- The company complies with all legal and regulatory requirements
- The pitch deck is complete and of high quality

Notes: This is the reference scenario presented to respondents. Only the industry differed between participants, but never for different profiles evaluated by the same participant.

*Product from the sector: **Solar industry***

The company produces solar products and sells them to end consumers.

Sustainability certificates : **Not available**

The company has not acquired any sustainability certificates.

Sustainability engagement : **Not announced**

The new venture has not announced any future environmental sustainability measures.

Sustainability of key supplier : **Average**

The new venture's key supplier meets industry environmental standards in its production processes and offers average price conditions.

Results

→ Sample 68 BAs from BAND

	(1) H1		(2) H2		(3) H3		(4) Full model	
Sustainability certificates	0.47	(0.07)***	0.58	(0.09)***	0.25	(0.08)**	0.37	(0.09)***
Sustainability claims	0.33	(0.07)***	0.38	(0.08)***	0.23	(0.12)*	0.28	(0.12)*
Sustainability certificates× Negative sustainability track record			-0.22	(0.07)***			-0.22	(0.07)***
Sustainability claims × Negative sustainability track record			-0.1	(0.07)			-0.1	(0.07)
Sustainability certificates× BA Sustainable investment experience					0.42	(0.14)**	0.42	(0.14)**
Sustainability claims × BA Sustainable investment experience					0.2	(0.14)	0.2	(0.14)
Negative sustainability track record	-0.5	(0.08)***	-0.34	(0.08)***	-0.5	(0.08)***	-0.34	(0.08)***
BA Sustainable investment experience	-0.55	(0.31)†	-0.55	(0.31)†	-0.85	(0.33)**	-0.85	(0.33)**
Green industry	-0.14	(0.27)	-0.14	(0.27)	-0.14	(0.27)	-0.14	(0.27)
Founder	-0.25	(0.43)	-0.25	(0.43)	-0.25	(0.43)	-0.25	(0.43)
Years as a BA	0.02	(0.02)	0.02	(0.02)	0.02	(0.02)	0.02	(0.02)
Number of investments	0	(0.01)	0	(0.01)	0	(0.01)	0	(0.01)
Age	0	(0.01)	0	(0.01)	0	(0.01)	0	(0.01)
Male	-0.1	(0.4)	-0.1	(0.4)	-0.1	(0.4)	-0.1	(0.4)
At least a Master's degree	0.44	(0.39)	0.44	(0.39)	0.44	(0.39)	0.44	(0.39)
Constant	2.31	(0.76)**	2.23	(0.76)**	2.47	(0.76)**	2.39	(0.76)**

Notes: Robust standard errors in parentheses. N = 544 nested in 68 individuals.

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$ (two-tailed).

→ Sustainability matters for commercial new ventures

- Sustainability claims and investments both work to convince BAs
- Perceptions of greenwashing larger for sustainability investments
- BAs with experience in sustainable investing prefer sustainability investments early on

Reflection

- ➔ Conjoint analysis offers interesting results with a manageable number of participants
 - ➔ Important is to have the right target group
- ➔ There is always a trade-off between the number of variables examined and the length of the experiment
 - ➔ Time of participants is limited
- ➔ Conjoint-Experiments are hypothetical
 - ➔ Setting needs to be as realistic as possible
 - *However, never can fully capture complexity of real-world decision-making*
 - ➔ Combine with qualitative pre-study

THANK YOU FOR YOUR ATTENTION

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Backup-Slides

➔ Definition of sustainability

Whether commercial new ventures have the intention and capability of employing environmentally-friendly practices and caring about its stakeholders

(Slawinski and Bansal, 2015; Wang and Bansal, 2012)