

Effective Business Model Change in Entrepreneurial Ventures: the Roles of Venture Capital Firms and New Managers Additions.

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Abstract. Drawing on learning theory and attention-based view of the firm, we examine the impact of venture capital firms (VCFs) on the performance of ventures that have gone through a business model change. Based on unique survey data on 156 venture capital backed portfolio companies (PFCs) financed by French VCFs, we find a curvilinear relationship between VCFs' investment focus on business model change and PFC performance such that up to a certain point increases in investment focus enhance PFC performance, and beyond that point further increases in investment focus reduce PFC performance. Further, the addition of new managers not only increases PFC performance, but also moderates the curvilinear relationship between VCF investment focus on business model change and PFC performance. These results have important implications for theory and practice.

Key words: venture capital; business model change; learning theory, attention-based view

1. Introduction

Business model changes have special relevance to entrepreneurial ventures as these ventures often go through dramatic transitions in their routines when searching for an appropriate market niche (Wiersema & Bantel, 1993) or repositioning their products (Carroll, Dobrev, & Swaminathan, 2002). The introduction of a business model change can also help entrepreneurs to adjust their goals and establish new rules of competition in the industry (Christensen, 2001). The pressure to change the original business model may be particularly high for entrepreneurs who rely on venture capital finance. Venture capital firms (VCFs) often turn around their portfolio companies (PFCs) that are underperforming (Bruton, Fried, & Hisrich, 2000), or impose pressure upon them to drastically reconsider how to exploit new business opportunities (De Clercq & Sapienza, 2006). To date, entrepreneurship research has devoted scant attention to the performance consequences of such business model changes. Instead, the focus has mostly been on anecdotal stories of how entrepreneurs implement a business model (Zott & Amit, 2007).

Further, entrepreneurship literature on business models has not been integrated well with the current thinking on interorganizational relationships. Whereas interfirm relationships have been recognized as efficient ways for entrepreneurs to deal with external contingencies (Yli-Renko, Sapienza, & Hay, 2001), we suggest that they may also be instrumental in how entrepreneurs conceive and implement business model change. In this study, we use a knowledge-based perspective (Grant, 1996) to examine the impact of various PFC and VCF factors on the performance for ventures going through the business model change.

2. Theory

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We advance three hypotheses that explicate the role of knowledge in the successful implementation of business model change. First, we suggest a curvilinear relationship between VCFs' focus on the business model change and PFC performance (H1). We reason that deeper focus in a particular domain facilitates the development of core competences (Prahalad & Hamel, 1990), thus VCFs' focus positively contributes to the PFCs' business model change implementation (Katila & Ahuja, 2002). On the other hand, extensive focus with business model change in a short period of time can "trap" the VCF into missing new ways of operating (Amburgey & Dacin, 1994), thereby making the implementation of such change suboptimal.

Second, we hypothesize a positive relationship between the addition of new managers to the PFC and PFC performance (H2). Incumbent team members often fail to adapt themselves effectively to new situations that require abandoning dominant ideas and putting into question existing habits (Nystrom, 1986). Thus their replacement by "new blood" might be necessary for effective change to take place (Wasserman, 2006).

Third, we hypothesize that the curvilinear relationship between VCFs' focus on the business model change and PFC performance (H1) is amplified by the addition of new managers such that the positive effects of increases in focus below the inflection point are even stronger and the negative effects of increases in experience beyond the inflection are also stronger as new members are added to the venture team (H3). On one hand, newly appointed managers may be less resistant to apply VCFs' knowledge with respect to business model change to the specific situation of the PFC (Busenitz, Moesel, Fiet, & Barney, 1997), thereby amplifying the potential benefits of VCF focus. Yet, beyond the inflection point where VCF focus may lead to overconfidence (H1), the competency trap associated with VCFs' overreliance on their existing knowledge may be exacerbated when new managers are added to the PFC. New managers may be less familiar with the ins and outs of the PFC's day-to-day operations (Nonaka & von Krogh, 2009), and therefore be less alert to how high levels of VCF focus may not perfectly match with the PFC's specific needs.

3. Method

We employ a rich dataset that comes from annual investment reports, surveys and personal interviews and encompasses complete portfolios of 23 VCFs headquartered in France, capturing virtually the entire population of early stage VCFs in that country in 2006. In this study, we focus only on those 156 PFCs that went through a business model change. The key constructs are measured as follows. *PFC performance*, drawn from VCFs' annual reports, is a continuous variable that reflects if the value of the PFC had increased or decreased between the year of entry in the VCF's portfolio and 2006. *VCF investment focus on business model change*, drawn from the survey of VCFs' general partners, captures the percentage of total number of PFCs in the VCF's portfolio to date that had undergone a business model change. *VCF addition of new managers to PFC*, drawn from the same survey, is a binary variable that captures whether new managers had been added to the PFC after the VCF investment. We also have several control variables that capture PFC and VCF characteristics. The hypotheses are tested using *OLS* regression analyses.

4. Results and Implications

Descriptive statistics and correlations are shown in Table 1. Preliminary analyses provide tentative support for all three hypotheses (Table 2). The results of our article are relevant to the growing body of research on the organizational design and the role of business models therein (e.g. Amit & Zott, 2001; Chesbrough & Rosenbloom, 2002; Lewin & Volberda, 1999; Mendelson, 2000) in that they provide new insights into the roles of external knowledge sources on the outcomes of business model dynamics (Lewin & Volberda, 1999), i.e., venture capital providers and new managers that are recruited into the company.

Our study also provides nuance to the universal assumption of positive value added by VCFs. Venture capitalists make decisions under high uncertainty and time pressure, thus relying not only on their experience and structured decision process but also on heuristics and other shortcuts in giving strategic advice to portfolio companies. Despite extensive literature on VCF judgment and decision making (Bazerman & Moore, 2009), little research has been done to uncover the limitations of the VCF's "value-adding" role, with few exceptions (Jääskeläinen, Maula, & Sepp, 2006; Shepherd, Zacharakis, & Baron, 2003; Zacharakis & Shepherd, 2001). For instance, some studies show that the attention that VCFs devote to their portfolio is

bounded, such that after attending to some ventures subsequent addition of companies to the portfolio decreases the marginal benefit of the attention (Jääskeläinen et al., 2006). Further, experienced VCFs may not always make the best decisions as a consequence of being trapped into automatic information processing, overreliance on prior experience and overconfidence (Shepherd et al., 2003; Zacharakis & Shepherd, 2001). Our study extends these insights by showing, for the context of business model change, that VCFs may face a *focusing illusion* (Tversky & Kahneman, 1973, 2002), when they over-rely on their past experiences with respect to business model change when assisting a particular PFC. Thus, we speculate that when a high proportion of the VCF's portfolio has been marked by business model adjustments, VCFs may become too much focused on factors that they previously attributed to the business model change and its success and leave unattended information that is specific to the task at hand. Further, it may also be possible that VCFs' attention may become so much focused on making the business model change happen that it may lead them to push PFCs to review their business model even though such a change is not necessary.

Therefore, the results indicate that entrepreneurs' use of externally obtained knowledge, including the experience from venture capitalists and newly grafted venture team members, appears useful to the performance of their ventures when going through a business model change. At the same time, they suggest that it is possible for entrepreneurs to get too much of a good thing from overly confident VCFs. Our findings thus point to both opportunities and challenges in how venture capitalists can better assist entrepreneurs whose ventures undergo a business model change.

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Table 1. Descriptive Statistics and Correlations (N = 156)

N	Variables	1	2	3	4	5	6	7	8	9	10	11	12
1	PFC performance												
2	VCF investment focus on business model change	-0.03											
3	VCF addition of new managers to PFC	0.24	0.38										
4	VCF investment amount	0.03	-0.10	-0.02									
5	VCF investment experience	0.01	-0.57	-0.19	0.33								
6	VCF age	0.23	-0.29	0.11	0.13	0.3							
7	VCF syndicate size	0.01	0.19	0.18	-0.17	-0.2	0.11						
8	PFC managers recruitment (1=Yes)	-0.04	0.14	0.32	0.18	-0.01	0.07	0.18					
9	PFC sector (1=ICT)	-0.05	0.23	0.04	-0.23	-0.13	-0.14	0.04	0.03				
10	PFC status (1=Portfolio)	0.30	0.01	0.16	0.08	-0.05	0.28	0.08	0.16	-0.16			
11	PFC age (log)	-0.03	-0.29	-0.16	0.16	0.39	0.15	-0.10	-0.05	0.01	-0.16		
12	Heckman value	0.03	-0.51	-0.31	-0.31	-0.02	-0.05	-0.13	-0.81	-0.11	-0.23	-0.01	
	Mean	-11.53	51.4	1	1.81	19.28	5.94	2.47	0.79	0.71	0.76	1.96	0.48
	Std. Dev.	64.87	23.94	1.58	1.37	8.69	1.57	3.18	0.41	0.45	0.43	0.38	0.34
	Min	-100	12	0	0.23	3	2	0	0	0	0	0.69	0.09
	Max	168	100	9	9.08	40	9	18	1	1	1	3.00	1.85

All coefficients in bold are significant at $p < .05$

Table 2. Ordered Least Square Regression Results (Dependent Variable: PFC Performance; N=156)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
VCF investment amount	2.037 (5.525)	4.975 (4.501)	3.59 (3.859)	1.009 (3.711)	0.737 (4.316)
VCF investment experience	-0.376 (0.754)	1.03 (1.363)	1.359 (1.198)	0.224 (1.122)	-0.445 (0.77)
VCF age	7.201+ (4.172)	8.323 (4.877)	9.526+ (4.793)	6.623 (4.913)	4.741 (4.275)
VCF syndicate size	-0.609 (1.363)	-1.132 (1.60)	-1.796 (1.611)	-1.595 (1.504)	-1.141 (1.583)
PFC managers recruitment (1=Yes)	-1.54	54.77	88.53+	23.33	-17.8

	(18.17)	(51.27)	(46.73)	(47.25)	(31.64)
PFC sector (1=ICT)	4.779	6.357	3.268	0.881	1.306
	(12.48)	(12.78)	(10.93)	(10.29)	(9.686)
PFC status (1=Portfolio)	41.93**	53.35**	57.58**	44.28*	40.83*
	(12.8)	(17.02)	(18.66)	(18.8)	(16.61)
PFC age (log)	-0.071	10.05	17.39	11.33	7.175
	(13.84)	(21.61)	(21.17)	(20.8)	(18.68)
Heckman value	20.14	120.3	171.2*	76.59	20.45
	(21.53)	(85.72)	(75.77)	(78.99)	(59.69)
VCF investment focus on business model change		1.08	4.047*	3.055+	42.46
		(1.094)	(1.604)	(1.56)	(28.25)
VCF investment focus on business model change squared			-0.025*	-0.026*	-36.93+
			(0.009)	(0.010)	(20.96)
VCF addition of new managers to PFC				11.50*	13.60
				(4.768)	(8.873)
VCF investment focus on business model change x VCF addition of new managers to PFC					66.92**
					(23.00)
VCF investment focus on business model change squared x VCF addition of new managers to PFC					-52.51**
					(15.23)
Constant	-92.72+	-309	-458.8*	-250.2	-79.99
	(51.65)	(220.1)	(206.4)	(208.7)	(119.9)
R-squared	0.126	0.143	0.199	0.243	0.301
F	5.52***	5.99***	9.40***	16.38***	25.97***

Robust standard errors are in parentheses. *** $p < .001$; ** $p < .01$; * $p < .05$; + $p < .10$