

## **WHEN LESS IS MORE? RESOURCES RICHNESS INFLUENCE ON THE VALUE CREATION STRATEGIES FOR NEW TECHNOLOGY-BASED VENTURES**

Ferran Giones<sup>1</sup>, Gabriela Balladares, Francesc Miralles, David Riu  
La Salle – Ramon Llull University, Barcelona, Spain  
<sup>1</sup>fgiones@salleurl.edu

### **ABSTRACT**

This article studies whether resource positions have an influence in the early value creation efforts of technology-based ventures. We complement the resource-based view expectation on the positive effects of holding unique resources, with demand-side views such as adopting a pull or push technology-market strategy. We use a sample from a longitudinal dataset (Kauffman Firm Survey) to test our hypotheses. The results show that technological resources alone do not positively influence on value creation, and that marketing resources could potentially have a stronger impact on value creation for new technology-based ventures in dynamic technology markets.

### **INTRODUCTION**

An essential part of the success or failure of an entrepreneurial startup is linked to their ability to create a market for their products or services. Prior research in entrepreneurship provides a good understanding on the market creation dynamics for new ventures entering established markets, suggesting that new venture's resources (human and social capital, financial and technological) could provide insights on the early-stage startup's performance (Gans and Stern 2003).

Nevertheless, we have limited insights on the influence of initial resource configurations in turbulent environments (Giones et al. 2013). In these contexts, startups face "new market" situations (Teece 2010), where unknown customer heterogeneity increases uncertainty on the market structure and needs. Technology-based entrepreneurs aiming to bring a new product to an undefined market provide an illustration of this specific market creation context (Giones and Miralles 2015; Hsu 2008).

In this type of contexts, technology-based startups face a classic dilemma between technology-push or demand-pull innovation strategies (Brem and Voigt 2009). Is market performance related to the new venture's technological resources and capabilities to propose an innovation to the market? Or instead, does it depend on the new venture's actions to increase its capacity to understand, and propose product solutions that can be valuable to customers in the market.

In order to study this phenomenon, we propose to combine resource-based view (RBV) insights on the expected influence of the startup's resources, with demand-side view (DSV) insights on the expected influence of value creation strategies (Priem, Li, and Carr 2011). We argue that the ability to balance technology and market orientation with the existent resource positions can have a positive impact on the startups' value creation, and thus overall market performance.

We use a longitudinal study panel data on new technology-based startups to test the expected mediator effects of value creation strategies. The results provide empirical evidences on the valuable contributions from the demand-side view in entrepreneurship research, as well as insights for entrepreneurs navigating in new market and rapidly changing contexts.

### **THEORETICAL FRAMEWORK**

The RBV proposes that we can explain the competitive performance of firms by observing their resource combinations. In the context of new ventures, it offers support to argue that we can explain the market

performance of new firms by studying their unique combination of valuable resources (Newbert, Gopalakrishnan, and Kirchoff 2008). Unfortunately, the RBV's focus on the influence of unique resources to compete with other firms to capture value, gives little attention to the value creation activities that are needed in "new markets" situation (Godley 2013).

The demand-side view (DSV) suggests that firms create value by identifying and developing solutions for unexploited market segments (Priem, Li, and Carr 2011), thus builds on the assumption of consumer heterogeneity to explain why some firms with similar resource combinations might actually achieve different market creation results.

Therefore, from the side of the RSV perspective we would expect that firms with "richer" combinations of resources that could be valuable in this context (human capital, financial, and technological resources), would exhibit a higher market performance as they would be able to capture more value than other startups (Colombo and Grilli 2005; Hsu and Ziedonis 2013; Ramaswami, Srivastava, and Bhargava 2008). From the side of the DSV, we would expect that firms that activate the right value creation activities would be able to achieve a better market performance.

These two perspectives have the new venture as the focal point. The organizational performance perspective of the resource-dependence theory, provides a conceptual linkage between the two perspectives: startups' resource positions might explain the adoption of value creation strategies depending on their resource dependency. Overall, we hypothesize that combining firms' resources and value creation strategies, we can provide a better understanding of new venture performance.

- H1a: Firm's human capital has a positive influence on firm's value creation.
- H1b: Firm's technological resources have a positive influence on value creation.
- H1c: Firm's marketing resources have positive influence on value creation.

In particular, we expect that firms decisions on their value creation strategy (push vs pull) will also have an effect on the market performance (value creation) of the new firm (Brem and Voigt 2009).

- H2a: Firm's technology-push orientation positively influences value creation
- H2b: Firm's demand-pull orientation positively influences value creation

## **RESEARCH DESIGN**

We use a sample of 290 high-technology firms from the Kauffman Firm Survey (KFS) to test the hypotheses. The KFS is a longitudinal study of new businesses in the United States registered in the Dun & Bradstreet (D&B) database. We analyze the characteristics and changes of the firms in a four year period (baseline and three data waves: 2004-2007).

We measure the dependent variable of market performance using firm's revenues. The resource's independent variables are measured as follows: human capital (industry and entrepreneurial experience), market resources (trademarks), and technology resources (patents). The value creation options used: technology-push (change in % employees R&D (dev), change in patents number (dev)), demand-pull (change in % employees in sales (dev), change in trademarks (dev)). We control by firms that offer product or services to bring their technological innovations to market.

## **DATA ANALYSIS & RESULTS**

We use a mixed-effects regression to test the hypotheses. In addition we also test the expected effects from the value creation strategies (technology-push or demand-pull) on the relationship between startups' resources and market performance.

### **Table 1: Regression Results**

		Mixed-Effects Regression	
		Log Revenues	
		Coef.	S.E.
H1a	Work Experience	.00	.00
	Entrep. Experience	-.08**	.03
	Entrep. Exp. (same industry)	.32***	.10
H1b	Patents (dev)	.00	.01
	Patents (avg)	.03	.02
H2a	% R&D employees (dev)	-.38**	.18
	% R&D Employees (avg)	-1.67***	.19
H1c	Trademarks (dev)	.10**	.04
	Trademarks (avg)	.18***	.03
H2b	% Market employees (dev)	-.02	.02
	% Market employees (avg)	-.02	.02
	Age	.02***	.00
	Education	.14***	.03
	Gender	.03	.17
	2005	.86***	.14
	2006	1.01***	.14
	2007	.97***	.14
	_cons	9.68***	.33
	Log Likelihood (LL)	-3,052.34	
	LR chi2 / Wald Chi2 =	404.41	
	Prob > chi2 =	0.00	
	n	290	
	(Pseudo) R2 / R2	.19	

Notes: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

avg: firm's mean, measuring between firm component

dev: firm's mean deviation, measuring within firm component

The results (see Table 1) provide partial support to the expected linkage between resources performance, suggesting that while initial financial resources have a positive influence, human or technological resources have rather limited impact. The results also show the positive impact on the simultaneous combination of technology and market value creation strategies, contrary to our expectations that one would dominate among the other depending on initial resource configurations

## IMPLICATIONS

This study contributes to the open call on introducing the demand-side on entrepreneurship research, describing how entrepreneurs' value creation strategy provides valuable insights to explain the market performance of new technology-based ventures. The findings of this research has implications for entrepreneurs and those interested in bridging the gap between the fields of marketing and entrepreneurship.

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## REFERENCES

- Brem, Alexander and Kai-Ingo Voigt (2009), "Integration of market pull and technology push in the corporate front end and innovation management—Insights from the German software industry," *Technovation*, 29 (5), 351–67.
- Colombo, Massimo G. and Luca Grilli (2005), "Founders' human capital and the growth of new technology-based firms: A competence-based view," *Research Policy*, 34 (6), 795–816.
- Gans, Joshua S. and Scott Stern (2003), "The product market and the market for 'ideas': commercialization strategies for technology entrepreneurs," *Research Policy*, 32 (2), 333–50.
- Giones, Ferran and Francesc Miralles (2015), "Strategic Signaling in Dynamic Technology Markets: Lessons From Three IT Startups in Spain," *Global Business and Organizational Excellence*, 34 (6), 42–50.
- , Zhao Zhou, Francesc Miralles, and Bernhard Katzy (2013), "From Ideas to Opportunities: Exploring the Construction of Technology-Based Entrepreneurial Opportunities," *Technology Innovation Management Review*, (June), 13–20.
- Godley, Andrew Christopher (2013), "Entrepreneurial opportunities, implicit contracts, and market making for complex consumer goods," *Strategic Entrepreneurship Journal*, 7 (4), 273–87.
- Hsu, David H. (2008), "Technology-based Entrepreneurship," in *Handbook of Technology and Innovation Management*, S. Shane, ed., Hoboken, NJ: Wiley, 367–88.
- and Rosemarie H. Ziedonis (2013), "Resources as dual sources of advantage: Implications for valuing entrepreneurial-firm patents," *Strategic Management Journal*, 34 (7), 761–81.
- Newbert, Scott L., S Gopalakrishnan, and B Kirchhoff (2008), "Looking beyond resources: Exploring the importance of entrepreneurship to firm-level competitive advantage in technologically intensive industries," *Technovation*, 28 (1-2), 6–19.
- Priem, Richard L., Sali Li, and Jon C. Carr (2011), "Insights and New Directions from Demand-Side Approaches to Technology Innovation, Entrepreneurship, and Strategic Management Research," *Journal of Management*, 38 (1), 346–74.
- Ramaswami, Sridhar N., Rajendra K. Srivastava, and Mukesh Bhargava (2008), "Market-based capabilities and financial performance of firms: insights into marketing's contribution to firm value," *Journal of the Academy of Marketing Science*, 37 (2), 97–116.
- Teece, David J. (2010), "Business Models, Business Strategy and Innovation," *Long Range Planning*, 43 (2-3), 172–94.