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Overcoming the liability of newness: Entrepreneurial action and the emergence of China's private solar photovoltaic firms

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ABSTRACT

This study explores how entrepreneurs introducing a new organizational form can build legitimacy and capabilities to overcome significant liabilities of newness, and how their actions and the institutional structure co-evolve. Our multiple case study design enabled us to explicate specific actions that entrepreneurs founding China's private solar photovoltaic (PV) firms took as they built organizational capabilities and established their legitimacy vis-à-vis resource holders and global markets. We identified three legitimacy-based strategies they used: *leveraging* their existing sources of legitimacy, *aligning* their actions with established institutional rules and norms, and *enacting* the institutional environment to change perceptions of what is legitimate. We also found a stark contrast between the early and late entrants. The early entrants had to build an effective organizational capability and establish their own firm's legitimacy, as well as establish the legitimacy of the private Chinese solar PV firm as a viable organizational form, both domestically and abroad. Later entrants could leverage the legitimacy established by the early entrants, enabling them to more easily and quickly access external resources and become competitive. Our findings also suggest an important role for government in promoting and supporting entrepreneurship that complements well-established approaches. Namely, through its policies and actions, the government can create an environment in which experimentation and exploration is legitimate, thereby making it easier for entrepreneurs, new ventures and new organizational forms to access critical resources and realize their potential.

1. Introduction

In this paper, we integrate entrepreneurship and institutional perspectives to understand how entrepreneurs may overcome a significant "liability of newness" (Stinchcome, 1965; Singh et al., 1986; Aldrich and Fiol, 1994) in order to establish new firms and a new organizational form in an industry dominated by incumbents. For any entrepreneur, the challenge of overcoming that liability is two-fold. First, and representing the core definition of entrepreneurship, they must effectively integrate and transform resources to build an organizational capability that enables them to exploit an opportunity. Second, entrepreneurs must establish their own legitimacy as founders as well as the legitimacy of their new venture in order to access resources they lack, such as financing, employees, supplies, customer demand and government approvals.

When the venture represents a new organizational *form*, the entrepreneur faces an even greater liability of newness. To the extent that the new organizational form is at odds with the dominant formal and informal institutional features of its environment, including regulations and dominant norms, beliefs and values (Scott, 1995; Suchman, 1995; Tolbert and Zucker, 1996; Stuart et al., 1999; Greenwood and Suddaby, 2006), an entrepreneur may not be able to access critical resources from external actors who see the form as illegitimate. In that case, an entrepreneur may have to engage in "institutional entrepreneurship" to change those formal and informal "rules" that define what is legitimate (e.g. Battilana et al., 2009; Sine and Lee, 2009; Sine et al., 2007) in order to access those resources.

We use the emergence of the private Chinese solar photovoltaic (PV) firms as a context to understand the process by which new entrants in an existing industry build legitimacy for their firms and the new organizational form they represent[1]. When they first

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[1] In contrast to module production that is a relatively simple assembly process, cell production is much more technically complex and requires a high level of technological capability and was considered too challenging for developing countries (Bruce, 2007:12–13). The key breakthrough for the entrance of new private Chinese

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entered, their access to many key resources was severely constrained by their lack of legitimacy—as both new firms and as a new form of competitor. Until 2002, the "private Chinese solar PV firm" as an organizational form did not exist. Within five years, however, this form would displace the incumbent form – represented by multinationals from Japan, Germany and the USA – to become the major source of solar PV cells globally (Zhao et al., 2008; Algieri et al., 2011; Rigter and Vidican, 2010).

Prior research on the rise of successful new firms and industries in China has primarily addressed the role of government support (Peng and Luo, 2000; Xin and Pearce, 1996) and factor advantages – especially low-cost labor, raw materials and financing – as well as successful technological learning (e.g., Zeng and Williamson, 2007; McNally, 2008; Simon and Goldman, 1989; Guan and Ma, 2003; Xie and White, 2004, 2006; Xie and Wu, 2003; Mu and Lee, 2005; Jefferson et al., 1993). In these predominantly economics- and strategy-based studies, resources such as technology, low-cost production factors and government support are "out there". Attention to the institutional environment is limited to that of specific actors and formal institutional features, such as the legal or regulatory regime and government support.

Echoing Tolbert et al. (2011), we argue that such analyses are representative of an undersocialized view of the entrepreneurial process, and even more so in the context of new entrants representing a new organizational form in an industry dominated by multinational incumbents. The entrepreneurs who established the private Chinese solar PV firms had to overcome significant liabilities of newness to access resources and build the companies that would eventually emerge as global competitors. Understanding how they were able to do that was the basic question motivating our study; namely, *How did these entrepreneurs establish the legitimacy of both their firms and a new organizational form?* We also extended this question longitudinally to explore co-evolutionary dynamics; namely, *How did the actions of the early entrants impact the institutional environment, and how did that in turn affect the actions of later entrants?*

We gathered data on the entrepreneurs and their actions as they established their firms, complemented by data on the institutional environment, up to 2007 when these firms had displaced multinational incumbents in terms of global market share. Based on this data, we developed a typology of legitimacy-focused strategies that these entrepreneurs used – *leveraging*, *aligning* and *enacting* – in the process of founding and building their firms. We then identified a distinct difference between the early and later entrepreneurs. Specifically, the early entrepreneurs had to build legitimacy for themselves as founders and their new ventures, as well as for the organizational form they represented. They had to undertake all three types of legitimacy-focused strategies to access the external resources that they lacked. Later entrepreneurs, in contrast, did not have to expend the effort to build legitimacy for their organizational *form* vis-à-vis investors, potential employees, suppliers or customers. Instead, they could leverage the legitimacy of the form established by the early entrepreneurs. This helped them acquire resources much more quickly and easily and, thereby, build their companies and enter the market much faster than the early entrepreneurs. Based on these insights, we propose that policymakers wishing to promote entrepreneurship and new industries may add the active management of informal institutional forces – i.e, manipulating perceptions of what means and ends are legitimate vis-a-vis potential entrepreneurs and resource-holders – to their more traditional policy approaches.

solar PV firms was their ability to make cells at international standards of efficiency and quality at a competitive price.

2. Entrepreneurial action and the liability of newness

The empirical setting in which entrepreneurs must overcome the liability of newness of both a new venture and a new organizational form represents an ideal context to respond to Tolbert et al's (2011) call to integrate the usually separate literatures on entrepreneurship and institutions. These two streams of research both address legitimacy, but with important micro and macro distinctions (Überbacher, 2014). Here we discuss these differences and how we integrate them in our empirical study.

Entrepreneurship scholars frame the question of what actions are required to overcome the liability of newness in terms of an entrepreneur's ability to discover and exploit opportunities, as proposed by Venkataraman (1997) and further developed by others (Shane, 2000; Shane and Venkataraman, 2000; Eckhardt and Shane, 2003). From this perspective, entrepreneurs must do two things. First, they must identify or create a promising market opportunity. Second, they must integrate and transform resources in a way that creates an organizational capability that enables them to pursue that opportunity. Entrepreneurship research that addresses the question of legitimacy typically focuses on the founders and their new ventures and their access to resources; see, for example, the work reviewed by Überbacher (2014) and conceptual treatments by Zimmerman and Zeitz (2002) and Bitektine (2011). Entrepreneurs build legitimacy in order to access the resources they need to found and grow their businesses.

A complementary but largely separate stream of sociology-based literature draws attention to the role of the institutional context in entrepreneurship (e.g., Aidis et al., 2008; Bowen and DeClercq, 2008; Busenitz et al., 2000; Manolova et al., 2008; Sobel, 2008; Spencer and Gomez, 2004). Research from this perspective highlights the impact of formal and informal institutional features (Aldrich and Fiol, 1994; Suchman, 1995; Stuart et al., 1999; Zuckerman, 1999; Dacin et al., 2007). In contrast to entrepreneurship researchers' attention to the legitimacy of an individual founder or specific new venture, however, scholars from an institutional perspective address the challenge for entrepreneurs pioneering new organizational forms or new sub-organizational elements such as structures, practices or roles (e.g., Sine and Lee, 2009; Glynn and Navis, 2010; David et al., 2013). The central challenge for new entrants is to establish the legitimacy of the organizational form or element vis-à-vis the regulatory regime and broadly held norms and beliefs (Saxenian, 1991; Sine et al., 2005; Greenwood and Hinings, 1988; Sorenson and Audia, 2000; Kaplan and Murray, 2010; Zimmerman and Zeitz, 2002) and social values, priorities and assumptions (Meek et al., 2010; Sine and Lee, 2009; Lounsbury and Glynn, 2001 Zott and Huy, 2007). They find the challenge is even greater in established or mature industries with established institutional "rules" compared to new and emerging industries in which the institutional environment is still in flux (e.g., David et al., 2013) or in which there are institutional actors with contradictory interests and logics (Kaplan and Murray, 2010).

This stream of research has generated insights into the liability of newness by showing the interplay among legitimacy, institutional structure, and entrepreneurial action. However, at its root, institutions, societal-level actors and organizational forms and elements rather than founders or organizations are the focal concern. The founding of new ventures is simply another context to study related institutional processes. Even studies of institutional entrepreneurship (e.g., Battilana et al., 2009; Sine et al., 2007; Greenwood et al., 2002; Powell et al., 2005) are primarily concerned with entrepreneurs as drivers of institutional change and less so with the organizations that they create. This contrasts with the entrepreneurship field's primary interest in entrepreneurs and how they create new organizations.