



Parent inheritance, founder expertise, and venture strategy: Determinants of new venture knowledge impact[☆]



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ABSTRACT

A genealogical theory of new venture creation posits that “parent” firm routines are transferred to “progeny” ventures founded by the former employees of these parents. This study examines how the knowledge available to a venture from its parent firms and individual founders, as well as its initial technological direction, influences its own creation of impactful knowledge. We argue that new knowledge creation involves the recombination of underlying knowledge elements and hypothesize that the degree to which the venture’s knowledge domain overlaps with the parents’ knowledge has positive, but diminishing effects on the impact of knowledge created by the venture. We also predict that the breadth of founders’ personal knowledge has a positive effect, but that the divergence between individual founders’ and parent firm’s knowledge domains has a negative effect on the creation of impactful knowledge by the venture. We test our predictions using a sample of 219 biotechnology ventures founded over the eleven year period 1990–2000 and tracked through 2010. Our results contribute to the entrepreneurship, knowledge creation, and genealogical literatures.

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1. Executive summary

The ability of new ventures to create knowledge that fosters innovation and provides social and economic benefits has been the focus of scholarly attention in the entrepreneurship and strategy literatures for decades. New ventures founded by former employees of established firms (“parent firms”) benefit from founders’ own technological expertise and their exposure to the technological knowledge of these parent firms. However, the process of knowledge transfer from parent firms to progeny new ventures has often been assumed by prior research to occur spontaneously and the role of founder choice has not been examined. Moreover, the influence of founder characteristics such as their own expertise and experience has not been examined in conjunction with the influence of inherited parent firm knowledge. To address these limitations, we examine how various elements of parent firm knowledge, venture technological strategy, and individual founder expertise influence the creation of impactful knowledge by the venture. Knowledge impact of the venture is measured as the extent to which the venture’s knowledge is subsequently utilized by other firms.

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We argue that new knowledge creation involves the recombination of knowledge elements in new ways. Founders' exposure to the knowledge domains of their parent firms allows them to recognize new recombination opportunities and, in doing so, develop impactful knowledge. However, a venture's founders may choose to diverge from parents' existing technologies to combine novel and unfamiliar knowledge from sources outside the parent in hopes of generating high-impact knowledge. Such divergence from, and therefore a lower degree of overlap with, parent knowledge is beneficial in enabling ventures to search externally for valuable knowledge. However, extremely low levels of overlap with parent firm knowledge may inhibit founders' ability to recombine knowledge elements and dampen the creation of impactful knowledge.

We then propose that ventures will be able to create more impactful knowledge if a founder's own technical expertise diverges from the knowledge domains of the parent. Founders' individual knowledge domains are often independent of the knowledge domains that their parent firms specialize in, especially if they played a relatively peripheral role in the respective parent firms' knowledge development. Divergence between the knowledge domains of founders and their parent firms indicates that the founder has a limited ability to recognize such opportunities, therefore negatively influencing the creation of impactful knowledge by the venture. Conversely, founders who have played a more central role in the parent's knowledge development will be in a better position to exploit recombination opportunities utilizing the parent's knowledge. Finally, founders with a greater breadth of personal technical expertise can better recognize recombination opportunities that create more impactful knowledge. We test our predictions using a sample of 219 biotechnology ventures founded over an eleven year period from 1990 to 2000 and followed until 2010. We find support for an inverted U-shaped relationship of venture divergence from parent knowledge on venture knowledge impact. Founder divergence from parent knowledge is also found to have a negative effect on venture knowledge impact as predicted. However, we do not find a significant effect of founder knowledge breadth on venture knowledge impact. Our study contributes to research on entrepreneurship and, in particular, the genealogical view of new venture creation by identifying parent firm and founder-level influences on knowledge transfer from parent firms to new ventures and also examining critical founder choices regarding venture technological strategy. This research not only highlights the value of modest divergence from parents' knowledge for successful knowledge creation in new ventures but also demonstrates the detrimental effect of diverging too far from the knowledge base of parents. We also contribute to the literature on organizational search by applying the concepts of local search and distant search in a unique way to new ventures.

2. Introduction

The creation of high-quality, impactful knowledge by new ventures has been a key focus for scholars in the fields of entrepreneurship and strategy (Acs et al., 2009; Ahuja and Lampert, 2001; Henderson and Cockburn, 1996). Ventures that are successful in the development of more significant knowledge and innovation have been shown to be superior in developing new products and markets, overcoming imitators, and successfully adjusting to significant changes in their competitive environment to exploit new opportunities (Leiponen and Helfat, 2009; Shane, 2003).⁵ There has also been an increasing recognition of the important spillover effects and social benefits arising from the creation of new knowledge by such entrepreneurial ventures (Davidsson et al., 2006; Gilbert, McDougall, and Audretsch, 2008; Shane, 2003). Scholars have called for research on how new ventures' knowledge development can lead to a virtuous cycle of subsequent innovation, encouraging the creation of new technological opportunities and economic growth (Acs et al., 2009; Cliff et al., 2006; Davidsson et al., 2006; Fleming and Sorenson, 2001; Hand, 2007; Yayavaram and Ahuja, 2008).

Theoretical and empirical work focusing on the creation of new knowledge has often focused on knowledge impact as a key outcome, with impact judged by the extent to which a firm's knowledge is utilized by others (Kotha et al., 2011; Miller et al., 2007; Trajtenberg, 1990). Prior research has argued that the forward citations of a firm's patents by other firms represent a consistent means of measuring the impact of knowledge created by the focal firm and are one of the strongest indicators of its overall innovative performance (Gilbert et al., 2008; Hoetker and Agarwal, 2007; Miller et al., 2007; Phene et al., 2006). Earlier studies have also considered the possibility that the founding and origins of new ventures are likely to influence their ability to generate high-impact knowledge (Helfat and Lieberman, 2002; Klepper, 2001). For example, ventures in many industries emerge through 'spawning' from established firms (Agarwal et al., 2004; Chatterji, 2009; Klepper, 2001),⁶ that is, are begun by founders coming from established incumbents. Prior experience at an incumbent firm (also called a 'parent' firm) often provides both know-how and opportunity for nascent entrepreneurs to begin their (progeny) new ventures (Phillips, 2002). Employees leaving a parent firm to found a new venture take with them routines, capabilities, and technologies developed by the parent that they can then put in place in their venture (Klepper and Thompson, 2006). In this manner, progeny ventures inherit technological experience and expertise from their parents, and such inheritance can play a critical role in their development of new technologies and innovations (Agarwal et al., 2004; Chatterji, 2009; Klepper, 2001).

Despite evidence linking the inheritance of knowledge from parent firms to the success of progeny ventures, there are important gaps in our understanding of these inheritance processes. First, prior research has largely assumed that knowledge transfers from parents to progeny occur almost inevitably, with progeny firms naturally following the practices of their parents (Agarwal et al., 2004; Klepper and Sleeper, 2005). There has been little recognition that progeny founders make deliberate decisions about the extent to which to utilize capabilities acquired at their parent firms. Moreover, there is limited examination of whether such critical founding choices influence important venture outcomes, such as those related to subsequent knowledge creation. Studies have not examined

⁵ In this study "venture" refers to the entire team of employees working in the firm (not just the founding team), any of whom could be involved in knowledge development along the direction established by the founders.

⁶ In the context of this study, ventures are founded by former employees of established firms (i.e., parent firms) through spawning and benefit from founders' personal expertise and accumulated knowledge; however, ventures do not have any formal relationship such as alliance, equity, or board membership with the parent firms (e.g., Agarwal et al., 2004; Chatterji, 2009; Klepper, 2001).

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