



When are acquired technological capabilities complements rather than substitutes? A study on value creation. [☆]



Joshua B. Sears^{*}

Jerry S. Rawls College of Business Administration, Texas Tech University, 703 Flint Avenue, Box 42101, Lubbock, TX 79409, United States.

ARTICLE INFO

Keywords:

Technological acquisitions
Technological overlap
Technological capabilities
Value creation
Resource-based view
Resource dependence

ABSTRACT

The acquisition of small technology firms has become a means to overcome the time-compression diseconomies and uncertainties of internal innovation. Prior research has found conflicting results on whether the target's technological capabilities complement or substitute the acquirer's technological capabilities. I submit that either can occur depending on the acquisition rationale; evidence suggests that the acquisition rationale determines how the acquirer redeploys, reorganizes, and divests the assets of the target. Building on the current resource deepening and resource extension rationales, I integrate a resource-based view of innovation with resource dependence theory to hypothesize when the target's capabilities complement rather than substitute the acquirer's capabilities. Supporting the hypotheses, the results suggest that the target's capabilities complement the acquirer's capabilities in resource deepening acquisitions and substitute the acquirer's capabilities in resource extension acquisitions. Additionally, the results suggest that technological laggard acquirers significantly destroy shareholder value while technological leader acquirers do not.

1. Introduction

In response to rapid technological change in innovative industries, many firms have undertaken acquisitions of small, technology-based firms in order to overcome the time-compression diseconomies and uncertainties of internal innovation (Dierickx & Cool, 1989). While there has been a recent outpouring of research on technological acquisitions (for a review see Graebner, Eisenhardt, & Roundy, 2010), research has yet to reach consistent results on whether the target's technological capabilities complement (e.g., Cassiman & Veugelers, 2006; Veugelers, 1997) or substitute (e.g., Hitt, Hoskisson, Ireland, & Harrison, 1991; King, Slotegraaf, & Kesner, 2008) the acquirer's technological capabilities.¹ With evidence that the probability of acquisition failure exceeds success (Graebner et al., 2010; King et al., 2008; Rose, 2012), there is an urgent need for research to address contingencies that can lead to such mixed results. I submit that we can reconcile these mixed results by accounting for the relatedness in the technological knowledge bases of the target and the acquirer.

Relatedness in knowledge bases, or technological overlap, has received much attention in prior research with respect to its impact on acquisition performance (e.g., Ahuja & Katila, 2001; Cloodt,

Hagedoorn, & Van Kranenburg, 2006; Makri, Hitt, & Lane, 2010; Sears & Hoetker, 2014). Beyond studies on the impact of the relatedness of knowledge bases on performance, relatedness has also been utilized as a differentiator among rationales for acquisitions (Haspeslagh & Jemison, 1991; Karim & Mitchell, 2000). Haspeslagh and Jemison (1991) identified three rationales for acquisitions based on the relatedness of the target's and the acquirer's capabilities and competitive domains, including domain strengthening, domain extension, and domain exploration. On one end of the spectrum, domain strengthening acquisitions enhance the current capabilities of the acquirer by acquiring similar capabilities. While on the other end of the spectrum, domain exploration acquisitions bring the acquirer into entirely new markets and competitive domains by acquiring dissimilar capabilities. While Haspeslagh and Jemison (1991) made theoretical advancements with their typology, Karim and Mitchell (2000) empirically differentiated between two types of acquisitions: resource deepening and resource extension. Resource deepening acquisitions enhance an acquirer's current resources and capabilities while resource extension acquisitions bring in unique resources and capabilities to an acquirer. The fundamental assumption of these typologies is that different rationales for acquisitions entail different post-acquisition

[☆] This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

^{*} Corresponding author.

E-mail address: Joshua.Sears@ttu.edu.

¹ The paper follows Siggelkow (2002) in defining a complementary relationship as one with a positive interaction term and a substitutive relationship as one with a negative interaction term.

utilizations of the target's and the acquirer's resources and capabilities. Building off this assumption, I develop theory that differentiates between when the target's capabilities complement rather than substitute the acquirer's capabilities based on whether the acquirer is deepening its resources or rather extending its resources.

I integrate a resource-based view of innovation (Galunic & Rodan, 1998; Kogut & Zander, 1992) with resource dependence theory (Emerson, 1962; Hickson, Hinings, Lee, Schneck, & Pennings, 1971; Hinings, Hickson, Pennings, & Schneck, 1974) to address how the target's and the acquirer's technological capabilities interact in creating value. A resource-based view of innovation focuses on the creation of new knowledge or innovation through recombining the resources and capabilities of the target and the acquirer. Conversely, resource dependence theory focuses on the importance of the target's and the acquirer's capabilities to post-acquisition performance. By integrating these two theories, I hypothesize that the target's and the acquirer's capabilities will have a complementary relationship in resource deepening acquisitions and a substitutive relationship in resource extension acquisitions.

I test the hypotheses on a sample of acquisitions of small technology firms. By limiting the sample to only small technology firms, I am better able to isolate the impact of the target's technological capabilities (Graebner, 2004; Puranam, Singh, & Zollo, 2006; Ranft & Lord, 2002). I find support for both hypotheses in that the target's technological capabilities complement the acquirer's technological capabilities in resource deepening acquisitions while they substitute the acquirer's technological capabilities in resource extension acquisitions. Additionally, an analysis of the cumulative abnormal returns (CAR) found that technological laggard acquirers destroy more shareholder value than technological leader acquirers.

This study makes the following contributions to the literature on technological acquisitions. The most salient contribution of the study is that the rationale for an acquisition matters. By differentiating the rationales following Karim and Mitchell (2000), this study found that resource deepening acquisitions create a complementary relationship between the target's and the acquirer's technological capabilities while resource extension acquisitions create a substitutive relationship. The study also highlights the importance of whether the acquirer is a technological leader or laggard. An analysis of the CARs showed the technological laggards may not be able to externally acquire new capabilities. Further, the results suggest additional rationales may exist as both resource deepening and resource extension acquisitions undertaken by laggard acquirers performed significantly different from similar rationale acquisitions undertaken by leader acquirers. As such, I identify and discuss two additional rationales that extend the resource deepening and resource extension rationales created by Karim and Mitchell (2000).

2. Theory and hypotheses

A resource-based view of innovation focuses on the creation of value through the development of novel recombinations of the target's and the acquirer's resources and capabilities (Galunic & Rodan, 1998; Kogut & Zander, 1992). As far back as Schumpeter (1934) and Penrose (1959), the recombination of resources and capabilities has been the foundation of innovation. More recent research provides evidence that the pursuit of novel recombinations drive many technological acquisitions (Karim & Mitchell, 2000; Larsson & Finkelstein, 1999). The ability to create these novel recombinations depends on the level of absorptive capacity, which refers to the ability of the acquirer to value, assimilate, and exploit the resources and capabilities of the target (Cohen & Levinthal, 1990). More recently, Zahra and George (2002) extended the conceptualization of absorptive capacity to include two parts: potential absorptive capacity and realized absorptive capacity. Potential absorptive capacity refers to the ability of the acquirer to identify, analyze, interpret, and understand the

target's resources and capabilities. The relatedness of the target's and acquirer's knowledge bases enhances potential absorptive capacity as it has been shown to be a necessary condition for communication (Demsetz, 1988; Grant, 1996) and intra-firm knowledge absorption (Lane, Salk, & Lyles, 2001). Realized absorptive capacity refers to the ability of the acquirer to recombine the target's resources and capabilities with its own and to then apply them as an organizational capability. The acquirer's technological capabilities enhance realized absorptive capacity as a technological leader should be able to create more novel recombinations of resources and capabilities compared to a laggard.

Resource dependence focuses on whether the target or the acquirer drives innovation and therefore, value creation. Whether the post-acquisition firm depends on the target, the acquirer, or both for post-acquisition innovation hinges on three factors: first, the ability of the target's or the acquirer's technological capabilities to cope with demands confronting the firm; second, the uniqueness of those capabilities used to cope; and third, the importance of those capabilities to firm performance (Emerson, 1962; Hickson et al., 1971; Hinings et al., 1974). Unlike with potential and realized absorptive capacity, the relatedness of the target's and the acquirer's knowledge bases and the leader/laggard status of the acquirer are more intertwined in impacting the three determinants of resource dependence. For example, dependence on the target's technological capabilities to cope with the demands confronting the post-acquisition firm will be impacted by both the relatedness of knowledge bases and the acquirer leader/laggard status. Relatedness informs the relevance the target's capabilities will have in meeting coping demands while the acquirer leader/laggard status informs the criticality in acquiring new capabilities.

2.1. Resource deepening

Karim and Mitchell (2000) introduced the concept of resource deepening acquisitions as a mode for path-dependent change. Firms acquire targets and retain related target resources while discarding those resources sufficiently different from those of the acquirer. As such, the target does not possess unique technological capabilities. Rather, the acquirer acquires a research program that operates in a very similar technological domain as its own. Moreover, the acquirer possesses the potential absorptive capacity to enable it to identify, analyze, interpret, and understand the target's knowledge and innovative activities (Zahra & George, 2002). Therefore, the focus shifts to realize absorptive capacity in driving value creation.

With a technological laggard acquirer, the acquirer has yet to demonstrate that it possesses sufficient technological capabilities. The acquirer likely lacks the realized absorptive capacity to direct the recombination of the target's capabilities with its own and to apply them towards novel innovations (Zahra & George, 2002). More likely, it is the target that possesses the realized absorptive capacity to enhance the innovative performance of the post-acquisition firm. In fact, empirical evidence has found that in many cases the acquirer reconfigured its own internal unit into the target for which Karim (2006, p. 816) explained as acquirers, "purposefully trying to change some of the practices of a poor performing internally developed unit. This assumes that the target possesses some routines or intangible assets that the acquiring firm would like to absorb and spread within its organization." Unfortunately, overhauling the acquirer's capabilities with the target's faces many complications with conflict being the most significant as both the goals of the target knowledge workers and the acquirer knowledge workers will be directed towards self-preservation instead of cooperation. In the telecommunications industry, Capron and Mitchell (2009) found evidence that internal development was more effective for gaining access to related capabilities compared to acquisition as the acquirer would resist the target's capabilities in a 'not invented here' scenario. Empirical evidence demonstrates the devastating impact of conflict on innovation (Paruchuri, Nerkar, & Hambrick,

Download English Version:

<https://daneshyari.com/en/article/5109584>

Download Persian Version:

<https://daneshyari.com/article/5109584>

[Daneshyari.com](https://daneshyari.com)