Journal of Operations Management 36 (2015) 115–129

Contents lists available at ScienceDirect

Journal of Operations Management

journal homepage: www.elsevier.com/locate/jom

Financial benefits and risks of dependency in triadic supply chain relationships

Yoon Hee Kim[a,*], Darren Henderson[b,1]

[a] *College of Business Administration, Georgia Southern University, PO Box 8036, Statesboro, GA 30460 United States*
[b] *Ivey School of Business, Western University, 1255 Western Road, London, ON N6G0N1 Canada*

ARTICLE INFO

Article history:
Received 28 January 2014
Received in revised form 22 March 2015
Accepted 5 April 2015
Available online 17 April 2015
Accepted by Thomas Younghoon Choi

Keywords:
Relationship embeddedness
Resource dependency
Financial performance
Triadic supply chain relationships
Econometric analysis

ABSTRACT

The economic consequences of interdependent relationships with suppliers and customers have long been of interest to supply chain managers and academics alike. Whereas previous studies have focused on the benefits or risks of embedded relationships that accrue to *buying firms*, this study simultaneously investigates the effects of a *supplier's* and a *customer's* embeddedness, arising from resource dependency, on a focal firm's financial performance in triadic supply chain relationships. Using 1,144 unique focal firm-years for U.S. firms from Compustat, we find that a supplier's and a customer's dependency both increase the focal firm's performance in terms of return on assets (ROA) and return on sales (ROS) by increasing asset turnover (ATO). As levels of supplier and customer dependency on the focal firm increase, however, the economic benefits of customer dependency diminish beyond a certain point, while those of supplier dependency continue to increase above that threshold. Thus, our findings show the paradoxically differing risks of the supplier's versus the customer's dependency, while establishing the unequivocal economic benefits of supplier and customer relations for focal firms in the middle of concentrated triadic relationships.

1. Introduction

The economic ramifications of a firm's interdependent relationships with suppliers and/or customers have been the popular subject of scholarly attention in various disciplines and are still being hotly debated. From the perspective of *creating* value, some researchers argue that firms can jointly create greater market value (i.e., a larger profit "pie") by pooling resources and cooperating with exchange partners than by operating alone (Cao and Zhang, 2011; Jap, 1999; Lavie, 2006; Patatoukas, 2012). Yet from the perspective of *capturing* value, other researchers have raised the concern that relationships with major customers and/or suppliers can impede a firm's profitability because the sharing of value (i.e., division of the profit pie) among supply chain members often depends on their respective bargaining powers (Galbraith and Stiles, 1983; Gosman and Kohlbeck, 2009; Lanier et al., 2010; Porter, 1980).

These diverging perspectives toward the economics of interdependent relationships are derived largely from their differing views about a relationship's nature. The former school of thought often characterizes the nature of interfirm relationships within the context of *embeddedness*, whereby firms embedded in a network of interdependent ties tend to cooperate for mutual benefits (Granovetter, 1985; Uzzi, 1996, 1997). In contrast, the latter school of thought assumes interfirm relationships to be competitive in nature where the principle of *power* governs economic behavior of self-interested parties (Galbraith and Stiles, 1983; Porter, 1980). In this regard, Porter (1980) argues that the profitability of firms with concentrated relationships in supply and distribution markets would be eroded by suppliers as well as customers.

Over decades, however, firms have moved toward highly interdependent relationships with fewer exchange partners in both upstream and downstream markets through such practices as supply base reduction and strategic partnerships (Choi and Krause, 2006; *The Economist*, 2006; Patatoukas, 2012). Under these circumstances, the following research questions arise: Why would firms seek to increase interdependency with fewer suppliers and customers despite potential power disadvantages? What benefits accrue to *focal firms* in the middle of concentrated triadic relationships?

Our study aims to investigate these research questions through the theoretical lens of *embeddedness*, a concept that refers broadly to the contingent nature of economic behavior with respect to

* Corresponding author. Tel.: +1 912 478 0523; fax: +1 912 478 1835.
E-mail addresses: ykim@georgiasouthern.edu (Y.H. Kim), dhenderson@ivey.ca (D. Henderson).
[1] Tel.: +1 519 661 3220; fax: +1 519 661 3485.

http://dx.doi.org/10.1016/j.jom.2015.04.001
0272-6963/

cognition, social relations and structure, culture, and politics (Granovetter, 1985; Uzzi, 1996, 1997). Of these factors, we focus on relational and structural embeddedness, which concern how the quality and the network architecture of exchange relationships influence economic behavior and outcomes (Granovetter, 1985; Uzzi, 1997). More specifically, we investigate how the performance outcomes of *focal firms*, structurally positioned in the center of concentrated supply chain triads, are affected by one key aspect of relational embeddedness, the *resource dependency* of suppliers and customers.

The logic of embeddedness suggests that higher levels of *dependence* motivate exchange partners to increase the depth and breadth of their economic interactions, thus developing a stronger "relational" orientation toward information sharing, cooperation, and trust, even in the presence of power disparities (Gulati and Sytch, 2007; Uzzi, 1996, 1997). The relational benefits of embeddedness, in turn, can facilitate joint value-creation at a low risk of opportunism among the parties and thus provide a "positive side" to the weaker parties in unbalanced power relationships.

Nevertheless, high levels of embeddedness can also generate diminishing returns by impairing a party's motivation and ability to detect or adapt to environmental or behavioral changes (Anderson and Jap, 2005; Uzzi, 1997; Villena et al., 2011). A "negative side" of embeddedness thus pertains to the risk of *interdependency* that hinders a party's mobility to switch incumbent partners when the relational benefits diminish, thereby compromising its profit-maximizing potential. Thus, dependency plays an important role in the logic of embeddedness and entails a paradox of relational benefits as well as risks.

Furthermore, it is implicitly assumed that embeddedness is a role-invariant phenomenon leading suppliers and customers to similar economic behaviors and outcomes (Granovetter, 1985; Uzzi, 1997). Yet, some researchers question this assumption of unequivocal behavior in upstream (supplier–focal firm) and downstream (focal firm–buyer) relations (Cool and Henderson, 1998; Wu and Choi, 2005). Hence, we empirically investigate this implicit assumption by simultaneously assessing the financial benefits and risks of resource dependency of suppliers and customers in supply chain triads, using a large secondary dataset.

Following Lanier et al. (2010), we identify concentrated supply chain triads (supplier, focal firm, and customer) by using Statement of Financial Accounting Standards (SFAS) No. 131's major customer disclosure, which mandates that firms identify any customer accounting for more than 10% of their total sales. Consequently, each triad comprises a focal firm, a supplier (of whose total sales at least 10% are to the focal firm), and a customer (who accounts for at least 10% of the focal firm's total sales). Our sample represents 1,144 unique focal firm-years from 1992 through 2011.

Our study makes several contributions to social capital theory by investigating the financial benefits and risks of relational embeddedness that arises from the *resource dependency* of suppliers and customers in triadic supply chain relationships. First, by using a large secondary dataset, our study is the first to establish economic links between the important aspects of *embeddedness* of suppliers and customers and a focal firm's *financial* outcomes, thus building on previous findings of operational and strategic benefits to buyers in the social capital literature (e.g., Krause et al., 2007; Lawson et al., 2008; Villena et al., 2011), while providing new evidence for the economic benefits of *customer* embeddedness via *dependency*. Second, our investigation of the diminishing returns of embeddedness reveals the paradoxically differing risks of *supplier* versus *customer dependence* on the focal firm's financial performance. Beyond a certain point, the positive effects of *customer* dependency begin to diminish while those of *supplier* dependency continue to increase. Thus, our findings challenge the role-invariant assumption underlying social capital theory. To our knowledge, this study is the first to empirically investigate the unequivocality of a supplier's and a customer's dependency and to show the differing paradoxes associated with *supplier* versus *customer* relationships.

The rest of the paper is organized as follows: in Section 2 we review the extant literature and identify gaps and in Section 3 we develop our hypotheses. Our methods are then explained in Section 4. Section 5 reports the results, and in Section 6 we perform sensitivity analyses. Our findings are discussed in Section 7, and we conclude in Section 8, where we describe the study's contributions and limitations.

2. Literature review

The performance outcomes of relationship management have been a core interest of supply chain managers and scholars, thus spawning a wide array of research streams across disciplines (Gosman and Kohlbeck, 2009; Gulati and Sytch, 2007; Lanier et al., 2010; Patatoukas, 2012; Villena et al., 2011). Most studies have focused on the relational context in *dyadic* relationships (Carey et al., 2011; Kim and Wemmerlöv, 2015; Patatoukas, 2012; Villena et al., 2011) and only a few studies have investigated *triadic* relationships in supply chains (Cool and Henderson, 1998; Galbraith and Stiles, 1983; Lanier et al., 2010). Table 1 summarizes the representative studies on the relationship–performance link and their relevant findings to this study.

Dyadic studies make the implicit assumption that the relational context in an upstream dyad (i.e., a supplier–focal firm dyad) mirrors that in a downstream dyad (i.e., a focal firm–customer dyad). Yet, Cool and Henderson (1998) contend that the power dynamics in upstream relationships are different from those in downstream relationships. More recently, some researchers (e.g., Choi and Kim, 2008; Choi and Wu, 2009; Wu and Choi, 2005) argue that triads, rather than dyads, should be taken as the supply chain's fundamental building block because the relational context in a buyer–supplier dyad is affected, not only by within–dyad, but also by between–dyad interactions. For example, a supplier–focal firm relationship can be affected not only by interactions within the dyad, but also by a focal firm's interactions with its customers (e.g., passing down cost pressure from customers to suppliers). In line with this reasoning, we moved beyond a dyadic focus and chose triadic relationships as our unit of analysis to simultaneously investigate the relational contexts in both upstream and downstream relationships.

The nature of supply chain relationships can be broadly categorized as either competitive or cooperative. Researchers often characterize *competitive* relationships in the context of *power*, focusing on the self-interested behavior of economic actors whereby the more powerful parties extract favorable terms and conditions for unilateral benefits (Galbraith and Stiles, 1983; Lanier et al., 2010; Patatoukas, 2012). Many studies that use objective performance data have focused on the role of bargaining power in competitive relationships, whether in supplier–buyer dyads (Gosman and Kohlbeck, 2009; Kelly and Gosman, 2000; Patatoukas, 2012) or in supply chain triads (Lanier et al., 2010). Studies on supply chain triads suggest, in the logic of power, that developing concentrated relationships with both suppliers and customers is an ill-fated strategy for focal firms (Cool and Henderson, 1998; Galbraith and Stiles, 1983; Lanier et al., 2010). For example, Galbraith and Stiles (1983) argue that the profitability of focal firms at the center of triadic relationships would be bargained away by suppliers as well as customers. Similarly, Lanier et al. (2010) show that supply chain members in concentrated triadic relationships could collectively achieve performance superior to that of their counterparts in diffused relationships. Yet, most of the benefits would be captured by the downstream members because of