HOW TO COMBINE AND COORDINATE RESOURCES ACROSS FIRMS UNDER UNCERTAINTY

Yonghoon Choi

Faculty of Commerce, Doshisha University, Kyoto, Japan

ychoi@mail.doshisha.ac.jp

Yoritoshi Hara

School of Commerce, Meiji University, Tokyo, Japan

hara@meiji.ac.jp

Abstract

Resource combination and coordination across firms is a research topic that is attracting the attention of IMP researchers. Similarly, investigation into the issue of co-alignment between strategies and environmental contexts is critical in strategic management and marketing research. We investigate how alignment among resources, strategies, and environments influence firm performance in business-to-business (B2B) relationships. According to the assumptions of transaction cost economics (TCE), firms can use a strategy of vertical integration to mitigate the costs of a transaction that is hazardous due to resource specificity and uncertainty. Contrary to this proposition, we assume that firms can overcome transaction difficulties without integrating the concerned transactions. We focus on two firm capabilities as alternative measures, namely market power and exploitation capability. We tested our hypotheses by using survey data from large Japanese manufacturers, from a diversity of industries. The results show that, in the case of high resource specificity, vertical disintegration (integration) is the strategy matched to firms with (without) market power for performance enhancement. Further, with respect to performance enhancement, an unintegrated channel strategy matches firms with superior exploitation capability under uncertainty, while an integration strategy is better suited to firms with inferior exploitation capability.

Keywords: Resource coordination, Co-alignment, Marketing channels

INTRODUCTION

IMP researchers recognize that the different approaches to combining and coordinating transacting firms' heterogeneous resources in business-to-business (B2B) relationships affect relationship performance (Ivens *et al.*, 2009; Mouzas & Ford, 2012; Nyström, 2012; Ritter & Gemünden, 2003). The organizational capability perspective also points out the importance of capabilities in integrating individuals' resources for improved organizational performance (Grant, 1996). Appropriate resource coordination does matter within as well as across organizations. Several types of resources exist: tangible and intangible resources (Wernerfelt, 1984), property-based and knowledge-based resources (Miller & Shamsie, 1996), financial resources, physical resources, human resources, technological resources, reputation, and organizational resources (Grant, 1991). Individual resources within and across firms are complementary and interdependent.

How should transacting firms' heterogeneous resources be combined and coordinated in B2B relationships? This study aims to investigate the issue of the so-called "fit" and "coordination" between resources across firms, to enhance firm performance in marketing channel relationships. In addition, as strategic management and marketing researchers widely address the issue of "co-alignment" between strategies and environmental contexts, we address how firm performance in B2B relationships is influenced by matching or mismatching resources, strategies, and environments.

The next section discusses the theoretical background of this study and presents our hypotheses, followed by an explanation of the study's analytical method and a presentation of the results of the analysis. Finally, the conclusion discusses the contribution and limitations of this study.

THEORETICAL BACKGROUND AND HYPOTHESES

This study focuses on how to combine and coordinate resources across firms in business relationships. This has been a topic of interest to IMP researchers, who suggest that the combination and coordination of resources in B2B relationships significantly influence relationship performance (Ivens *et al.*, 2009; Mouzas & Ford, 2012; Nyström, 2012; Ritter &

Gemünden, 2003). In B2B relationships, different firms with heterogeneous as well as complementary resources collaborate to create value. For value enhancement, an appropriate combination of resources is critical.

Several types of resources are recognized as mentioned earlier. Resources specific to individual firms are important sources of their competitive advantage, according to the resource-based view of the firm (Grant, 1991). Besides firm-specific resources, relationship-specific resources (assets) are recognized as a resource type that has attracted the attention of many researchers in transaction cost economics (TCE) and in marketing channel research that draws on TCE. Because this study aims to investigate the effect of resources on relationship performance, it focuses on relationship-specific resources rather than firm-specific resources. Relationship-specific resources negatively or positively affect the performance of the firms involved in the relationships, through lock-in effects, bonding effects, and performance effects (Brown *et al.*, 2009).

With reference to the lock-in effects, TCE proposes that opportunism poses a problem to the extent to which a certain exchange is supported by relationship-specific resources. Specific resources will be less valuable for alternative uses outside a particular relationship and, will create a lock-in situation. The situation poses the bargaining problem of splitting joint value in a small-numbers exchange, which leads to increasing transaction costs and causes vertical integration with centralized authority to reduce transaction costs (Williamson, 1979).

However, the opportunism problem could be effectively mitigated by not only vertical integration, but also by alternative measures, one of which is the firm's market power— a firm resource on which this study focuses. Market power is an organizational capacity that plays a significant role in coping with transaction difficulty. Sharvani *et al.* (2007) claimed that, even in the case of high resource specificity, firms with high market power tend to use unintegrated channels. Firms with dominant market power can effectively manage relationships with intermediaries without high transaction costs, because the processes associated with bargaining, assembling information, and coordinating channel relationships should be facilitated by the possession of power (Coughlan *et al*, 2001). Shervani *et al.* (2007) found supportive empirical evidence of the deterrence effect of market power on opportunism, and found that high asset specificity is significantly related to a high degree of forward integration only when firm power is low. Although we approve of the results of Shervani *et al* (2007), the performance effects of the interplays among asset specificity, channel integration, and market power are not yet clear.

Following the recommendations of Shervani *et al.* (2007), firms with high market power do not have to make a forward integration, even in exchange relationships characterized by high asset specificity; however, firms with low market power choose vertical integration under the same situation. Furthermore, according to the assumption that firm performance depends on appropriate co-alignment or fit between strategies and environmental contexts (Venkatraman, 1989), we assume that forward integration (disintegration) matches low (high) market power for performance enhancement. Thus, we can assume the performance effects of the interactions among market power, relationship-specific resources, and forward integration. This study investigates the effects on efficiency of sales and logistics operations in marketing channels. Regarding the performance effect, we predict as follows:

H_1. Under the situation that resource specificity is high in marketing channels, channel integration (disintegration) by manufacturers with high (low) market power influences negatively channel efficiency.

Environmental uncertainty causes several problems including market imperfection and contract enforcement difficulties (Williamson 1985). Uncertainty also creates adaptation requirement and information processing problems for a firm (Geyskens *et al.*, 2006). TCE views the adaptation problem as a central issue of firms (Williamson 1985).

When unforeseen contingencies arise, unintegrated channels strain to adapt to the changed circumstances because conflicts are more likely to occur as implications from changed conditions may be interpreted differently between parities (John & Weitz, 1988). When faced with the need to adapt to uncertainty, a firm will seek to internalize the transaction to control environmental uncertainty (Williamson, 1985). In other words, vertical integration enhances information flow and enables firms to react better to uncertainty (John & Weitz, 1988).

It is critical for firms to obtain information about customer preferences and needs. Manufacturers heavily rely on intermediaries for market information. The higher the environmental uncertainty, the greater the importance of information processing structures and capabilities. It is acknowledged that an integrated channel is appropriate for the relief of external uncertainty (John & Weitz, 1988). However, it is noted that vertical integration is not the only measure to facilitate information sharing. If manufacturers have exploitation capacities, which refer to an organizational capacity to obtain and exploit knowledge and information from their downstream channel partners (Cohen & Levinthal, 1990; Ghosh *et al.*, 2006), they could effectively cope with the fluctuation of market demand and ensure that their

products and channel services meet their customers' needs, even without using hierarchical channels (Choi & Hara, 2018).

In line with the above discussion, we assume that without using integrated channels, manufacturers with superior exploitation capacity could avoid the substantial transaction costs that accrue under a high degree of uncertainty. In other words, exploitation capacity could serve as an alternative governance mechanism. As already discussed, the misalignment among relationship-specific resources, market power, and vertical integration, as well as inappropriate strategic choices, lead to performance deterioration. Based on the assumption that set-up costs of integrated channels are high, firms with superior exploitation capacity will be recommended to select unintegrated channels even under a turbulent market environment, while firms without superior exploitation capacity are recommended to choose integrated channels.

H_2. Under a high degree of market uncertainty, channel integration (disintegration) by manufacturers with superior (inferior) exploitation capacity negatively influence channel efficiency.

RESEARCH METHOD

A tentative quantitative empirical analysis was conducted using survey data from Japanese manufacturing companies in a broad range of industries. Multi-item scales were used to measure all focal constructs in the model, except for several control variables, which reflect the characteristics of the companies. The dependent variable is channel efficiency. The independent variables include relationship-specific resources (RSR), demand uncertainty (DU), market power (MP), exploitation capacity (EC), and channel integration (CI). Statistically, the models are expressed as:

$$\text{Channel Efficiency} = \beta_0 + \beta_1 RSR + \beta_2 DU + \beta_3 MP + \beta_4 EC + \beta_5 CI + \beta_6(RSR \times MP) + \beta_7(RSR \times CI) + \beta_8(MP \times CI) + \beta_9(RSR \times MP \times CI) + \beta_{10}(EC \times DU) + \beta_{11}(EC \times CI) + \beta_{12}(DU \times CI) + \beta_{13}(EC \times MU \times CI) + \text{control variables} + \varepsilon.$$

This study is a work in progress. Confirmation of construct validity and a set of analyses have been partially completed. After performing a confirmatory factor analysis, the composite reliability and average variance extracted for each multi-item construct was calculated to

ensure the convergent validity and discriminant validity of the constructs (Fornell & Larcker, 1981). Since dependent and independent measures were collected from the same parties, the issue of common method variance should be addressed.

RESULTS

We tentatively conducted a set of analyses to estimate the parameters of our research models using ordinary least squares regression. The results of the tentative analyses show that β_9 and β_{13} are significantly negative, which is consistent with our expectation in H_1 and H_2.

Since all the three-way interaction terms are significant, we further analyzed the forms of interaction using the simple slope tests by following the procedure of Aiken and West (1992). The results of the tentative post-hoc tests show that, in the case of high resource specificity, channel disintegration is the strategy matched to firms with market power for channel performance enhancement while channel integration fits with firms without market power. Thus, we judge that H_1 is supported.

The post-hoc test results also imply that for channel efficiency, an unintegrated channel is the strategy matched to firms with superior exploitation capability under volatile markets while integration is a better strategy for firms with inferior exploitation capability. Thus, H_{2a} is supported. The results of the post-hoc probing of H_{2b} are also consistent with our prediction.

CONCLUSIONS

This study contributes to the research stream regarding resource combination and coordination across firms in IMP research. Investigation into the issue of co-alignment between strategies and environmental contexts is generally critical in the strategic management and marketing research fields. We address the relationship among resources, strategies, and environments in B2B relationships. Although this short paper only presents partial results, we will be able to present the full result of the analyses at the conference.

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