Inter-organizational cooperation in buyer–supplier relationships: Both perspectives

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ARTICLE INFO

Article history:
Received 1 February 2008
Received in revised form 1 February 2009
Accepted 1 April 2009

Keywords:
Supply chain management
Inter-organizational cooperation
Buyer–supplier relationship
Telecommunication industry

ABSTRACT

Most empirical investigations of inter-organizational cooperation within channel dyads investigate the phenomenon from the perspective of only one partner. However, because investigating from both partners’ perspectives is important especially when interdependencies exist between the channel partners, this study attempts to examine both perspectives in buyer–supplier relationships and explain why differences, if any, arise. The data that this study required were collected from buyers responsible for supplier relationships in a Korean telecommunication service provider and from their partners. The results show that switching costs and inter-organizational trust are significant determinants of cooperation for buyers; technological uncertainty and the reciprocity of the relationship are significant determinants for the suppliers. In both sample sets, goal consistency significantly affects inter-firm cooperation.

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1. Introduction

In the new economy, as firms become more dependent on outside partners to meet sophisticated customer needs, managing inter-organizational relationships effectively becomes important to gaining a competitive advantage. Consequently, inter-organizational cooperation receives considerable research attention. However, most empirical investigations of inter-organizational cooperation within channel dyads have investigated the phenomenon from the perspective of only one partner (e.g., Bensaou, 1997; Kim and Umanath, 2005). Investigating inter-organizational cooperation from the perspective of both partners is important, especially when channel partners depend on each other. Channel relationships that are asymmetric in dependence and power are more dysfunctional and less stable than symmetric relationships (Kumar and van Dissel, 1996). When dependence asymmetries occur, factors that influence the partner’s cooperative actions differ according to the partner’s status in the channel, that is, whether they have relative power or relative dependence.

While the buyer’s perspective in buyer–supplier relationships receives much attention (for exceptions, see Helper (1991) who focuses on the supplier’s perspective), prior studies have shown a discrepancy in the perspectives between buyers and suppliers. For example, Forker et al. (1999) report that both parties have different views on the buyer’s implementation of the supplier’s development activities. Arkader (2001) has found that buyers’ perspectives are different from suppliers’ in regard to both the facilitators and the barriers of buyer–supplier relationships. For instance, buyers identify “problems due to environmental factors (especially, adverse logistics and tax systems)” as important barriers to cooperative relationships, while suppliers identify “organizational barriers (mainly, the existence of functional resistance and the loss of power by buyers in the purchasing departments)” (p. 92). Therefore, this study attempts to accommodate both partners’ perspectives in the buyer–supplier relationships to determine whether the perspectives differ, and, if so, to explain why.

This study develops a comprehensive model of the determinants of inter-organizational cooperation by synthesizing various theories relevant to inter-organizational relationships. The study then tests this research model by using matched samples from a buyer and supplier in the Korean telecommunication industry. The telecommunication industry includes the telecommunication equipment manufacturing industry as well as the telecommunication service industry. The manufactures of telecommunication equipment produce components that can be integrated into a whole system based on a certain agreed-upon protocol. Meanwhile, telecommunication service providers deliver services through an integrated system with these components. Effective service delivery requires mutual adjustments and cooperation between the telecommunication service providers and their equipment manufacturers, because modular technologies must be integrated. Further, customer needs are constantly evolving in this industry, as is the technology required to meet customer needs. In this type of environment, both trading partners benefit from cooperation because of the considerable interdependence between the buyers and suppliers.
2. Literature review

2.1. Resource Dependence Theory (RDT)

According to the RDT, few firms can internally control all the resources required to function effectively (Reid et al., 2001). Sourcing inputs from the market makes the firm dependent on other firms for critical resources and thus increases the likelihood of unpredictable events. This resource dependence perspective suggests that bilateral relationships emerge as individual organizations attempt to secure necessary resources (Pfeffer and Salancik, 1978). If a firm is deficient in a particular resource domain and possession of that resource is deemed essential for gaining a competitive advantage, then the firm will take purposive actions to acquire the resource (Reid et al., 2001). Alliances are more likely to form for firms with a mutual need to exchange resources (Eisenhardt and Schoonhoven, 1996).

Supply relations are crucial for any organization that subcontracts portions of component design and production. Telecommunication equipment manufacturing, for example, involves a number of complex production activities that require capital-intensive investments as well as the development of an extensive sector of smaller firms that are devoted to component manufacturing. Existing studies based on RDT perspectives identify antecedents for the successful cooperation between firms and their partners such as a firm’s dependence on its partner (e.g., Kumar et al., 1995) and the governance mechanisms of these relationships (e.g., Dyer and Singh, 1998).

2.2. Transaction Cost Economics (TCE)

TCE provides important theoretical background for decisions about whether the activities of a firm’s value chain should be placed within the corporation or outsourced in a contractual relationship. Coase (1937) asserts that the most efficient governance mechanism for an exchange interaction is determined by minimizing the sum of the production and transaction costs. Williamson (1991) also explains why transaction costs occur by using a model of market failure. Two factors, human factors and environmental factors, may contribute to market failure. Human factors include limited rationality and opportunistic behavior, while environmental factors consist of uncertainty resulting from technological changes and the complexity of external markets.

TCE explains that inter-firm cooperation can overcome the limitations of restricted rationality, secure economic efficiency with reduced transaction costs, and realize transaction stability from opportunistic threats. That is, a hybrid form of inter-organizational governance, such as a mixture of complete market transactions and hierarchy transactions, leads to efficient transaction costs or resolves uncertainty. In buyer–supplier relationships, TCE asserts that uncertainty can arise from the environment and/or from the trading partner (Bensaou, 1997). Uncertainty in regard to the environment results from factors that are outside the inter-firm relationship. Uncertainty in regard to the trading partner occurs from the structural–economical features of the relationship and consists of two dimensions: the governance structure of the relationship and the state of the relationship originating from the climate of socio-political behavior.

2.3. Social capital theory

Social capital theory asserts that relationship networks are a valuable resource for social interactions (Bourdieu, 1986). Social capital is defined as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet and Ghoshal, 1998, p. 243). Social capital perspectives encourage cooperative behavior such as inter-firm alliances. Specifically, a desire to access valuable partner-held resources motivates inter-organizational exchange.

Social capital theorists have focused much attention on the structural properties of these relationships (Adler and Kwon, 2002), such as the tie strength at the dyadic level (Granovetter, 1973). While strong ties are important conduits of resource exchange, Levin and Cross (2004) assert that the relational dimension of social capital, for example, organizational trust, mediates the relationship between tie strength and resource exchange. Tsai and Ghoshal (1998) likewise find that at the department level the structural dimension of social capital stimulates trust and the perceived fairness of the relationship, which, in turn, leads to the exchange of more resources between departments. In high-trust relationships, organizations tend to be more open to the potential for value creation through exchanging and combining resources. Social capital enables supply chain participants to become more engaged in social exchange and to take actions that would otherwise be considered risky (Putnam, 1993). Furthermore, the relational dimension of social capital refers to resources that provide shared representations, interpretations, and systems of meaning among the parties (Nahapiet and Ghoshal, 1998). When the participants in a dyad have the same goals and values, they are more likely to form a cooperative relationship. Social capital theory identifies the antecedents for cooperative relationships such as inter-organizational trust, goal consistency, and reciprocity.

In summary, RDT suggests that firms seek to reduce uncertainty and manage dependence by structuring their exchange relationships through various governance mechanisms. Thus, switching costs are considered a proxy for dependence, and technological uncertainty is considered a proxy for uncertainty. TCE asserts that opportunistic trading partners could exploit relationship-specific investments, since these investments increase the firm’s dependence. To protect these investments, TCE maintains that hierarchies such as vertical integration and/or goal alignment with proper incentive mechanisms can serve as safeguards. Thus, in addition to the RDT variables, equity ownership and goal consistency are considered determinants of inter-firm cooperation. Social capital theory identifies inter-organizational trust, reciprocity, and continuity as essential for inter-organizational relationships.

3. Hypotheses formulation

3.1. Technological uncertainty

Environmental uncertainty refers to (1) the degree of change that is unpredictable in the external environment (Huber and Daft, 1987) and (2) the lack of information about environmental factors that affect decision-making. Among the many environmental factors that contribute to uncertainty in the telecommunication industry, technological change is the most significant. In the telecommunication device market, predicting which technology standards or services will dominate in the future is not easy. Rapid change in technology requires companies to process more information, which increases uncertainty for a company (Guimaraes et al., 2002).

The literature contains opposing views of the relationship between technological uncertainty and inter-organizational cooperation. Bensaou (1997), for example, expects a negative relationship between the two variables for the following reasons: “The inability to forecast accurately new technical or design requirements for the parts and components exchanged within the relationship may be managed more efficiently through no or loose coupling... and therefore less investment in joint efforts, such as joint planning and development. By not engaging in such expensive cooperation, firms retain the flexibility to terminate a relationship and switch to partners with more appropriate technological capabilities” (p. 110). Perry et al. (2004) also expect that technological uncertainty has a negative effect on investment commitment. Meanwhile, Paulraj and Chen (2007) predict a positive relationship between
technological uncertainty and inter-organizational cooperation because recognizing resource dependence and promoting collective strategies to strengthen collaborative coordination between supply chain partners can alleviate technological uncertainty.

When facing high technological uncertainty, firms may choose to either strengthen or weaken the collaborative coordination depending on several factors, such as the availability of alternative suppliers, existing investments into the inter-organizational relationship, expected supply channel benefits from tight coupling, and firm-specific situations (e.g., criticality of the partner input to the operation of purchasing organization). From another perspective, Dyer and Ouchi (1993) state that when two firms are mutually dependent, they will prefer tight coupling because each organization is dependent on the other organization to successfully cope with high technological uncertainty. For example, Japanese automakers are renowned for their long-term tight relationships with their supplier partners despite environmental turbulence. Japanese automakers are significantly dependent on their suppliers; the automaker provides only general specifications, while the supplier takes care of all the detailed functional specifications. The suppliers are also dependent on the automaker because of both their businesses and their specialized investment in the relationship.

Telecommunication equipment manufacturers and service providers are mutually dependent for similar reasons to those of Japanese automaker partnerships. Telecommunication service providers rely on a few suppliers for specific parts and components because supplier's products have limited external demands and thus a limited number of suppliers. The incompatibility of technology among telecomm service providers intensifies this situation. Therefore, this study expects a positive relationship between technological uncertainty and inter-organizational cooperation in the telecomm industry.

**H1.** Technological uncertainty relates positively to buyer–supplier cooperation.

**3.2. Switching costs**

This study focuses on the switching costs among many aspects of dependence by considering the incompatibility of technology among telecomm service providers. A firm creates and modifies its assets to use for specific purposes, and as a result, their value may be diminished in a different context. Thus, the unavailability of substitutes in a transaction with another company creates dependence between partners (Mentzer et al., 2001). If a transaction-specific investment is converted into another transaction, the value may be lost, forcing the trading partner to depend on existing investments (Parkhe, 1993). Therefore, a company tends to fix its direction of behavior once certain assets are invested (Yeh, 2005).

Because of the specificity of a company's assets, switching costs occur when a company attempts to engage in opportunistic behavior. Switching costs include the costs of abandoning existing assets specific to a partnership when a company terminates a transaction with an existing partner and seeks a new partner. When switching costs are low, an organization may change its partner without incurring significant costs and is hence less inclined to cooperate with its partners. However, as a company bears more costs to establish a new relationship with another partner, the tendency to maintain the existing relationship intensifies. This factor restricts opportunistic behavior and promotes a more cooperative relationship among existing partners. In the case of mutual dependence when switching costs from both partners' perspectives are high, firms may have strong motivations to cooperate. Thus, the following hypothesis:

**H2.** Switching costs relate positively to buyer–supplier cooperation.

**3.3. Equity ownership**

TCE classifies the governance structure of inter-firm relationships in terms of equity ownership. Firms can cooperate either with or without capital participation (Kogut, 1988). Gulati (1995) asserts that a form of alliance with equity sharing should be seriously considered as an alternative because the alliance may reduce the time needed for negotiation. PIsano (1989) also finds that as the risk from an inter-firm alliance increases, companies tend to prefer to have a relationship based on equity sharing. This type of relationship implies that as the equity of ownership increases, the relationship between the two companies becomes closer. As such, this study considers equity ownership as a dimension of the governance structure that affects buyer–supplier cooperation. Thus, the following hypothesis:

**H3.** The focal firm's equity ownership relates positively to buyer–supplier cooperation.

**3.4. Continuity**

An inter-firm relationship adjusts over time. Accordingly, as the transaction period between partners increases, firms must adapt to one another, which increases the chances of future transactions. As the transaction period becomes longer, the expectation that the transaction relationship will continue in the future becomes more certain (Anderson and Narus, 1990). This expectation motivates a partner to promote a cooperative relationship (Lusch and Brown, 1996). This point also implies that a longer transaction period may enhance the level and range of cooperation to improve transaction efficiency. Interaction over time may lead to commitment and to relationship-specific assets such as partners' knowledge of each other's procedures and values (Karande et al., 2008). According to Young-Ybarra and Wiersema (1999), shared experiences between firms can foster trust and commitment, resulting in closer ties between the firms. Thus, the following hypothesis:

**H4.** The continuity of transactions relates positively to buyer–supplier cooperation.

**3.5. Goal consistency**

Goal consistency refers to the consistency between partners in organizational goals, agreed-upon priorities, and a mutual understanding of their relationship (Bensaou, 1997; Krause et al., 2007). Companies participating in an inter-firm relationship may have different goals, and these goals may come into conflict. Inconsistent goals may lead to opportunistic behaviors that may cause suboptimal performances in the supply channel. To avoid opportunistic behaviors, companies and trading partners should share their goals and priorities. If the goals of the companies are compatible with one another, then their roles become clear and the acceptable range of collaborative activities becomes more defined. Thus, the activities that arise from anxiety about mutual trust would be reduced.

Furthermore, if a company is concerned that a partner may opportunistically use information acquired from a cooperative relationship, cooperation becomes difficult. In this particular case, making goals consistent may help to set the norms of acceptable behaviors and reduce the uncertainty of a trading partner's opportunism. Therefore, the following hypothesis:

**H5.** Goal consistency relates positively to buyer–supplier cooperation.

**3.6. Reciprocity of the relationship**

Reciprocity of the relationship refers to the degree of fairness that the participating companies perceive about sharing risk, burdens, and benefits (Bensaou, 1997). Companies often accept a temporary loss if that loss will be fairly distributed in the long run. If companies perceive that risk sharing, cost sharing and profit distribution are reciprocal, each partner seeks to maintain the cooperative
relationship. As such, the reciprocity of the relationship could affect the level of buyer–supplier cooperation. Therefore, the following hypothesis:

**H6.** The reciprocity of the relationship relates positively to buyer–supplier cooperation.

### 3.7. Inter-organizational trust

Morgan and Hunt (1994) define trust as conviction about the certainty and honesty of a trading partner, while Zaheer et al. (1998) define trust as the collective trust that every member of an organization puts into another trading partner. Trust between two partners affects the relationship in three ways: (1) a reduction of perceived risk regarding opportunistic behavior; (2) expectations that short-term unfairness would be solved in the long-term; and (3) a reduction in the transaction costs inherent to exchange relationships. Further, inter-organizational trust is necessary to dissolve potential conflicts easily (Anderson and Weitz, 1992) and reinforce long-term orientations with partners (Ryu et al., 2007). Therefore, the following hypothesis:

**H7.** Inter-organizational trust between buyers and suppliers relates positively to buyer–supplier cooperation.

### 4. Methodology

#### 4.1. Sample and data collection

Since a supply channel is a dyadic environment, this research examines the phenomenon from the perspectives of both the buyer and supplier in a dyad. The data required for this study were collected (1) from the buyers responsible for the supplier relationships in a major telecommunication service company headquartered in Korea; and (2) from the suppliers that provide the telecommunication devices to the buyer. At the time the data were collected, the annual sales of the central organization for the year 2006 was U$12.6 billion, and 132 buyers were in the purchasing division. The buyers were organized around the devices and services (i.e., Switching, Terminal, Line Materials, etc.) that they were procuring for the company. Typically, most of the buyers are responsible for multiple components, and they often use multiple suppliers to obtain each component. Thus, the buyers selected an important component and a major supplier for the component and then responded to the questionnaire in the context of an ongoing relationship with the supplier. Information about the chosen supplier was also solicited in order to collect data about the supplier’s view of the relationship. The annual sales of suppliers for the year 2006 were as follows: 56.1% made less than U$10 million, 15.3% made between U$10 million and U$100 million, and 28.6% made over U$100 million.

All of the buyers and their counterpart suppliers were invited to participate in the study. Two follow-up emails were sent five and ten days, respectively, after the initial contact. Respondents sent the completed questionnaires to the primary author. A total of 100 responses from buyers (response rate of 75.7%) and 98 responses from suppliers (response rate of 74.2%) were received within 14 days. Of those responses, 69 cases were paired responses. To evaluate any systematic differences between paired responses and non-paired responses in the sample, ANOVAs were performed on all independent variables. No statistically significant differences occur among the companies at the 0.05 level of significance.

#### 4.2. Measures

All measures used in this study were drawn from previous studies and adapted to serve the purposes of this study. **Table 1** describes the operational definitions of the research variables and their sources. Pretests were performed to ensure that the target informants understood the wording that the authors used. The respondents were asked to indicate their responses to each of the survey questions, which have a seven-point scale anchored with “Strongly Disagree” and “Strongly Agree.” Multiple-choice questions measured the equity ownership ratio and the continuity of the relationship.

### 4.3. Data analysis

Since the original questions underwent minor wording changes to customize the questionnaire to a supply channel setting, this study performed principal components analysis on the data to ascertain the integrity of the dimensionality sought. The analysis with Varimax rotation provided preliminary validation of the conceptualized constructs.

**Table 2** provides the standardized parameter estimates (factor loadings) of the items over the underlying dimensions for both the buyer and supplier samples. The frequently cited standard of 0.60 was applied as the cut off value for the factor loadings. As a result, one question for inter-organizational trust was eliminated.

Tables 3 and 4 present the descriptive statistics and bi-variate correlations among the research variables. The internal reliability tests using Cronbach’s Alpha showed that all measures for the constructs exceeded Nunnally and Bernstein’s (1994) threshold value of 0.70.

### 4.4. Testing of the hypotheses

**Table 5** summarizes the results of the regression analyses that were used for testing the hypotheses. In the buyer sample set, contrary to expectations, technological uncertainty (*H1, t = −0.04, p = 0.97*) was not significant, while the switching costs (*H2, t = 2.55, p = 0.01*) significantly influenced inter-organizational cooperation. Neither the equity ownership ratio (*H3, t = 0.90, p = 0.37*) nor the continuity of

### Table 1

<table>
<thead>
<tr>
<th>Operationalization of the variables.</th>
<th>Source(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological uncertainty</td>
<td>Bensaou, 1997</td>
</tr>
<tr>
<td>Switching costs</td>
<td>Morgan and Hunt, 1994; Whitten and Wakefield, 2006</td>
</tr>
<tr>
<td>Equity ownership</td>
<td>Kim and Umanath, 2005</td>
</tr>
<tr>
<td>Continuity</td>
<td>Bensaou, 1997</td>
</tr>
<tr>
<td>Goal consistency</td>
<td>Kim and Umanath, 2005</td>
</tr>
<tr>
<td>Reciprocity of the relationship</td>
<td>Bensaou, 1997</td>
</tr>
<tr>
<td>Inter-organizational trust</td>
<td>Moorman et al., 1993</td>
</tr>
<tr>
<td>Cooperation</td>
<td>Bensaou, 1997</td>
</tr>
</tbody>
</table>
the relationship \( (H4, t = -0.02, p = 0.98) \) was significant. By contrast, goal consistency \( (H5, t = 4.98, p = 0.00) \) and inter-organizational trust \( (H7, t = 3.96, p = 0.00) \) had significant relationships with inter-organizational cooperation. The reciprocity of the relationship \( (H6, t = 1.59, p = 0.12) \) did not significantly influence cooperation.

In the supplier sample set, the results were quite different from those of the buyer sample set. Technological uncertainty \( (H1, t = -2.97, p = 0.00) \) had a significant negative association with inter-organizational cooperation (contrary to expectations), while the impact of switching costs \( (H2, t = -1.85, p = 0.07) \) was not significant. As in the buyer sample set, neither the equity ownership ratio \( (H3, t = 1.20, p = 0.23) \) nor the continuity of the relationship \( (H4, t = 0.46, p = 0.65) \) was significant. Both goal consistency \( (H5, t = 4.34, p = 0.00) \) and the reciprocity of the relationship \( (H6, t = 3.58, p = 0.00) \) had significant associations with cooperation, while inter-organizational trust \( (H5, t = 0.53, p = 0.60) \) did not.

As the differences in the results show, switching costs and inter-organizational trust are significant determinants of cooperation from the perspective of the buyers, but not for suppliers. In addition, technological uncertainty (although negatively related to inter-firm cooperation) and the reciprocity of the relationship are significant from the perspective of suppliers, but not from that of buyers.

5. Discussion

This paper contributes in two ways to the existing literature. First, a comprehensive general model of inter-organizational cooperation in buyer–supplier relationships is developed by synthesizing three relevant theories, that is, RDT, TCE, and social capital theory. Second, by comparing the perspectives of both the buyer and supplier, this paper identifies differences in the determinants of inter-organizational cooperation. The results of this study demonstrate that striking differences exist between the two perspectives. These differences can be explained by the dependence asymmetry in the supply channel in which buyers enjoy relative power over their suppliers (Kumar et al., 1995).

The majority of suppliers of components of telecommunication equipment face more restricted markets for materials, capital, and labor. Dependence on a central organization (i.e., the buyer in this study) with broader exchange capabilities poses a troublesome problem for organizations with narrower exchange possibilities operating exclusively in a well-defined segment of a producer’s market (Pfeffer and Salancik, 1978). Since the supplier is in a dependent relationship with a powerful partner, the reciprocity of the relationship is important to ensuring voluntary cooperation with the buyer. However, reciprocity is less important to buyers, because buyers can exercise direct control over dependent suppliers whenever necessary.

A central organization has to develop a higher level of architectural knowledge of the equipment and to transfer part of its knowledge to the supplier for production. This situation requires a significant investment of time and effort from the buyer. If a supplier behaves opportunistically after the buyer has made these investments, then the buyer would have to bear significant switching costs to develop a new supplier relation. Thus, switching costs are an important factor in determining a buyer’s cooperation. In addition, if the buyer does

### Table 3

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean (Std. Dev.)</th>
<th>Cronbach's Alpha</th>
<th>TU</th>
<th>SC</th>
<th>EO</th>
<th>CO</th>
<th>GC</th>
<th>RR</th>
<th>IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological uncertainty (TU)</td>
<td>4.0 (1.4)</td>
<td>0.88</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switching costs (SC)</td>
<td>4.3 (1.4)</td>
<td>0.88</td>
<td>.09</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Continuity (CO)</td>
<td>1.1 (0.1)</td>
<td>N.A.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Goal consistency (GC)</td>
<td>4.7 (1.6)</td>
<td>N.A.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Reciprocity of the relationship (RR)</td>
<td>5.4 (1.1)</td>
<td>0.91</td>
<td>.45*</td>
<td>.20*</td>
<td>.03</td>
<td>.06</td>
<td>.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-organizational trust (IT)</td>
<td>4.8 (1.2)</td>
<td>0.93</td>
<td>.24*</td>
<td>.24*</td>
<td>.01</td>
<td>.03</td>
<td>.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-organizational cooperation (IC)</td>
<td>4.9 (1.2)</td>
<td>0.95</td>
<td>.31</td>
<td>.31*</td>
<td>.09</td>
<td>.03</td>
<td>.69**</td>
<td>.28**</td>
<td>.63**</td>
</tr>
</tbody>
</table>

Notes: *p<0.05, **p<0.01.
not trust a supplier and is concerned that the supplier will be opportunistic, the buyer may not cooperate with the supplier. The supplier’s trust in the buyer is not important, however, because the supplier has no choice but to cooperate when the buyer exercises coercive power.

Technological uncertainty poses an important threat to all participants in the telecommunication industry, but such uncertainty has different implications according to the firm’s status in the supply channel. For a smaller supplier who has to deal with powerful partners, any changes in technology may lead to a termination of the contract if the supplier’s technical expertise becomes obsolete and if the buyer is not mutually dependent on the supplier. This fear can be intensified when alternative suppliers are available and the buyer’s existing investments in the inter-organizational relationship are not large. Thus, suppliers, under conditions of high technological uncertainty, may hesitate to fully cooperate with the buyer since the relationship itself may be in danger. However, technological uncertainty has a different impact for buyers with relative power. Although telecommunication service providers are responsible for adapting to major technological changes (e.g., from analog to digital or from a 2G network to a 3G network) by themselves, they can pass the risk of uncertainty in component technologies to smaller suppliers. When an existing supplier does not have the required technological capabilities to provide new services, the buyer can find or develop another one. This point may explain why technological uncertainty was not significant in the buyers’ sample set.

Goal consistency turns out to be a significant determinant of inter-firm cooperation in both sample sets. Contrary to expectations, however, neither the ownership ratio nor the continuity of the relationship was a significant determinant. One possible explanation for this result is that the data do not have enough variation to determine the influences of these two variables. Further scrutiny of the data reveals that the average equity ownership ratio in the sample was approximately 9%, which implies a relatively independent relationship between the partners. Consequently, this analysis indicates that capital investment or joint venture was not a popular inter-firm governance structure in the Korean telecommunication industry. The continuity of the relationship resulted in two clusters: one short-term cluster of 2–3 years for service-specific products (e.g., Internet, new services) and one long-term cluster of 7 years or more for technology-specific products (e.g., cables, switches). Buyers prefer year-by-year short-term contracts to maintain bargaining leverage and to hedge against sudden shifts in customer preferences.

6. Conclusions

This paper attempts to explain the differences in the antecedents to the buyer–supplier cooperation in terms of dependence asymmetry between the buyer and the supplier. Increasing interdependence asymmetries may lead to higher levels of suspicion and conflict in the relationship. However, interdependence asymmetry does not necessarily cause irreversible and damaging conflict. Firms in a supply channel may behave differently because their strategic positions and market situations are different. Future research should explore the extent to which the interdependence structure influences the behaviors of firms.

Additional researches need to incorporate various control mechanisms without equity ownership. Dyer and Ouchi (1993) point out potential negative consequences of equity ownership: “The autonomy and incentives that keep the company innovating and focused on continuous improvement are lost” (p. 56). Thus, future research needs to look into various control mechanisms with or without equity ownership.

This study has limitations. First, this study’s sample consists of one buyer organization and its multiple suppliers in a single industry (telecommunication industry), all of which were located in Korea. In addition, the supplier sample is skewed toward smaller firms in a monopolistic situation. Therefore, the results are characteristic of only a single company in a single country. To increase the external validity of the findings of this study, future research that incorporates a sample from multiple companies in non-monopolistic situations is needed.

Acknowledgement

This research is supported by the Ubiquitous Computing and Network (UCN) Project, Knowledge and Economy Frontier R&D Program of the Ministry of Knowledge Economy (MKE) in Korea as a result of UCN’s subproject 09C1–C2–10 M.

References


Krause DR, Handfield RB, Tyler BB. The relationships between supplier development, commitment, social capital accumulation and performance improvement. J Oper Manage 2007;25(2):528–45.


